

Assessment of Existing Solid Waste Management Practices Within the Urban Council Limit of Vavuniya

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Abstract

Solid Waste Management has become an acute problem mainly due to rapid urbanization within the UC limit of Vavuniya. Urban Council (UC) is responsible for the solid waste management (SWM) within the UC limits which is divided into 11 ward places and consists of 20,047 families. The UC collected approximately 87.5 tons of solid waste and spent nearly Rs. 2,098,937 per month for the whole SWM services. Even though, the UC spent this much of money every month, people were not satisfied with the service rendered by the UC. The objective of the study is to assess the existing SWM practices prevailing among the residents within the UC limits of Vavuniya. The samples of 130 households were randomly selected from the two purposively selected ward places namely Thonikal and Pandarikulam to get the data using structured questionnaire. The study reveals that about 60% of the households hand over the solid waste to the UC vehicle without any separation whereas the rest of the households disposed their waste through different options like backyard burning, composting and midnight dumping. 80% of the households reported that they had problems with the time of collection and they were not satisfied with the existing SWM services rendered by the UC. Changing the time of collection during early morning and evening and increasing the frequency of collection may avoid the improper SWM practices at household level.

Key words: Backyard burning, Composting, Midnight dumping, Solid waste management

Introduction

Improper Solid Waste Management (SWM) is a growing problem in urban areas of Sri Lanka and this problem is aggravated due to absence of proper solid waste management systems in the country (CEA, 2009). Municipality and Urban Council are responsible authorities for Solid Waste collection, transportation and dumping (Levien and Siriwardena, 2000). In Vavuniya district, Urban Council (UC) is responsible for the SWM services at household level within the UC limits. Vavuniya UC limit consists of 11 ward places which consist of 20,047 families (Statistical hand book, 2010). The total amount of solid waste collected per day is

approximately 87.5 tons and spend nearly Rs 2,098,937 per month for whole solid waste management services. Even though, the UC spends this much of money every month, people are not satisfied with this service rendered by the UC. The objective of the study is to assess the existing SWM practices prevailing among the residents of UC Vavuniya.

Materials and Methods

Vavuniya UC limit consists of 11 ward places which includes 37 villages. Out of them 2 ward places such as Thonikal and Pandarikulam were purposively selected as they are the mostly crowded areas which

Table 1: Solid waste disposal methods adopted in the study area

SW disposal options	Percentage
Put it in to the UC vehicle	60
Burning and put in to the UC vehicle	13
Only burning	9
Burning and compost making	7
Burning & buried in to the soil	5
Put it in to the vehicle and compost making	3
Put it in to the UC vehicle and put it in to the cage	3

consist of the population of 2919 and 2540 respectively. One hundred and thirty households were randomly selected for this study (67 from Thonikal and 63 from Pandatikulam). Structured questionnaire was used to collect the primary data from the households and personal interview with environmental officer, Public Health Inspector (PHI) and other officers related to SWM. The secondary data were obtained from the records maintained by UC. Descriptive statistics, percentage analysis were done to analyse the data.

Results and discussion

80% of the people were not satisfied with the existing SWM services rendered by the UC. Table 1 shows the percentage of households using different practices for disposal. Nearly 60% of the households reported that they disposed their solid waste by putting into the UC vehicle only. Though many household had awareness on the waste separation, they didn't practise it because they felt it's a time consuming difficult task. Around 13% of the households disposed their waste by both methods either by putting into the UC vehicle or burning in the open air. Another 7% of the households reported that they disposed their waste either by burning or by compost making. Further this study reveals that nearly 10% of the households practised compost making as one of the options to dispose the solid waste (Table 1). The study also found out that the households which have large land area produce large amount of waste, and find it difficult to send the whole waste into the UC vehicle and chose the improper solid waste management practice like burning are being practiced. Around 5% of the households do burning of non-decomposable waste like plastics and buried decomposable waste in to the soil. Nearly 18% of the people separates their solid waste for compost making or buried into the soil or put it in to the cage (Table 1) Farm households did not want to send their all waste into the UC vehicle and used the decomposable waste for compost making in barrels or cages. They burnt the remaining non-decomposable waste like plastic. The survey reveals that these people did not aware of its harmfulness of burning plastics.

Around 77% of the people discarded the plastic waste to the UC vehicle. Nearly 8% of the households gave the plastic waste to re-users where as 11% of the

households sent the waste to collectors. Further only 20% of the people are satisfied with existing solid waste management system whereas the rest of were not satisfied with the services rendered by UC Vavuniya.

Polythene bags, paper bags and other plastic bags were used for daily needs. In modern life most of the households preferred to use the polythene bags. About 60% of the households use polythene bags which were not bio degradable, caused environmental pollution. Around 3% of them used the paper bags whereas nearly 37 % used the other types of bags.

55% of the household reported that the time of collection of solid waste was not convenient for them as they went for work to government and private organizations during day time. Solid waste collection activities were carried out from 8.30 am to 4.30 pm by UC hence, they failed to access the UC's service. Nearly 45% of the households reported that the frequency of collection was not enough. And keeping the waste in their premises for a longer period was not possible.

Conclusion

Nearly 80% of the people are not satisfied with the service rendered by the UC of Vavuniya district. Changing the time of collection during early morning and evening and increasing the frequency of collection may avoid the improper SWM practices at household level.

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