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A Case Study on Solid Waste Management of Jaipur City

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***Abstract*-The management of waste is an important issue for everyone all over the world. Inadequate treatment and the solid waste forms a serious threat to both the environment and living things. This is it's a global problem, and that is in the Jaipur city. The social survey is conducted in order to identify the barriers to, and opportunities solid waste management in Jaipur. Implemented a large-scale study as regards the collection, transport, treatment, storage, recycling, and solid waste for recycling, with the origin at the Jaipur City. The data that have been obtained in conjunction with the address collected through the use of the sites visited and the interaction between the people outside. This study found that the city did not have a proper solid waste management mechanism, which leads to the dumping of waste in open areas, such as cause a variety of problems, both for the environment and for the people living in the village.**

***Index Terms*- solid waste Management, of the Individual tests in the field, the city, the atmosphere and the environment.**

I. INTRODUCTION

Just like many other cities in India, Jaipur is a fast-paced development. Jaipur had a population of 2.34 million in the 2001 census, and is estimated to be more than 3.5 million people. Solid waste management is an important part of the city, and the environment, as well as other services to the infrastructure, which is subjected to great stress, in which the low-priority areas, waste management, and was never widely accepted, to be honest, by the company or, to the appropriate agencies or organizations and are now on solid waste impact on our health, environment and well- being.

Waste minimization is a method that is used is to reduce waste in the first place, by reducing the amount ofin-source, recycling, reuse, and recycling of waste materials. The advantages of the minimum of waste, both in kind and in less. Proper waste management, and various aspects have to be considered, such as a reduction in resources, and on-site storage, Collection, transfer, Recycling and disposal. Solid waste management may be defined as the production of undesirable substances that are left after their one-time use only.

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II. LITERATUREREVIEW

I.A.K.S. Illeperuma et.al. [10] Located bin using GIS in a UC of Srilanka. They identify the road network and sensitive sites of the study area .They developed a model in order to estimate the amount of waste that is generated in a country house, who was based in the capital of the group, and in the number of people in the building, which in turn was based on part of the house. The author is also a preferred walk in order to let out the waste in the litter boxes, surveys, and questionnaires. Finally, the mobile phone is marked with the aid of the GIS software, the network real- ly has.

Proper allocation of waste bins in Aurangabad city:

It was found that in Aurangabad city waste in not segregated at source therefore mixed waste is spread all over the city which has various economical and environmental disadvantages. Waste bins are not properly allocated in the city. This study explains the importance of geographical information system in proper allocation of communal bins in the Aurangabad city. There are various steps are taken for planning and management of bins. Existing location and number of bins are calculated. Existing bins are reallocated by creating buffer zone in GIS platform considering factors like distance from sensitive sites, convenient proximity distance for users. New bins are proposed according to amount of waste generated ,location of existing bins and by deciding 33 proximity distance using buffer zones, separate bins for biodegradable and non- biodegradable waste are proposed.

Study of ground water quality at municipal solid waste dumping site- sewapura, Jaipur:

Abhishek Gautam et.al [7]. Assessed the Ground Water Quality at Municipal Solid Waste Dumping Site-Sewapura, Jaipur. . He also found that there is a large amount of solid waste generated in residential buildings, hospitals, etc., these emissions are causing the pollution

of the surrounding environment, reduce the quality of soil and water re- sources. These are the collected samples are available in 10 different places, and carried out the studies of the physicochemical parameters and heavy metal content. The results show that, of the studies that have been conducted on a sample, and we have a large quantity of flour (2.4-3.2 mg/L), chloride (288.4 – 1038.2 mg/L) and TDS (610.4 – 1828.4 mg/L), which is at the higher range of acceptable limits. The groundwater in the study area are the result of the leakage of toxic substances. The research shows that the ground water, which may be completely useless for drinking and irrigation.

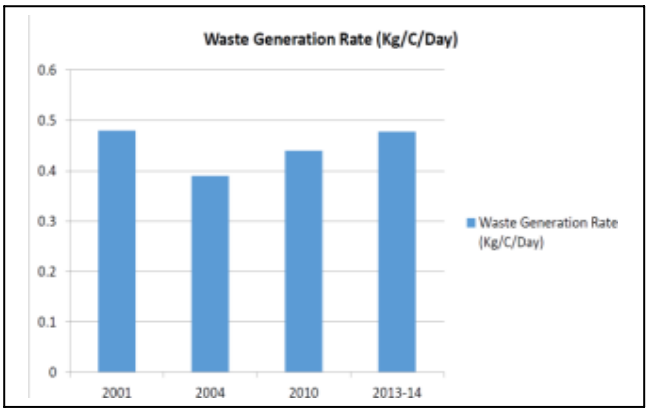
III METHODOLOGY

A. Status of SWM in Jaipur City:

The daily production of solid waste management in Jaipur, it is almost the weight of 1,150 tonnes per day. Of these, approximately 200-250 tonnes, in the city's streets and roads, i.e. the removal efficiency was about 80%. The production of municipal solid waste per capita per day, about 450 g, which is 1.75 kg / day for a family of almost five men .There are no published data on the composition of the waste material in the Fort, while the Indian, the figures are very detailed in the description of the Hotel. In India, the composition of the waste, for example, approximately 50% of biodegradable, 25% of the waste, inert, 9% plastic, 8% paper, 4% of the waste, and 1% are glass.

The combination of different types of waste is constantly changing from season to season. In the summer, there will be more biodegradable waste due to the large amount of vegetation. The composition of the plastic waste is likely to go down as a result of the recent ban on plastic bags in India since the beginning of August 2010. The transfer of the control of the station to which the system or to the general public "devotion". The methodology for the collection and transportation of waste to the waste disposal site. Waste to landfill sites, but in most of the Indian cities of the opening of the landfill is the most commonly used practice, which is it contaminates the environment and human health.

B. ***Main Sources of Solid Waste:***



Municipal waste, Commercial waste, Waste, hotels, hospitals, clinics, and hospitals, and the Construction and dismantling of the waste, Gardening, Slime

C. Solid Waste Management in Jaipur:

The Central Pollution Control Board has been conducting a survey on the state of the solid-waste collection, treat ment and disposal in and around Jaipur in 2007 and 2008. The majority of the urban residents is no storage of waste at the source; instead, the waste will end up in the trash cans, roads, and public open spaces, drains, etc.). Waste management systems are not applicable. Most of the materials are recycled, and disposed of along with municipal waste and hazardous waste. Therefore, it is in the collection of waste materials, and they are usually mixed in with the waste on the street, bins, containers, and waste dumps, which are a part of the waste is carried out. There is also a door-to-door waste collection system, with the exception of a few urban areas. Thus, the square root of the street, and this is the only process in the pre-collection of the waste. In the city of Jaipur has seen a substantial increase in solid waste production in the past few decades. The daily weather forecast for the municipal solid waste generation in the city of Jaipur from the year 1050 to 1150 tonnes per day (t / d), which shall be collected by the windshield wipers, and the storage of waste. The waste, mostly transported on a daily basis, is a 900-ton-per-day, which is about 85% of the waste in the city. The other waste will be transported by special train stations, which are held once a week. This report also explains the SWM of the Fort, the main directorate of the pre-collection and recycling of waste-waste, is a street in the wash. There are about 6,400 street-cleaning brushes in the city. Some of the roads need to be serviced on a daily basis, while others may need to be cleaned regularly, twice a week, or once aweek. The transportation of the waste is carried out with the help of a variety of vehicles, including 3-wheeled vehicles, tractors, and trucks. The machines will have to be manually loaded, with the aid of labor and are to be used for 2 to 3 sessions per day. An insufficient number of vehicles, it is also a serious problem. For the transport system works in sync with the system, the temporary collection and storage ofwaste.

The amount of waste generated and the characteristics of the city:Waste - 916 Tonnes per day The waste rate - 0.59 kg / c / d Compost - 45.50%
Recycling - 12.10 % Air humidity - 21

D. Processing and Disposal

Jaipur, the City has three sites for the disposal of waste of all the cities, towns, namely, the Mathuradaspur, Sewapura and Langadiyawas, that is, a total of 859 bighas. Mathuradaspur and Sevapura is unscientific, open landfills, deteriorate the quality of soil and groundwater contamination. All three of the findings are discussed in detail below.

Mathuradaspura:

This place is situated 17 km to the south-east of the Jaipur City. According to the researches, this region receives approximately 350 tons of waste per day. The total area of the Mathuradaspur is 176 Bighas.

Langadiyawas:

This place is situated 21 km north-east of the city of Jaipur, and is located only 4 km from Mathuradaspura site. The total area of the Langariyavas is 483 bigha. This is the one and only, scientific, and sanitary landfill sites in the city. Langriyawas receives 460 Tonnes of waste per day.

Sewapura:

This plot is situated 20 km north of Jaipur city, with the total plot area is 200-bigha. This area receives of 250 tonnes of waste per day, including waste management

IV. CONCLUSION

All of the functional elements, such as the collection, storage, transfer and transport, recycling, and treatment of so- lid waste management in the Jaipur City, was studied. Based on analysis, the following conclusions were drawn:

a. The waste is not divided into bio-degradable and non-bio-degradable categories, such wastes are formed, and it's hard to find someone.
b. It is the main method for the collection and storage of general waste collection and street sweeping. The number of sweepers and garbage cans was not enough, and they are not being distributed according to their need and everyone in the city.
c. The capacity of the transportation vehicles turns out to be higher than what is needed, however, but due to im-proper management of vehicles there is even shortage of vehicles in some wards.
d. On following the quantification of the whole system, the right of the distribution of the sum of the cleanliness of the machinery, means of transport, the municipal housing in each of the districts of Jaipur, the city is proposed, taking into account the data of the population and the environment.
e. The majority of the waste in the Jaipur city, are administered directly into the landfill, land, which is polluting the land and water, is so dangerous.it was found that Mathuradaspura and Sewapura landfill sites need to be converted into sanitary landfill sites.

V. SUGGESTIONS

In improving collection mechanism:
Waste must be collected in a pre-determined period of time.

In improving storage of solid waste:
The transfer station needed to be so designed such that the waste can directly be transferred into a large vehicle or container. Large vehicles having containers with a capacity of 20-30 cubic meters are typically used for disposal sites which are at long-distance.

In improving transportation of solid waste:
According to the regulations, 2000, as the vehicle must be insured. First, the local authorities must be provided with a level of protection for the existing fleet. Waste transportation may be managed and controlled through a large, decentralized solution.

Waste to energy plant:
Waste-to-power plant is proposed to be manufactured in Langandiyawas. The estimated cost of the 180 crore by the site (With a capacity of 7 MW, 650 of municipal solid waste per day). Facility of segregation and moisture will reducing by drying in plant.

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