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SOLID WASTE GENERATION, CHARACTERISTICS AND MATERIAL RECOVERY POTENTIALS FOR LANDMARK UNIVERSITY CAMPUS

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Abstract

Landmark University (LMU) is a private university, with potentials for massive expansion and growth. The present method of waste collection is the "Stationary Container System". The waste generated in Landmark University is presently modest due to the University current population (about 5000), but with population increase, appropriate waste management procedures are to be in place. The research was conducted at Landmark University campus to study the existing waste management systems, characterization of solid waste, determine the physical composition and estimate the generation rate. About two tons (1785.4 kg) total solid waste was generated per day with generation rate of 0.36 kg/person/day. Waste generation from residential, academic/administrative and utility zones were 1599.8, 103.9 and 81.7 kg/day respectively. Total amount of material recoverable and material re-use to attain zero-waste, integrated waste management scheme was 1535.4 kg/day (86%) and 250 kg/day (14%) respectively. The solid waste characterization were: paper 12% (208.13 kg/day), food wastes 22% (390.07 kg/day), wood 2% (34.2 kg/day), food pack 5% (88.81kg/day), plastic bottle 18% (316.3 kg/day), polythene nylon 25% (441.65 kg/day), metals 10% (179.03 kg/day), glass 0.02% (0.36 kg/day), e-waste 0.7% (12.53 kg/day), residual ash 3% (56.47 kg/day) and sanitary 3% (57.8 kg/day). Considering the high recyclability potential, the agrarian focus of the university and the quest for selfsustainability by the university, it was recommended that the university adopt sustainable and integrated waste management options of reuse, recycling and waste reduction.

Author Keywords

Characteristics, Generation, Integrated Waste Management, Material Recovery And Solid Waste

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