

# PROSPECTS FOR RESOURCE RECOVERY FROM SOLID WASTE IN THREE LOCAL AUTHORITIES OF KANDY DISTRICT

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This study considers the solid waste management system in selected 3 local authorities in Kandy District, Central Province, Sri Lanka, in order to aid the development of a framework for sustainable solid waste management in future. Generation of solid waste is creating large environmental problems in great parts of the world. However, solid waste can also be seen as a resource and potentially constitute resources for material and energy production. The basic understanding for the development of a domestic waste management is the potential benefits from waste are often optimized through separation of materials at source. It is also supported by the National Policy for solid waste management in Sri Lanka.

The objective of this research is to assist formulating concepts for planning, management and maintenance of solid waste management through the knowledge of waste generation and disposal data after investigation of household and commercial waste generation and disposal in residential and commercial areas. The objectives were achieved primarily through semi-structured interviews and discussions with various stakeholders along with non-participatory method tools. Three different types of methods were used in this work; continuous weighing of disposed waste, repeated waste composition analyses per seven consecutive days and use of economic status as a tool for evaluation of environmental impacts related to changes in waste composition, per capita generation and final disposal.

The study identified the strengths and the weaknesses of the institutional and legislative system on solid waste management. It was observed that none of the selected 3 local authorities are not sustainable. There is a comprehensive set of legislations observed; however, the implementation of them is not satisfactory. The wastes are not segregated at the source. The collection and transportation of waste is adequate but the final disposal is not been done in a sanitary manner. Majority of the waste is dumped in open bare lands while some of the public involved in home composting practices. Apart from composting a few solid waste treatment practices were also found which do not adequately reduce the final disposal amount.

As expected 70 - 90 weight (%) of generated solid waste currently is kitchen and garden waste which are the bio degradable portion of waste. The per capita waste generation rate is higher in Municipal and Urban Councils than that of the Pradeshiya Sabha areas and the per capita waste generation rate is higher than the households in the middle and lower income levels. Composition studies of generated waste have shown that less than 20 weight (%) consists of non-bio degradable waste. The weight (%) of non - recyclable waste is less than 10 weight (%). Thus, the potential improvements of current recycling behavior are large. Also it indicates that the final disposal of waste can be minimized by 90 weight (%) compared to the current status.

Results from the work suggest that the environmental benefits connected to material recycling of different materials. Thus, the research raises the importance regarding the basis of the National Policy for waste management. Results from the work also suggest that apart from information towards solid waste recycling, also the practical arrangements of waste separation should be assessed.