AN OVERVIEW OF THE LEGISLATIONS IN INDIA ON SOLID AND HAZARDOUS WASTE MANAGEMENT

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ABSTRACT

This article contains a description of all the legislations on solid waste management in India namely Bio-Medical Waste Management Rules, 2016, Plastic Waste Management Rules, 2016, Construction and Demolition Waste Management Rules, 2016, E-Waste (Management) Rules, 2016, Solid Waste Management Rules, 2015, The Municipal Solid Wastes (Management and Handling) Rules, 2000 and lastly a comprehensive action plan for management of municipal solid waste in India.

INTRODUCTION

The term solid waste management refers to complete process of collecting, treating and disposing off solid wastes. Solid waste is defined as a discarded material that is abandoned by being disposed off, burned or incinerated, recycled. Solid Waste means and includes solid or semi-solid domestic waste, sanitary waste, commercial waste, institutional waste, catering and market waste and other non-residential wastes, street sweepings, silt removed or collected from the surface drains, horticulture waste, agriculture and dairy waste, treated bio-medical waste excluding industrial waste, bio-medical waste and e-waste, battery waste, radio-active waste generated in the area under the local authorities and other entities. They can be both hazardous and non-hazardous in their nature based on their characteristics like physical, chemical, biological, reactive, toxic, flammable, explosive or corrosive, causes danger or is likely to cause danger to health or environment. Hence the whole process to manage waste at source, treat it, dispose it off further or recycle it scientifically is called as waste management.[i] The process involves garbage collection, transportation, processing, removal, oversight and control.

The three objective of waste management is to reduce, recycle and reuse.[ii] The Polluter Pays Principle states that the polluting party has the sole responsibility to remedy the environmental damage caused due to him.

Several environment protection legislations were in place even before India gained independence but a well-developed framework came only after the UN Conference on the Human Environment (Stockholm, 1972) as the National Council for Environmental Policy and Planning was set up in 1972 within the Department of Science and Technology to resolve several environment-related issues. This Council later evolved into a full-fledged Ministry of Environment and Forests and Climate Change which was established in the year 1985 and today is an apex administrative body to regulate environmental protection in the country. Thus Ministry of Environment and Forests and Climate Change, Central Pollution Control Board and State Pollution Control Boards together form the regulatory and administrative core of the sector. Also at present for disposal of cases, enforcement of any legal right or giving relief and compensation for damages to persons and property relating to environment the National Green Tribunal (NGT) was established in 2010.

ENVIRONMENT PROTECTION ACT OF 1986

The Environmental Protection Act was enacted in the year 1986 with the objective to establish a sufficient protection legal system for the environment as it gave the power to the central government to regulate all forms of waste and to tackle 3specific problems that may present themselves in different regions of India. The roots of the enactment lies in the **United Nations Conference on the Human Environment held at Stockholm in June, 1972 (Stockholm Conference),** in which India participated, to take appropriate steps for the improvement of the human environment.[iii] It is the umbrella legislation that contains important provisions with the objective of providing the protection and improvement of the environment. It empowers the Central Government to establish authorities who have the responsibility of preventing environmental pollution in all its forms and to tackle specific environmental problems that are peculiar to different parts of the country. The Act is one of the most comprehensive legislations with a pretext to protection and improvement of the environment.

The enactment was enacted under Article 253 of the Indian Constitution which provides for the enactment of legislation for giving effect to international agreements. Article 48A of the Constitution specifies that the State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country. Article 51A further provides that every citizen shall protect the environment.

The Central Government shall have the power to take all such measures useful in protecting and improving the quality of the environment in coordination with the State Governments. The Central government is also empowered to plan and execute a nation-wide programme for the prevention, control and abatement of environmental pollution. It can appoint officers under this Act for various purposes and entrust them with the corresponding powers and functions.

The Central government can do the following acts under the Environment Protection Act like to plan and execute a nation wide programme to evade environmental pollution, lay down standards for emission or discharge of environmental pollutants from various sources. The Central Government can appoint officers to carry out such powers and functions for closure, prohibition or regulation of any industry, operation or process. There is also a guideline in this respect that no individual or organization can discharge or emit any environmental pollutant in excess of the prescribed standards. If there is any contraventions with the provisions of the EPA Act then penalty can be levied as the offences are punishable with imprisonment of upto five years or a fine upto one lakh rupees or both. Court can take cognizance of any offence under this Act when a complaint is made by the the Central Government or any authority on behalf of the former.

The drawbacks of the Act is that there is complete centralization of the Environment Protection Act as wide powers are provided to the Centre but the state governments are provided with no or very few powers under the Act. Further there is no provision in the Act that talks about public participation. Hence there is a need to involve the citizens in environmental protection to raise awareness an empathy towards the environment and check arbitrariness of the authorities.

Incomplete Coverage of Pollutants: The Act does not address modern concept of pollution such as noise, overburdened transport system and radiation waves which are also an important cause for the deteriorating environment.

HAZARDOUS WASTE MANAGEMENT

The Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008

"As per information provided by the Central Pollution Control Board (CPCB), there are about 41,523 industries in the country generating about 7.90 million tonnes of hazardous waste annually, out of which landfillable waste is about 3.32 million tonnes (42.02%), incinerable waste is about 0.60 million tonnes (7.60%) and recyclable hazardous waste is about 3.98 million tonnes (50.38%).The Ministry has also initiated a project on GIS Based National Hazardous Waste Information System.[iv] It is a web based system, which has been developed to provide status of hazardous waste management in the Country. The database available on the web is required to be regularly updated by all State Pollution Control Boards to ensure updated status at all times. Through NHWIS till now survey of 33,000 hazardous waste industries and MIS date entry of about 27,500 hazardous waste industries has been completed."

The Ministry of Environment, Forest and Climate Change, Government of India defines hazardous waste as "any waste which due to its physical, chemical or biological composition is likely to harm health or environment whether alone or in contact with other wastes or substances." The peculiar chemical composition of such wastes makes it scientific disposal difficult posing serious threats to human life, the ecology and environment.

To regulate disposal of hazardous waste the Hazardous Wastes (Management and Handling) Rules, 1989 were notified under the Environment (Protection) Act, 1986, amended in the years 2000 & 2003 to identify hazardous wastes by means of industrial processes but then in September 2008 the said rules were repealed and new rules entitled Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008 were notified to brought out a guide for manufacture, storage and import of hazardous chemicals and for management of hazardous wastes but these rules were again amended in the year 2009 & 2010 and then Hazardous and Other Wastes (Management & Transboundary Movement) Rules, was notified in 2016. The ambit of the rules has been expanded by including a huge category of wastes in the waste management hierarchy in the sequence of priority of prevention, minimization, reuse, recycling, recovery, co-processing; and safe disposal has been incorporated, stringent approach for management introduced, simplification of all procedure of obtaining approvals , clear

demarcation of role of authorities. As per these rules no country can export to India hazardous waste for final disposal, hence only India can import hazardous wastes in order to recycle, reuse or for other utilization. The import of hazardous wastes requires an import license from the Directorate General of Foreign trade but permission is only granted only if the importer has environmentally sound facilities and adequate arrangements for the treatment of wastes. The rules specify the procedure for importing and exporting hazardous waste to and from India.[1]

The Central Pollution Control Board has given guidelines on how to set up the facility for which permission is required from the State Pollution Control Board is for the layout, and it will regularly monitor both the setting up of the facility as well as its operation. The state government is responsibility of the State Government, or the person who controls the affairs of the factory, specifically those related to the hazardous and other wastes, or the operator of the facility. The Central Pollution Control Board has established guidelines which the operator or occupier of a facility has to follow to ensure safe operation, during the use of the facility as well as post it.

In today's world waste management is a very crucial issue as it has extreme adverse effects on the environment, hazardous waste also should be handled with care as it affects the health of the people who live in the vicinity hence the laws on hazardous waste management should changed accordingly so that new waste management methods are evolved keeping in mind the the technological advancements in the field and keep the workers educated about the same.[2]

SOLID WASTE MANGEMENT

The Plastics (Manufacture, Usage and Waste Management) Rules, 2009

The management of plastic wastes is the need of the hour and one of the most relevant environmental regulations as the Ministry of Environment, Forest, and Climate Change has announced the Plastic Waste Management (Amendment) Rules, 2022, which specifically contains instructions on Extended Producer Responsibility (EPR) for plastic packaging. Earlier these rules were amended in the year 2016 to eliminate single use plastics and suggest

alternatives for the same. The new plastic waste management (Amendment) Rules, 2022 include classification of plastics into four categories. The first category includes rigid plastic packaging, the second one includes flexible plastic packaging of a single layer or multilayer (more than one layer with different types of plastic), plastic sheets and covers made of plastic sheet, carry bags, plastic sachet or pouches will be included under this category, the third category includes multi-layered plastic packaging (at least one layer of plastic and at least one layer of material other than plastic), at last the fourth category will include plastic sheets or like used for packaging as well as carry bags made of composite plastics. The main of these rules is to reuse plastic packaging material rather than reducing the use of fresh plastic material for packaging. These rules have also introduced extended producer responsibility certificates to enable market mechanism for plastic waste management. For facilitating sound plastic waste management the Central pollution control board (CPCB) has set up an online portal for registration and filing annual returns by producers, importers, brand owners, also it will establish a committee under its chairmanship which will recommend measures to the environment ministry for effective Extended Producer Responsibility (EPR) guidelines. In continuation of such efforts it is also the responsibility of State Pollution Control Board to submit an annual report on the EPR portal concerning the performance of producers, importers and brand-owners in sound plastic waste management.[v]

In a nutshell these rules contained guidelines to increase the minimum thickness of plastics from 40 to 50 microns to that plastics can be easily disposed off and the cost of plastic would also increase which will bring down the tendency of selling plastic wastes for free, also the menace of plastics is not only restricted to urban areas but also rural areas hence we should expand its jurisdiction of plastic waste disposal to both these areas. The manufacture of plastics should produce plastic in accordance to the rules and retailers and street vendors should not sell or distribute the kind of plastics which are not manufactured in accordance to the rules and also register with a local body before dispensing any kind of plastics. The local bodies or municipalities should also be liable to set up waste disposal system to perform associated functions.

Biomedical Waste Management Act

Medical institutions in India generate a huge quantity of biomedical waste all round the year which give rise to a lot of health issues in people. This medical waste also comprises of hazardous elements that have to be subject to scientific disposal, for these comprehensive regulations and guidelines are needed for scientific disposal of biomedical waste which led to enactment of Biomedical Waste (Management and Handling) Rules 1998 as sustainable management of wastes is both a social and legal responsibility. These rules are altered from time to time and updated, hence in 2016 the government of India published Biomedical Waste Management Rules, 2016 to improve methods of biomedical waste collection and disposal and treatment. The main aim of these rules is to reduce, recycle and reuse the waste. The important elements of the rules are training to workers, health checkups, immunization, and occupation safety of the workers.[vi]

The term biomedical waste means "any waste produced during the diagnosis, treatment, or immunization of human or animal research activities pertaining thereto or in the production or testing of biological or in health camps." These wastes are divided into four colour categories namely-

1) Yellow: In this category, eight types of waste are categorized- Human anatomical waste, animal anatomical waste, soiled waste, expired or discarded waste, chemical waste, chemical liquid waste(separate collection system leading to effluent treatment system), discarded linen, mattresses, beddings contaminated with blood or body fluid, and microbiology, biotechnology, and other clinical laboratory waste.
2) Red: It includes contaminated waste that is recyclable like waste generated from disposable items such as tubing, bottles, intravenous tubes and sets, urine bags, syringes, and gloves.
3) White(Translucent): It includes waste sharps including metals (includes used, contaminated and discarded metal sharps)
4) Blue: It includes broken or contaminated or discarded glass and metallic body implants.

The main gist of these new rules focus on scientific disposal of biomedical waste as it fixes the liability of waste disposal on occupiers who have administrative control over the health care facilities that is generating biomedical wastes and operators who controls the facilities of

collection, reception, transportation, treatment, and disposal of biomedical wastes. The guidelines of waste management is to set up a barcode system when waste is sent for its disposal, followed by maintaining a biomedical waste daily register to get monthly updates of the operator or occupier for operation of hydroclaving/incineration/autoclaving for a period of 5 years. There should also be a distance of seventy-five kilometers of common biomedical waste treatment facility and onsite treatment or disposal facility and it is the responsibility of the State governments to provide a common biomedical waste treatment facility and disposal facility.

The method of scientific disposal of wastes should be in accordance to guidelines issued by World Health Organisation or the National Aids Control Organisation for compulsory pre treatment of biomedical waste either at Common biomedical waste treatment facility or on-site. At last it is the responsibility of the Ministry of Environment, Forest, and Climate change to monitor the implementation of rules yearly. It is also the responsibility of each state to check for compliance which will be done by setting up a district-level committee under the chairpersonship of District Collector or District Magistrate or Additional District Magistrate. In addition, in every 6 months, this committee shall submit its report to the State Pollution Control Board.[vii]

An amendment was brought in the year 2018 in the Biomedical waste Management Rules, 2016 due to which the Government of India published the Bio-Medical Waste Management (Amendment) Rules, 2018. These rules brought major reforms to phase out chlorinated plastic items such as bags and gloves from the bio-medical waste generators. The Central Pollution Control Board has also issued guidelines for all operators of common bio-medical waste treatment to establish a global positioning system and a barcoding system for scientific management of bio-medical waste. The State Pollution Control Board also has to keep a track record of the information received from the operators and send it to the Central Pollution Control Board, which keeps detailed information regarding district-wise waste generation.[viii]

The two major challenges that are faced while dealing with biomedical waste management is first lack of funds possessed by healthcare facilities in implementing rules and guidelines for sound disposal of biomedical waste, second is that use of incinerators pose a serious risk of environmental hazard as the system is based on the high temperature that kills the pathogen

and in the process, it also destroys the material in which the microbes reside also produces a number of toxins due to incomplete combustion of products and dioxins. These toxins are so harmful that it can accumulate in fatty acids and travel up the food chain which in turn damages the immune and endocrine system of humans. Hence incinerators are banned in countries like the Philippines and Denmark, India should also take steps to eliminate these harmful waste disposal mechanism and instead employ new green technologies like incineration, microwaving, autoclaving, and chemical treatment, but apart from them some new technologies have also been developed or are still under research such as thermal processes, biological processes, irradiative processes, and chemical processes.

CONCLUSION

The heart of the Indian Constitution Article 21 gives us the fundamental right to live in a clean and healthy environment. Hence scientific disposal of waste is need of the hour as such a populous country like India produces an enormous amount of waste every day hence be it solid waste, plastic waste or biomedical waste, its scientific disposal is the most important essential. Also the focus should be to reduce, recyle and reuse this waste as much as possible so that mother earth can retain its assimilative capacity and help to rejuvenate the environment from the after effects of scientific disposal of wastes, not to forget that it is not only the responsibility of the governments but also the stakeholders of healthcare institutions in scientific disposal of biomedical wastes.

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