AN OVERVIEW OF A SUSTAINABLE URBAN SOLID WASTE MANAGEMENT APPROACHES

D. P. L. Perera, D. M. C. L. Dharmasena and N. A. S. I. Neththasinghe

University College of Batangala, University of Vocational Technology, Sri Lanka
poojalimeshi@gmail.com

Abstract: Waste generation is an issue that is very crucial in implementing the sustainability of major concepts in the world. Therefore, municipal solid waste is among the leading category of waste. Several nations have geared their efforts toward managing Municipal solid waste as part of their countries. It has necessitated the designing of diverse solid waste management systems. These systems include various techniques such as the 3Rs of reduce, reuse, and recycle; composting; landfilling; anaerobic digestion; thermal methods; and emerging concepts. The 3Rs approach focuses on the overall reduction in the use of resources, whereas composting is the process whereby organic waste is transformed into valuable byproducts with the help of microorganisms. Still, landfilling practice is more common, especially in both developed and developing countries' land-scarce jurisdictions. However, the landfills are sanitary, having facilities to manage leachate and gases emitted. Anaerobic digestion is considered renewable energy and can curb some of the energy crises, while thermal techniques aim at dealing with non-biodegradable solid waste management. New concepts rely with the computational and mathematical modulation on managing the efficiency on the existing and newly designed waste management sites. A series of approaches may be implemented to sustainably manage the generated solid waste in the University College of Batangala premises.

Keywords: Waste Management Techniques, Solid waste, Sustainability.