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## Better waste management can improve environment and mitigate environmental pollution

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### Abstract

Waste management is one of the biggest challenges for the civic bodies. About Rs. 4.7 crores is being spent every day to manage garbage in Delhi alone but result is yet not satisfactory. 'Dry Wastes' generated every day in houses and establishments includes Wood, Clothes, Plastic, Papers, Metals etc. whereas 'wet waste' includes kitchen wastes such as vegetable, fruits peels, tea leaves, coffee grounds, bones, fish scales etc. National Green Tribunal (NGT) has directed to enforce segregation of waste at source. But due to contractors-official nexus, most of the wastes are being sent to the dumping ground. Waste management at home is now necessary. Plastic packets containing any food should wash properly and dried before placing into dry waste container, dry waste and wet waste should be kept separately. Wet waste can be used for composting in a process by which dry waste is converted into compost to be used for kitchen garden. The contribution of rag pickers is significant in the field. Nearly 20% of wastes are regulated by rag pickers. About 3000 tonnes of waste are being segregated and recycled by rag-picker in Delhi alone reducing cost of transportation and saving environment. Bio-medical waste coming out of hospitals and nursing homes are also major threat to environment. There must be adequate measures for disposal and recycling of wastes.

**Keywords:** Waste, Management, and Environment.

### 1. Introduction

'Waste management' is the generation, prevention, characterization, monitoring, treatment, handling, reuse and residual disposition of solid waste. <sup>[1]</sup> There are several types of solid waste including municipal (residential, institutional and commercial), agriculture and special (health care, household, hazardous wastes sewage sludge). <sup>[2]</sup> The term waste usually relates to materials produced by human activity and the process is generally undertaken to reduce their effect on health the environment or aesthetics. The problem of proper waste management is one of the biggest challenge for the civil agencies in the urban areas. The civil agencies in New Delhi alone spend nearly 4.7 crores of tax payers' money every day in order to manage garbage but much of the money is going to waste. <sup>[3]</sup> It ultimately results into filthy cities and an urban nightmare for its residents. Nearly 70% of 5000 tonnes of wet waste that Delhi produces per day and could otherwise be composted ends up at the overflowing landfills. And at least 10% of the 3000 tonnes wastes are recyclable and reusable dry refuse.

'Waste' generated every day in the household and establishment in urban areas may be divided into two categories: Dry waste and wet waste, Dry waste includes paper, plastic, metal, Glass, rubber, thermocol, fabric, leather, rexine wood, wire and anything that stays for an extended period of time without decomposing. Wet waste includes kitchen wastes such as vegetables, fruit peels and pieces, tea leaves, coffee ground, eggshells, bones and entrails fish scales as well as cooked food (both vegetarian and non-vegetarian). The total amount of waste generated in the Delhi daily is about 10000 metric tonnes daily and out of this, amount of dry waste generated daily is 4000 metric tonnes which includes wood, cloths, plastic, paper, metal etc. The waste load on the civil bodies could have much more but for private sweepers and rag pickers who informally slog through the muck and snap up the refuse they want. Thus they nearly recycle 20% of 10,000 tonnes of waste that Delhi produces daily. <sup>[4]</sup>

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The better attempt of decentralised waste management by the municipal corporation and increased segregation by citizens can help to tackle Delhi's mounting waste crisis to a great extent. If this is done, less amount of waste will go to the saturated dumping grounds. Thousands of 'dhalaos' or secondary collection centres that overflow and stink all the time will also be much cleaner. There are four landfills in New Delhi and almost all of them are now on the saturation point. The Nareel Bawana landfill is spread over in 150 acres under the North MCD. The areas of Bhalaswa, commissioned in 1993, have an area of 40 acres, and North MCD has exhausted it and yet dumping is continued. [5] The third landfill is Gazipur, which comprise of 40 acres, and the same is also exhausted its lifespan but dumping is still continues. The fourth landfill situated at Okhla in 70 acres of area, has also exhausted its lifespan but dumping is still continues.

National Green Tribunal (NGT) has directed the government authorities to introduce waste segregation at source. People in residential and commercial areas will have to pay an appropriate amount for the services, aimed at reducing waste reaching overflowing landfills by 80% through recycling and composting. NGT has also issued instruction to the Delhi Govt. and all public authorities to check the pollution caused by burning of non-segregated garbage at a waste-to-energy plant in South Delhi.

## 2. Waste Management at Home

The failure of the civil bodies to enforce segregation by the citizens is a matter of concern. The contractors-official nexus has resulted into most of the waste being sent to the dumping grounds, benefitting the contractors lobby at the cost of the tax-payers money. In such situation, there is greater responsibility on the citizens to manage the waste at home as far as possible. One should keep dry and wet waste separately. After opening the packets of milk, yoghurt and dosa etc. it should be washed properly by hot water because hot-water helps to clean milk packet in better way. Such packets can be put to wash with the dishes in the sink, then dried on line and put in to the dry waste container. After being washed, they will dry and will not stink. The packets of pizza or cake boxes should also be cleaned by wet papers, or rinse them properly and quickly in water and then it should be dried up before putting them into the dry waste container. Any plastic packets containing any food can be rinsed or washed with soap and water and then should be dried before being put into the dry waste container. The waste collected at home should be sent periodically, preferably once a week, to the dry waste sorting centre or give it to the rag-pickers.

One can set up compost pits for his kitchen gardens and flower pots. Composting is a process through which wet waste can be turned into compost. It is a slow process that can take anywhere between 45 and 60 days. Composting can be done every household or can also be started by a housing society within its premises. Home composting can be done in an accreted container or a concert pit can be built by housing society in their premises where workers can be employed to manage it. The assistance of officials of solid waste management of local ward office may also be

taken to receive guidance on waste management. Kitchen wastes such as vegetable and fruit peels and pieces, tea leaves, coffee ground, eggshells, bones and entrails, fish scales as well as cooked food (both veg. and non-veg.) can be used for composting by way recycling these kitchen wastes.

## 3. Role of Rag-pickers

Thousands of regpickers help to segregate wet and dry wet in almost every towns and cities. They often work in hazardous conditions, contributing whatever little they can in absence of proper facilities and infra-structure to ensure that the burgeoning burden in city's landfills is reduced. They are remaining unorganized despite repeated demands. The government is failing to acknowledge their worth in waste management. There are an estimated 1.6 lakh regpickers in Delhi alone who segregate waste, first at the local level and then at the land-fill sites across the city to pick up whatever little they could to make to meet their both ends meet. They usually sell wet wastes to composting plants and dry waste such as plastic glass etc. to 'kabadiwallah' in return of money.

Nearly 20% of waste is recycled by *kabadiwalas*. They have not been provided any space by Govt. so far to sort out and store the waste. In absence of any formal waste segregation at the house-hold level. Most of the regpickers earn about Rs. 150-250 a day. With their families unable to survive a single income, waste-picking has become a family business. Around 85% of rag-pickers deal with domestic waste while the rest are dependent on land-fills, industrial and institutional waste. An estimated 300 tonnes or 30% of the total municipal waste of the Delhi, is segregated and recycled by rag-pickers, reducing transportation cost and saving the environment. Instead of using them as local resources, the govt. is promoting privatisation for waste management and setting up waste-to-energy plants that are polluting the environment.

## 4. Bio-medical Wastes

The bio-medical wastes coming out of private nursing homes, hospitals and government hospital etc. also causes serious health hazards and environment pollution. Patna and neighbouring areas alone produces everyday about 2000 kiloes of bio-chemical wastes through hospital and nursing homes. The bio-medical waste includes placenta, needles, cottons, water-bottles, expired medicines etc. There is great dearth of plant and machines for disposal of these bio-medical wastes. I.G.I.M.S., Patna has set up a plant for disposal of bio-medical waste in 2008 but it soon became out of order. Some of the bio-medical waste are highly toxic and can cause HIV, Hepatitis-B, Hepatitis-C and number of other diseases. The segregation usually should be in five categories— infection waste, disinfecting waste/ blood bags etc., sharp syringes body parts and others.

## 5. Conclusion

The home wastes and bio-medical wastes are the important sources of environmental pollution. There must be adequate facilities for scientific disposal and recycling of

these wastes. It is high time that waste pickers and their organisation be included and defined in the Municipal Solid Waste Rules, 2000. Waste-picker should pay suitably and preferably on the basis of per flats or house-to-house collection of dry waste as being paid in cities like Pune and Nagpur etc. Safely gears, such as gloves and mask, as being paid in should also be provided to them by the Corporation along with other facilities such as drinking water and toilets. Identity-cards duly signed by official of Municipalities and Corporation should also be issued so that they may get identities in society and may also get the benefits of health and insurance.

#### 6. End Notes:-

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