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Solid Waste Management in India

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Abstract

Waste management in India is one of the biggest problem. About 377 million people of urban India generate 62 million tones of solid waste each year, out of this about 43 million tons is collected and 11.9 million tons is treated . this urban solid waste generation will increase to 165 million tons by 2030 . A study of Indian metro city (2007) with a population of over 1 million people produce on an average 41% organic, 40% inert, 6%paper, 4% plastic, 4% textiles, 2% glass, 2% metals, 1% leather wastes. Waste treatment plants treat only 12% of solid wastes produced in India. this percent is very less than required number of waste treatment plants. Government of India has started swachh bharat abhiyan since last four years, but the result is not as supposed to be. People and government of India critically want to solve this problem, but system and infrastructure are not properly created as per requirement.

Fisrt-There are a urgent need to restructure and reconstitute to all municipal corporations with very much increase in number of workers , machines and equipments for management of this huge quantity of solid wastes. For solid management, Government of India must be ready to incur or spend very high amount of money. Without separate fund allocation in budget for waste management , it is not possible.

Second –Every house in any colony or village must separate their wastes in as many category as possible like 1-organic waste, 2-metals, 3-glass, 4-papers ,card boards, 5-plastics, 6- leather, 7-textiles, etc. They must place separate category of waste in separate marked containers, which are kept on every public places or nearby places of colony. Organic waste must go for manure and biogas plants.

Metals, glass, papers and card boards and plastic must go separately for recycle plants or factories. Leather and textile items must go for landfills.

Keywords: Waste Management, Organic Wastes, Metals Waste, Glass Waste, Papers and Card Boards Waste, Plastics Waste, Leather Waste, Textiles Waste, Biodegradable, Non Biodegradable.

Introduction

Solid waste management in India is very big, issue which should be concern at the most priority. Not only, it is wastage of resources which would have been used in the useful production of some essential items but it is also increase the growth of pathogens and dangerous micro organs in the environment, causing diseases among all living animals and humans as well.

Thus it is urgently necessary for us to give due concern to solid waste management before it become too late. Here I recommend two steps to solve this big problem.

First-In the beginning government must provide large amount of money (several thousands crores) from its annual budget allocation. This money will be used in the restructure and reconstitution of all municipal corporations of all cities like recruitment of big numbers of workers to operate machines and equipments, purchasing of required machines & equipments for the collection and dispose of solid wastes.

Second- People should develop ethic and good moral in them and cooperate with government in healthy schemes. Every house in every colony or village will separate their wastes in as many category as possible like 1-organic waste, 2- metals, 3-glass, 4-papers and card boards, 5-plastics, 6- leather, 7-textiles,8-Hazardous chemical containers / waste batteries etc. They must place separate category of waste in separate marked containers, which are kept on every public places or nearby places of a colony. Organic waste must go for manure and biogas plants. Metals, glass, papers and card boards and plastic must go separately for recycle plants or factories. Leather and textile items must go for landfills and

hazardous chemical containers/waste batteries / paint cans etc should go to expert industries to treat them safely.

Who generate solid wastes in large amount like hotels and hospitals. They have to treat organic and inorganic waste either on site or by collaborating with the urban local body.

Review of Literature

Waste management in India comes under the purview of the Union Ministry of Environment, Forests and Climate Change. This ministry brought the Solid Waste Management (SWM) Rules 2016 these rules replaced the Municipal Solid Wastes Rules, 2000.

About 377 million people of Urban India generates 62 million tons of municipal solid waste each year, out of this about 43 million tons (70%) is collected and 11.9 million tons (20%) is treated. About 31 million tons (50%) is dumped in landfill sites.

This urban solid waste generation will increase to 165 million tons by 2030, 62 million tons in a year mean 450 grams of waste per person per day. However, there is a lot of variability in per capita waste generation in India, daily household municipal solid waste (MSW) generation ranges from 170 grams per person in small towns to 620 grams per person in large cities.

A study of Indian metro cities(2007) with a population of over 1 million people estimates MSW composition (by weight) to be 41% organic 40% inert, 6% paper, 4% plastic, 4% textiles, 2% glass, 2% metals and 1% leather.

It is fact that India has generated 1.975 million tones e-waste in 2016 alone. On average it is 1.5 kg of e-waste per person. Waste segregation at source must be mandatory by rule. Waste generators have to segregate/separate wastes into three streams - Organic or Biodegradable waste, Dry waste (plastic, paper, glass, metal, wood, etc.) and Domestic Hazardous waste (diapers, napkins, mosquito repellants, cleaning agents, harpics, etc.).

Municipalities and urban local bodies have been directed to include informal waste pickers and rag pickers into their waste management process. This is the first time that national policy has acknowledged and included the informal sector into the waste management process. India has over 1.5 million subsistence informal waste pickers.

No non-recyclable waste having a calorific value of 1,500 Kcal/kg or more should be disposed in the landfills. It should be used to generate electricity.

The waste management market size by 2025 in India is projected to be worth 15 Billion US Dollar with an annual growth hovering around 7 percent.

Aim of the Study

The aim of study is to present the ideas to help in solving solid waste management in India. It is easy but it require robust intention, dedication, and responsibility toward our environment and societies. We have to implement our rules and corruption free system. Our government and societies will have to give due concern and importance to solid waste management. Otherwise this problem will destroy our development.

Methods and Materials

People of India and government of India very eagerly want to solve this solid waste problem, but system and infrastructure are not properly created as per requirement. There are two things urgently required to solve this big problem

Fisrt-There are a very urgent need to restructure and reconstitute to all municipal corporations of all cities with very much increase in number of workers, machines and equipments for management of this huge quantity of solid wastes. For this, government of India must be ready to incur or spend very high amount of money (Several thousands crores) to purchase big numbers of machines and equipments and to recruit big numbers of workers . Without separate fund allocation each year in budget for waste management, problem will not be solved.

Second –Every house of a colony or village must separate their wastes in as many category as possible like 1-organic waste, 2- metals, 3-glass, 4-papers and card boards, 5-plastics, 6- leather, 7-textiles, 8-hazardous chemical containers etc. They must keep separate category of waste in separate marked containers, which should be kept on every public places or nearby places of every colony. Organic waste must go for manure preparation and biogas plants. Metals, glass, papers and card boards, and plastic must go separately for recycle plants or factories.

Leather and textile items must go for landfills. The containers or cans having hazardous chemicals or e- wastes should be sent in a concern factories or Industries to treat these wastes and reuse or recycle them if possible. Thus Industries should provide these items to other industries which can recycle them or destroy them safely.

Results and Discussion

It is very clear by study of this paper that if inhabitants of every house categorize and separate their solid waste properly and put different type of waste in different marked dustbin /container provided by municipal corporations at each metro sites. Now the duties of municipality workers are that they will collect different type of dustbins at different places and fill these wastes in different specialized trucks. Organic waste trucks will go at places where plants of manure and biogas production are. Like this, different trucks of glass, trucks of metals, trucks of paper and cardboard, trucks of textile/leather, trucks of hazardous chemical containers will go for different recycled plants/ industries.

Thus matter solved.

Conclusion

Solid waste management in India is very big issue. If government show its desire and good intention toward societies and environment by providing money and good infrastructure to manage the solid wastes. People must cooperate and participate in the scheme of solid management as their ethical, moral, social duties. People of India must be taught about the heart, lungs, kidney ,brain, stomach and nervous system related diseases,

infections, deaths per day due to the solid wastes and subsequently created water pollution. We can live very healthy and without any diseases in our whole life, If we have clean air, clean water, clean environment, natural soil and natural food items.

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