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Municipal Solid Waste Management-Review Article

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Abstract: *Municipal solid waste management (MSWM) is one of the major environmental problem of India cities. Improper Management of municipal solid waste (MSW) causes hazards inhabitants. Various studies reveal that about 90% of MSW disposed of unscientifically in open dumps and landfills, creating problems to public health and the environment. Most cities do not collect the totality of waste collected, only a fraction receives proper disposal. The insufficient collection and inappropriate disposal of solid wastes represent source of water, land and air pollution and pose risks to human health and the environment. Municipal solid waste management is characterized by inefficient collection methods, insufficient coverage of the collection system and improper disposal. An integrated planning and capacity building is required backed by financial support to control the situation. Life cycle assessment, categorization, recycling and reduction in all types of waste and proper land filling are required. This paper is a review of waste management system, its elements & disposal system of waste. It has seen that the waste management system should adopt by proper collection, storage, processing, transport & disposal of waste so that the impacts of waste can be minimized & the quality of life can be improved. This paper proposes a discussion about municipal solid waste types and management, waste disposal and environmental issue.*

Keywords: *Municipal Solid waste Management.*

I. INTRODUCTION

Municipal solid waste management (MSWM) constitutes a serious problem in many third world cities. Most cities do not collect the totality of wastes generated, and of the wastes collected, only a fraction receives proper disposal. The insufficient collection and represent a source of water, land and air pollution, and pose risks to human health and the environment. Over the next several decades, globalization, rapid urbanization and economic growth in the developing world tend to further deteriorate this situation. solid waste management may be defined as the discipline associated with the control of generation, storage, collection, transfer transport, processing, and disposal of solid wastes in a manner that is in accordance with the best principles of public health, economics, engineering, conservations, and that is also responsive to public attitudes. Rapid industrialization and population explosion in India has led to the migration of people from villages to cities, which generate thousands of tons of MSW daily. The MSW amount is expected to increase significantly in the near future as the country strives to attain an industrialized nation status by the year 2020 (Sharma and shah, 2005;CPCB,2004; Shekdar et al.,1992.) Generally MSW is disposal of in low -lying areas without taking any precautions or operational controls.

Therefore, MSWM in one of the major environmental problem of Indian megacities. It involves activities associated with generation, storage, collection, transfer and transport, processing and disposal of solid wastes. But, in most cities, the MSWM system comprises only four activities, i.e., waste generation, collection, transportation, and disposal .It has estimated that around 1, 00,000 MT of municipal solid waste is generated daily in the nation. The per capita generation of waste from major cities ranges from 0.20 kg to 0.6kg.

Usually the efficiency of collection ranges between 70 to 90% in metropolitan cities. While in severd smaller cities it is below 50%. It is too estimated that the ULB'S spend around RS.500 to RS. 1500 per ton on solid management activities like storage, collection, disposal etc. About 60-70% of this amount is use for street sweeping of waste, 20 to 30 % for transport of waste, and approximately less than 5% and final disposal of waste, which undoubtedly shows us that there is very less consideration is given to organized and safe disposal of waste.

As per the Municipal Solid Waste (Management and Handling) Rules, 2000. Garbage is Define as Municipal Solid waste which includes Commercial and Residential Waste generated in a Municipal or Notified areas in either solid or semi-solid form excluding industrial hazardous waste but including treated biomedical waste.

II. RESULT

There are many environmental issues In India the current issue which affect the environment is solid wastemanagement.improper solid waste management causes all types of pollution: - air, water and soil. Improper dumping of waste contaminates surface and ground water supplies. Uncontrolled burning of waste and incineration contributes to air pollution .improper solid waste management pollutes local air, water and land resources. Which can also causes the global warming and climate change and impacts to the entire planet. Disposal on dumping ground creates many problems like odor problems, pest problems (rats, insects etc.) if the solid waste contains toxic substances such as heavy metals and toxic organic compounds can be harmful to the aquatic ecosystem.

By V.Shridevi (2012):- According to her study, MSWM in the third world is unsatisfactory improper management of solid waste causes the harmful impacts to the environment and human health. Urbanization is the major source of the increase in the solid waste. Waste management usually accounts for 30-50% of municipal operational budgets. Despite these high expenses cities collect only 50-80% of the refuse generated. Uncollected waste may accumulate on the streets and clog drains when it rains. Which may cause flooding .wastes can also be carried away by runoff water to rivers, lakes and seas, affecting those ecosystems.

By Parag s. dawane (2015):- According to his study, Solid waste management is the difficult issue in front of the world. change in the habitats of people, rapid development are responsible for the large generation of waste .cities like Delhi and Mumbai are generating more than 5000MT of waste per day it causes problems to human health. The urban areas of Asia generate about 760,000 tones of municipal solid waste per day. Which is equal to about 2.7 million m3 per day? In 2025, this amount will rise to 1.8 million tones of waste per day, which becomes 5.2 million M.cu per day.

By,Mufeed sharholi(2007):-According to his study, In India , most of the MSW dump on land in an uncontrolled manner. Inadequate disposal practices lead to problems that can be harmful to human and animal health and result in economic ,environmental and biological issues. Composting and vermicomposting are successful and popular in India instead of incineration. Municipal solid waste generation rates(CPCB,2000) Municipal population of Assam 878,310 ,Municipal waste (t/day) 196 and per capita generation (kg/day)0.223 . population of Haryana 2,254,353 , Municipal waste (t/day)623 and per capita generation (kg/day)0.276.

Per capita generation, disposal and collection efficiency of MSW for Indian state, source (Nema,2004).

Name of the state	Per capita generation(g/cap/day)	Per capita disposal (g/cap/day)	Collection efficiency(%)
Gujarat	297	182	61
Punjab	502	354	71
Haryana	326	268	82
Rajasthan	516	322	62
Tamil Nadu	294	216	73

III. CONCLUSION

Municipal solid waste management is the current issue in India. The study conclude that lack of resources such as financing ,infrastructure, suitable planning and data and leadership are the main barriers in MSWM . most of the waste dumped in India on land in uncontrolled manner. Which is harmful to the environment and causes various types of environmental issues. I concluded that due to the Industrialization and population the municipal solid waste is increasing day by day . According to CPCB in 2012 Municipal solid waste generated 1,27,486 tones per day due to various household activities and other commercial and institutional activities. The study conclude that improper solid waste management appear for a source of air , land and water pollution , and causes risks to human health and environment. The lack of resources such as financing, infrastructure, suitable planning and data, and leadership are the main obstacles in MSWM.

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