Analysis of municipal solid waste generation and composition at administrative building café in Universiti Putra Malaysia: a case study

ABSTRACT

Increasing solid waste is one of the most crucial environmental problems in Malaysia. Improper management of solid waste will cause many problems. Increasing solid waste, lack of segregation from the source, and lack of knowledge and awareness about recycling have only worsened the problem. Knowledge of solid waste generation and composition is necessary for accurate decision making in the management strategy of municipal solid waste. The objectives of this study were to measure solid waste generation and analyse and compare the composition of solid waste in two different cafés at Universiti Putra Malaysia. Solid waste samples were collected every day except for Saturdays and Sundays over a three-week period and were sorted and classified into several weighed compositions such as food waste, plastic, paper, aluminium cans, glass, metal, textiles, wood, and more. Results showed that total municipal solid waste generated during three weeks of sampling at Forestry café and Park View café were 325.75 kg, or an average of 21.72 kg/day, and 2979.70 kg, or 198.65 kg/day, respectively. There is significant difference in data collection between the two locations. From the result, it shows that organic waste was the main component in municipal solid waste composition for both cafés, where it is 81% for Forestry Café and 96% for Park View Café, followed by the other compositions. The high organic waste indicates the necessity for frequent collection and removal, as well as having a good prospect for organic waste recycling through composting. Based on this information, a proper waste management system can be introduced to treat the solid waste more efficiently.

Keyword: Municipal solid waste; Waste generation; Waste composition; Waste revenue