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Solid waste Management studies in Karimnagar town, Telangana, India

Prabhaker G. and Chapla J.
Department of Environmental Science, University College of Science, Osmania University, Hyderabad-500 007, Telangana, INDIA

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Abstract

Studies on solid waste management was carried out at Karimnagar a model town , which is 168 kilometers away from Hyderabad city ,with a population of 4 ,10,000. The area of the town is 26 sq. kms. The town is an important business centre. The study was carried out for one calendar year that is 2013. The work is a humble beginning to study the solid waste focusing on domestic waste or organic waste related to degradable products and non degradable recyclable wastes in commercial area or market yards. There are nearly 60 slums in the city. The solid wastes are collected on an average of 145 to 160 metric tons per day manually, and from where the degradable and non degradable material was separated, the degradable wastes are sent to the compost yard and the non degradable material will be sent to recycling industries. Urbanization leads to public health and environment concern not only in the developed countries but also in the underdeveloped countries. With regard to the underdeveloped countries there is no proper waste collection and disposable system.

Keywords*:* Solid waste, degradable, non degradable, recycling management, vermi compost.

Introduction

The Solid waste management (SWM) is also a part of the population. Ashok V. Shekdar[1]. According to Mufeed Sharholy, et al[2] management of Municipal solid waste (MSW) is one of the major environmental problems and hazards to inhabitants, that is causing and creating problems to the environment. Urban solid waste management studies were carried out in Kanpur and Kolkata by Hina Zia and Devadas.V[3], and Arun Kanti Biswas et al[4]. SWM studies were carried out in Chennai using landfill lysimeters by Sri shalini. S et al[5]. SWM studies were also carried out at Kolkata by Tumpa Hazra and Sudha Goel[6], and gave solutions to waste management problems. Ashok V. Shekdar et al[7] proposed long term planning for solid waste management in India, they studied as the households rending in the Bavanagar municipal area within Kolkata metropolitan city. Ankit Agarwal et al[8] worked on recycling of solid waste from the capital city of Delhi. Recovery of solid waste in economic point of view was done in Bangalore in 1993 and 1994 by Pieter van Beukering[9]. Arun Kanti Biswas et al[10] also worked on dumping groumd I Kolkata and also evaluated the environmental quality and physico-chemical characteristics of the landfills at Mathkal dumping ground.

A pilot study on the solid waste management was carried out at karimnagar, Telangana State which is 168 kms away from greater Municipal Corporation Hyderabad. Karimnagar occupies an area of 26 Sq.kms approximately with 4,10,000 populations and the literacy rate is 71%. The town is having 50 wards, with 60 slums. It is a very good commercial place for paddy, cotton etc, this is the first of its kind of study to carry out in this karimnagar Municipality area.

Material and Methods

Underdeveloped countries do not have a proper garbage collection system. Collection of domestic waste from door to door is collected manually, in the collection vehicle (figure-1), and the commercial waste is also collected manually. Both commercial and domestic solid waste are transport to dumping yard (figure-2) was done at regular intervals between 6AM to 10AM and 2.00 PM to 5.00 PM .The collected solid waste is separated in to two groups that is degradable and non degradable components. Waste collection methods vary among different countries or regions.

Results and Discussion

An average of 145 metric tons of solid waste is collected per day at karimnagar town. According to the studies of K. Naresh Kumar and Sudha Goel[11], around 95 metric tons per day of solid waste generates from kharagpur, but the municipal authorities collects only 50 metric tons per day that means 45 metric tons per day is remained un collected which is dumped in open area and it contaminates the ground water. Many developing countries are facing public health and environment problems due to solid waste dumped in open areas. A typical solid waste management system in place like karimnagar has lot of problems such as collection, open dumping and burning without air and water pollution control.

The public sanitation system is lacking because of inadequate planning even in karimnagar as well as unsustainable solid waste management. The metropolitan cities in India like Kolkata, Chennai, Delhi, Bangalore and also Kharagpur often

characterized by poorly rendered services including waste management. In Roorkee the city is found to be highly inefficient in collection of waste transportation. Dumping in open, the only procedures are practiced. The collection efficiency is around 60-70% Tumpa Hazra and Sudha Goel[6] in Kolkata. About 90% of MSW is dispersed of unscientifically in open dumps and landfills creating problems to public health and the environment Mufeed Sharholy et al[2].

Figure-1
Door to Door Manual Collection of Solid Waste

Figure-2
Transportation of Solid waste to dump yard by Municipal Authority

Conclusion

Unscientifically designed or poorly managed landfills will create negative environmental impacts; scientifically and properly managed landfill can be a hygienic and comparatively inexpensive method for disposing waste material. Incineration is controversial method of waste disposal, due to amine as of gaseous pollutants. Karimnagar a town which has a proper dumping yard and the collected solid waste should be properly handled or managed to see that ground water should not be contaminated with degradable or non degradable waste. A treatment plant is required for recycling. The municipality should have a proper plan and implement the system keeping in view of increasing population in the area. Public participation and co-operation awareness for the clean environment will be a successful operation in karimnagar town. Education and Awareness in the area of waste and waste management is an understanding aspect of importance of source management. Every urban domestic household be provided with bins for recyclable and non recyclable waste. House hold waste is segregated, recyclables be made in to new product like compost, general waste such as non recyclable wastes will be shifted to recycling unit. It is a common practice in most of the under developing countries like India the disposing of waste in landfills of abandoned areas. Improperly managed landfills leads to a number of environmental hazards, for example the gales will carry the litter to different clean places, attracting different types of insects, animals and also leads to the formation of methane gas and carbon dioxide. This creates a filthy odor problem for the near-by residential areas; the formed waste material that is organic in nature can be recycled. The waste gases from the aerobic decomposition process, such as methane can be used for cooking purposes, also it generate heat and electricity.

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