

Municipal Solid Waste (MSW) Composition and Generation in Nablus City, Palestine

Authors : Issam A. Al-Khatib

Abstract : In order to achieve a significant reduction of waste amount flowing into landfills, it is important to first understand the composition of the solid municipal waste generated. Hence a detailed analysis of municipal solid waste composition has been conducted in Nablus city. The aim is to provide data on the potential recyclable fractions in the actual waste stream, with a focus on the plastic fraction. Hence, waste-sorting campaigns were conducted on mixed waste containers from five districts in Nablus city. The districts vary in terms of infrastructure and average income. The target is to obtain representative data about the potential quantity and quality of household plastic waste. The study has measured the composition of municipal solid waste collected/ transported by Nablus municipality. The analysis was done by categorizing the samples into eight primary fractions (organic and food waste, paper and cardboard, glass, metals, textiles, plastic, a fine fraction (<10 mm), and others). The study results reveal that the MSW stream in Nablus city has a significant bio- and organic waste fraction (about 68% of the total MSW). The second largest fraction is paper and cardboard (13.6%), followed by plastics (10.1%), textiles (3.2%), glass (1.9%), metals (1.8%), a fine fraction (0.5%), and other waste (0.3%). After this complete and detailed characterization of MSW collected in Nablus and taking into account the content of biodegradable organic matter, the composting could be a solution for the city of Nablus where the surrounding areas of Nablus city have agricultural activities and could be a natural outlet to the compost product. Different waste management options could be practiced in the future in addition to composting, such as energy recovery and recycling, which result in a greater possibility of reducing substantial amounts that are disposed of at landfills.

Keywords : developing countries, composition, management, recyclable, waste.

Conference Title : ICWMRE 2023 : International Conference on Waste Management, Recycling and Environment

Conference Location : Istanbul, Türkiye

Conference Dates : July 24-25, 2023