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Waste Management In Viva Institute of Technology Using Various Techniques

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Abstract**—***The growth in intake of students, constants change in consumption pattern and social behavior has increased the generation of waste management in VIT campus. Though waste management is a worldwide phenomenon, the improper management of waste management causes hazards to the inhabitants. The problem of waste management is prevailing in the academic environment of the VIT campus also. Consequently, there is need for improve planning and implementation of effective waste management systems for sustainable environmental scenario of the campus. It requires detailed information on the quantity and character of waste management generated and their physical and chemical properties. This present study is to investigate the problems and prospects of waste management in the campus. The investigation includes the methods of practices associated with sources, quantity generated, collection, reuse, recycle, storage of waste in the VIT campus. In this work, it is intended to collect the data using a questionnaire, field visits, and interaction with inhabitants. This work will evolve an appropriate waste management strategy based on the principles of reuse and recycle. This work will be a feasibility study for a waste management system for the campus.*

Keywords—Organic, Plastic, Recycle, Reuse, Waste Management.

I. INTRODUCTION

VIT is providing technical education for graduate students in engineering. Instead of allthese advance technology in educational fields it faces severe environmental concerns whichneeds to be resolved. At the start of the 20th century the industrial companies saw the increment in consumers.The earth itself becamemore polluted with the generation of non-biodegradable waste. The increase in population andurbanization was also responsible for increase in waste. Solid waste is no longer desired material which is generated from household, industries, agriculture and commercial.The introduction of the paper should explain the nature of difficulty, multiple work, aim , and the contribution of the paper.

Tetra pack cartons are primarily made from papers. 75% of tetra pack carton is made frompaperboard, 20% of polyethylene and 5% of aluminium . Tetra pack cartons are fully recyclable.The paperboard is recycled into panel boards, roof sheets and so on.Waste management and recycling collection can help to conserve our planet natural beautywhich can be flawed by thoughtless disposal of waste and senseless littering. It is also blightfor those who live in areas where waste collection recycling is not managed effectively andresponsibly.

II. OBJECTIVES

2.1 For proper waste management is to protect the environment and for the health and safetyof the population. To reduce quantity of waste of 3 R's.

2.2 Identifying the barriers for reducing plastic waste and here by stimulating preventionand recycling of plastic waste. Diverting plastic waste from residual waste going toincineration and landfill.

2.3 To reduce high rate of plastic pollution and reprocessing the materials into functionaland useful products. This approach helps to conserve resources and divert plastic fromdestination such as oceans.

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2.4 To reduce bio degradable waste and to produce as a soil conditioner. Itis used in garden horticulture, urbanagriculture and organic farming.

2.5 To transform biodegradable organic matter into biologically stable material therebyreducing the original volume of the waste.

2.6 To produce a product that can be used to support a plant growth and as a soil amendmentas fertilizer and soil conditioner.

III. MATERIAL AND METHOD

For proper waste management segregation of waste is required as per their physical andchemical properties. Composting can be done various methods like aerobic composting,anaerobic composting, vermicomposting. Organic waste generated in college campus we areadopting aerobic organic composting, which is mainly dependent on the amount of oxygen.Some factors are important while composting such as temperature, moisture content, carbon-nitrogen ratio.

Fig.3.1: Composting materials

Fig.3.2: Composting pot

Plastic bottles, plastic wrappers, and other plastic material can be recycled by differentmethods such as making plastic beads, for making plastic pavers blocks recycle of plasticmaterial into another material, etc. We are reusing this waste plastic bottles for casting concretecubes. For making this cubes plastic bottles are filled with other plastic material, and thesebottles are placed in concrete mold and after that concrete mix is poured into the mold, M25grade of concrete mix is used for making cubes, using this plastic waste generated in collegecampus reduce the amount of concrete per m^3.

Fig.3.3:segregation of plastic waste

Fig.3.4: bottle filling with plastic

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Fig.3.5: plastic filled bottles

Table 3.1 : Materials used for casting cubes :-

Sr. No.	Ingredients	SSD mix (per m^3) in kg	Batch (for 9 cubes)
01.	Cement	299	13.455
02.	Flyash	84	3.780.
03.	10 mm aggregate	470	21.167
04.	20mm aggregate	610	27.093
05	Sand	853	36.658
06.	Water	161	9.717
07.	Admixture	4.21	0.172

Fig. 3.6 Result of standard cube

Fig. 3.7 Result of cube filled with plastic

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Fig.3.8 Result of cube bottle filled with sand

IV. CONCLUSION

The hierarchical process of waste management including reusing and recycling of waste management to avoid the consumption of new materials and fresh water. Understanding the nature and type of waste generated in college campus, reuse, recycle, composting process would be suitable to overcome from the problem of waste management.

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