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Waste Management of India: Need of the Hour

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Abstract:
Waste management in India has also become an issue of concern due to the rapid pace of urbanization, population growth, and changing consumption habits. India produces over 160,000 tonnes of waste every day, but much of it remains untreated or is not disposed of properly, leading to severe environmental and health implications, says Drishti IAS. While policies like the Solid Waste Management Rules (2016) have arrived to improve the scenario, their implementation lacks at the ground level. Problems like poor source segregation, low public awareness, and the lack of adequate infrastructure are the core barriers to change. This paper provides a closer examination of India's present waste management scenario and brings to the forefront the need for more sustainable community-based solutions. Enhancing policy implementation, increasing citizen engagement, and implementing decentralized waste treatment are imperative steps to tackle this growing nuisance before it spirals out of control.

Keywords: Waste Management, India, Solid Waste, Urbanization, Environmental Impact, Public Health, Policy Implementation, Sustainability, Citizen Participation

Introduction:

India is the second most polluted country in the world. The life of an average Indian is cut short by 5.3 years due to fine particle air pollution (PM2.5) below which would be the case if the WHO's recommended limit of 5 µg/m3 were achieved. In the world's most polluted city, Delhi, life expectancy is lowered by 11.9 years due to air pollution, making some parts of India significantly poorer than the mean. People are sick, plagued by chronic diseases, diagnosis upon diagnosis, it is now time to stop turning a blind eye to the problem. Garbage disposal is a necessity for the country to stay healthy. It is a necessity for India's living organism to thrive in health and safety. Particulate pollution has increased year by year. There is one area where India can significantly improve and that is having proper, on-time and ready-to-use data regarding air pollution. According to the Menstrual Hygiene Alliance of India, India generates nearly 12 billion disposable sanitary napkins every year, majority of which are non-biodegradable in nature, typically made from polypropylene and superabsorbent polymer powder (sodium polyacrylate). The pads contaminate the soil and water, which eventually break down over time into microplastics that have the capability to enter plants, animals, and ultimately humans.

Background:

India's urban waste generation will be 0.7 kg per capita per day in 2025, approximately four to six times higher than in 1999, based on several reports, including the Central Pollution Control Board (CPCB) and the Ministry of Environment, Forest and Climate Change (MoEFCC).There has been policy redesigning and ten years of Swachh Bharat Mission (SBM) but waste management in India remains an issue.Despite the existence of collection systems, Indian cities lack mandatory waste collection service connections for

all businesses and households. India, according to the Ministry of Environment, Forest and Climate Change, currently generates 62 million tons of waste (recyclable as well as non–recyclable) each year with an average annual growth rate of 4%. Generation of municipal solid waste is bound to rise to 165 million tonnes in 2030 due to changing consumption patterns and economic development occurring at a very rapid rate. This is why the legislation, and activities need to be carried out, not by some states but all Indian citizens collectively.

Present Waste Management Trends and Programs:

1. Swachh Bharat Mission (SBM) – A Nationwide Cleanliness Drive

It was Prime Minister Narendra Modi in 2014 who initiated this drive and one of India's largest cleanliness drives is the Swachh Bharat Mission (SBM).

The move was initiated to eradicate open defecation, enhance the sanitation of cities and rural areas, and increase scientific waste management.

Segregation of waste at the source is also emphasized in the mission along with encouraging citizens to use new-generation waste management machinery for effective processing of waste. The program was to make India Open Defecation Free (ODF). The main achievements through this campaign are:

- 300,000 fewer diarrheal deaths in 2019 compared to 2014 as per the WHO
- Families in ODF villages saved an average of INR 50,000 annually on health costs.
- A notable reduction in groundwater contamination was witnessed in ODF villages.
- More access to cleaner facilities, 93% of women felt more secure at home.

2. Solid Waste Management Rules, 2016 – A Legal Framework for Waste Disposal

This movement included a number of regulations of solid waste management and was undertaken in the year 2016. It had certain objectives to implement Mandating segregation of biodegradable and non-biodegradable waste at the source. Encouraging composting, recycling, and efficient processing through the assistance of waste management equipment. It also aimed at offering scientific disposal for electronic and hazardous waste. To avoid scientific reactions that could be risky to the environment.

3. Waste to Energy (WTE) Projects – Converting Waste into Resources

India has promoted waste-to-energy (WTE) projects, which enable the utilization of waste management equipment to produce electricity, bio-CNG, or compost from solid waste. Indore, Delhi, and Pune have also set up successful waste-to-energy plants reducing landfill waste and offering renewable energy.

4. Extended Producer Responsibility (EPR): Followed by the e-Waste and Plastic Waste Management Rules, the concept of EPR holds producers accountable for the end-of-life disposal of their products. It mandates manufacturers to establish collection and recycling channels for their post-consumer waste.

Statistics of Treatment of Solid Waste for the previous years until 2021:

Treatment of solid waste: Percentage of solid waste treated during

Last 2015-21is indicated in Figure 2. Increasing trend in percentage of solid.

The level of waste treated has been experienced over the last five years, where The percentage of processed solid waste increased from 19% in 2015-16 to 49.96% during 2020-21.

Fig 2: Year wise solid waste treated (%)

Credit: MSW_AnnualReport_2020-21

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