

CI 03 Relationship between residential waste generation characteristics and income level of residents: A case study

Edirisinghe D.D.,¹ Priyankara N.H.,² Alagiyawanna A.M.N.,² Dayanthi W.K.C.N.²

¹Postgraduate student, Faculty of Engineering, ²Department of Civil and Environmental Engineering, Faculty of Engineering

Reduction of generation is one major route to overcome present Solid Waste Management (SWM) challenge in Sri Lanka. Past studies have found that residential waste generation characteristics are governed by factors like income level of residents, habits, attitudes, etc. This paper describes a study which was carried out in Galle Municipal Council (MC) area in order to find a relationship between waste generation characteristics and income level of residents. For quantitative analysis of waste generation characteristics, waste samples were collected from randomly selected high, middle and low income households in Galle municipality area. The study revealed that there is a significant relationship between income level of residents and waste generation characteristics such as generation rate and composition. For high, middle and low income level residents, average daily waste generation rate per person is 0.36, 0.26 and 0.24 in kilograms respectively. Thus residential waste generation rate has considerably decreased in lower income level households. In addition to that, waste composition has also shown a considerable variation with the income level of residents. But total organic content (Kitchen and Garden waste) does not vary with the income level and gravimetric wet basis organic content is about 80%. Nevertheless, in middle income level households, relatively lower kitchen waste content (61.8%) and higher garden waste content (17.2%) can be observed. Further, waste categories such as Paper, Textile and Metal content indicate a considerable variation with the income level of residents.

Keywords: composition, generation, income level, waste