



Solid Waste Management

For Prelims: [Solid Waste Management](#), [Landfills](#), [UNEP](#), [Solid Waste Management Rules 2016](#), [Animal Birth Control Program](#).

For Mains: Issues related to Stray Dogs and [Solid Waste Management](#) Way Forward.

Why in News?

A recent incident of stray dog attacks in Srinagar has highlighted the **linkage between street dog attacks and Poor Solid Waste Management**.

How is Poor Waste Management Connected to Increasing Attacks by Street Dogs?

- Indian homes on average also generated 50 kg of food waste per person in 2019, serving as a **source of food for hunger-stricken, free-roaming dogs that move towards densely populated** areas in cities.
 - This food often serves as a source of food for hunger-stricken free-ranging dogs in urban areas, who **scavenge for food around exposed garbage** dumping sites, such as [Landfills or garbage dumps](#).
- **While there is no evidence** to show that the municipal waste and its mis-management directly led to an increase in dog bites, tepid animal birth control programmes and insufficient rescue centres, in conjunction with poor waste management, result in a **proliferation of street animals** in India and the consequent attacks.

What is the Issue with India's Solid Waste Management?

- **Scenario:**
 - Solid Waste 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 biomedical waste excluding industrial waste, bio-medical waste and e-waste, battery waste, radio-active waste etc.
 - India accounts for **roughly 18% the world's population** and **12% of global municipal** waste generation.
 - India generates 62 million tonnes of waste each year. About 43 million tonnes (70%) are collected, of which about **12 million tonnes are treated, and 31 million tonnes are dumped in landfill sites**.
 - With changing consumption patterns and rapid economic growth, **it is estimated that urban municipal solid waste generation will increase to 165 million tonnes** in 2030.
- **Issues:**
 - **Poor Implementation of Rules:**
 - Most metro cities are littered with garbage bins that are either old, damaged or insufficient in containing solid wastes, a 2020 research paper pointed out.

- Urban local bodies are struggling to implement and sustain rules under the [Solid Waste Management Rules 2016](#), such as the door-to-door collection of segregated waste, studies show.
 - There are designated waste collection sites under the Rules, but the implementation of rules and awareness remains low.
- **Dumping Sites's Proximity with Slums:**
 - Most landfills and dumping sites are located on the **peripheries of cities**, next to slums and settlement colonies.
 - In Mumbai, some of the cheapest housing can be found near Deonar, which is on the verge of **256 slums and 13 resettlement colonies**.
 - The disproportionate burden of dog bites may also thus fall on people in urban slums. In 2021, 300 people living in Pune's Shivneri Nagar slum complained of stray dog bites in the area, as per reports.
- **Lack of Data Collection Mechanism:**
 - India lacks time series data or panel data in **connection with solid or liquid waste**, making it difficult for private entities to understand the relationship between cost and benefits of the waste management policies and enter into the market.

What are the Initiatives Related to Waste Management?

- [Solid Waste Management Rules 2016:](#)
 - These rules replaced the **Municipal Solid Wastes (Management and Handling) Rules, 2000** and focus on segregation of waste at source, responsibility on the manufacturer to dispose of sanitary and packaging wastes, user fees for collection, disposal and processing from the bulk generator.
- [Waste to Wealth Portal:](#)
 - It aims to identify, develop, and deploy technologies to treat waste to generate energy, recycle materials, and extract resources of value.
- [Waste to Energy:](#)
 - A waste-to-energy or energy-from-waste plant converts municipal and industrial solid waste into electricity and/or heat for industrial processing.
- [Plastic Waste Management \(PWM\) Rules, 2016:](#)
 - It mandates the generators of plastic waste to take steps to minimize generation of plastic waste, prevent littering of plastic waste, and ensure segregated storage of waste at source among other measures.
 - In Feb 2022, [Plastic Waste Management \(Amendment\) Rules, 2022](#) were notified.
- [Project REPLAN:](#)
 - It aims to make carry bags by mixing processed and treated plastic waste with cotton fibre rags in the ratio 20:80.
- [Plastic Waste Management \(Amendment\) Rules, 2022:](#)
 - The rules specify the responsibilities of **various stakeholders such as manufacturers, importers, retailers**, and consumers. All these stakeholders have a role to play in ensuring that plastic waste is managed properly and does not end up polluting the environment.

Way Forward

- Improving waste management in public spaces and **regulating feeding around bakeries can reduce** the carrying capacity of the environment.
- Improving waste disposal facilities is crucial to reducing such incidents, as just relying on dog sterilization and vaccines won't be enough.
- Decentralized waste management systems can be introduced at the community level to reduce the burden of handling large volumes of municipal waste at a centralized location, provide job opportunities for informal workers, and reduce transportation and storage costs.
- Technology-driven **recycling can be encouraged through research and development at the**

university and school level to promote active participation in waste management.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims

Q. As per the Solid Waste Management Rules, 2016 in India, which one of the following statements is correct? (2019)

- (a) Waste generator has to segregate waste into five categories.
- (b) The Rules are applicable to notified urban local bodies, notified towns and all industrial townships only.
- (c) The Rules provide for exact and elaborate criteria for the identification of sites for landfills and waste processing facilities.
- (d) It is mandatory on the part of the waste generator that the waste generated in one district cannot be moved to another district.

Ans: (c)

Mains

Q. What are the impediments in disposing of the huge quantities of discarded solid waste which are continuously being generated? How do we safely remove the toxic wastes that have been accumulating in our habitable environment? (2018)

Source: TH

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