

Analysis of Strategies Regarding Waste Management in India

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Abstract – Sustainable development of the country's economy will solely be stirred up if all the natural resources square measure properly managed and waste management is completed on a nonstop basis. Exercise and reutilization of waste merchandise will accelerate the pace of developing new business opportunities, strengthening the greening development and overcoming environmental problems caused by global climate change thereby making employment and growth of country's economy throughout. there's a necessity for larger understanding and analysis of this state of affairs because the issue might worsen the atmosphere conditions. Presently, there square measure numerous Indian government policies and social and industrial initiatives so as to beat the matter. Efforts of reducing, minimizing, balancing, exercise and correct managing thus known as wastages and changing them to a profitable juncture is that the want of the day. This study is a shot to review problems associated with numerous forms of wastes and to produce fairly comprehensive data on the methods for reducing and managing wastes in context of Bharat.

Key Words: Sustainable Development, Waste, Recyclation

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INTRODUCTION

Waste management has become a burning problem in today's era. Improper use of things, dumping material into garbage, non-recyclation not only leads to wastage of resources and money but are creating unfavourable situations like pollution, various kinds of diseases and slowing down the rate of economic development of the country too. At present, around 62 million tonnes of solid waste is generated annually out of which 5.6 million tonnes is plastic waste, 0.17 million tonnes is biomedical waste, hazardous waste generation is 7.90 million tonnes per annum and 15 lakh tonne is e-waste. India is among the top 10 countries in the world generating the highest amount of municipal solid waste, and the bigger problem is that approximately 70-75% of this waste remains untreated. This untreated waste of 31 million is mostly dumped into landfills. (<http://swachhindia.ndtv.com/swachh-india-guide-solid-waste-management-rules-2016-6253/>).

Therefore it is very essential to develop and implement new strategies for managing various kinds of wastes. Under waste management or waste disposal, all the activities and actions come which are required to manage waste from its inception to its final disposal (https://en.wikipedia.org/wiki/Waste_management). This includes amongst other things collection, transport, treatment and disposal of waste together with monitoring and regulation. It also includes the

legal and regulatory framework that relates to waste management encompassing guidance on recycling(https://en.wikipedia.org/wiki/Waste_management)

LITERATURE REVIEW

Waste is any substance which is discarded after primary use, or it is worthless, defective and of no use (<https://en.wikipedia.org/wiki/Waste>). municipal solid waste (household trash/refuse), hazardous waste surface runoff, radioactive waste, wastewater (such as sewage, which contains bodily wastes (feces and urine), and others are the current examples(<https://en.wikipedia.org/wiki/Waste>). Other than these, fly ash from fields and other waste particles from industries are creating problems (environment pollution, diseases, unfavorable weather conditions etc.). Sustainable management of solid waste is critical to the health and well-being of the urban residents, the environment, and in revenue and power generation (Nwofe, 2015).

IMPACTS AND CHALLENGES

Nwofe (2015) highlighted various Impacts of Unsustainable management of Solid Wastes in the Metropolis like Environment pollution, Road encroachment, Air pollution and Residential land encroachment. According to him, these all can be moderated only by Recycling of waste materials.

According to Joshi & Ahmed (2016), Awareness to enhance segregation, Characterization of municipal solid waste, Urbanization and lack of appropriate level funding, Implementation of rules at ground level, Financial auditing and work study, Resistance for notification of new landfill site, Lack of coordination among Centre and State, Appropriate technological solution, Outsourcing and PPP, Failure of waste-to-energy projects and Involvement of organized sector are the major challenges India has to cope up presently .

Education and Awareness

Segregation, Collection, Reuse/recycle, Transportation and Disposal as important parameters of Solid Waste Management with respect to Indian Scenario (Joshi, 2016; Sharma, 2017). According to Joshi & Ahmed (2016), Environment friendliness, cost effectiveness, and acceptability to the local community are major attributes to achieve efficient solid waste management system whereas Sharma et. al. (2017) have suggested that Landfilling, Sanitary Land filling, Composting and Thermal treatment techniques (Incineration, and Gasification technology) are the major Waste Management Techniques.

Strategies to overcome

Out of all the measures that are necessary in addressing India's impending waste management crisis, the most efficient will be changes at the national policy and planning level. (<https://www.bioenergyconsult.com/tag/waste-management-strategy>). It is like impossible to find new landfills in and around cities due to the track record of dumpsite operations and maintenance and the Not in My Backyard (NIMBY) phenomenon in India. (<https://www.bioenergyconsult.com/tag/waste-management-strategy>).

In India, waste management is governed by various sub-ordinate legislations and the Ministry of Environment, Forest and Climate Change, Government of India ("MoEF") in conjunct with State Pollution Control Boards of different states ("SPCB") administer the gamut of waste management regulations. ([http://www.mondaq.com/india/x/396342/Waste + Management/Waste + Management + In + India + An + Overview](http://www.mondaq.com/india/x/396342/Waste+Management/Waste+Management+In+India+An+Overview)). In India, in order to manage various kinds of waste (biodegradable, non-biodegradable or other), Environment Protection Act, 1986 ("EPA") had been working. Under this, various rules like Bio-medical Waste (Management and Handling) Rules, 1998, The Batteries (Management and Handling) Rules, 2001, The E-waste (Management and Handling) Rules, 2011, The Plastic Waste (Management and Handling) Rules, 2011, The Hazardous Wastes (Management, Handling and Trans boundary Movement) Rules, 2008 had been proposed (<http://www.mondaq.com/india/x/396342/Waste> +

Management/Waste + Management + In + India + An + Overview. Despite of these, Indian government has set some general guidelines like Segregation Of Waste (into three categories – Biodegradables, Dry Waste (Plastic, Paper, metal, Wood) and Domestic Hazardous Waste (diapers, napkins, mosquito repellents, cleaning agents) before they hand it over to the collectors), Collection And Disposal Of Sanitary Napkins (mandatory for the manufacturers to provide a pouch or wrapper for disposal whenever they sell their products to the customer), Fees And Spot Fines for waste generators, Collect Back System For Non-biodegradable Packaging Waste for companies and Bin For Street Vendors etc. (<http://swachhindia.ndtv.com/swachh-india-guide-solid-waste-management-rules-2016-6253/>). Beyond these all, recycling of waste material has come into limelight in recent years which includes construction of bricks and other construction material from fly ash.

CONCLUSIONS AND RECOMMENDATIONS:

Proper management of solid waste material is need of the day as lack of this can cause harm for human and environmental health. The present study reviews issues related to various kinds of waste viz. segregation and categorization of wastes, disposal of wastes, major challenges being faced by country, strategies to overcome and education and awareness to common people hazardous. The study also reveals the prevailing practices and strategies regarding waste generation, disposal and management. On the basis of study, following are the recommendations:

- Awareness should be spread to public so that they realize the importance of natural resources and their utilities in a proper way.
- Education should be provided at the foundation level i.e. at school, college and universities level.
- Government should take initiatives of developing entrepreneurship opportunities in managing and recycling of waste materials into a profitable system thereby creating employment and establishing specific role in economic development of the country.
- Organizations should come forward and contribute in management of wastes as a Corporate Social Responsibility.
- New government schemes favorable to public must be introduced of collecting and managing wastes at ground level.
- Large no. of composting plants in various cities and villages should be set up in order

to convert the biodegradable waste into usable material.

- Manufacturing of new polythene bags should be strictly stopped and existing bags in garbage should be used as a layer just below the concrete road in road construction.

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Abbreviations:

MoEF Ministry of Environment and Forests and Climate Change

PPP Public Private Partnership

SPCBs State Pollution Control Boards

EPA Environment Protection Act

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