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Correlation of Management Indicators in the Sectors of Household Solid Waste Collection of the Recife/PE, Brazil

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Abstract

Searching for solutions in solid waste management is a continuous challenge for municipal managers. Faced with the growing scenario of generation of these materials, especially in urban areas, the need to elaborate an integrated, participatory, viable and appropriate management model to the reality of the municipality becomes essential. In this sense, the in-depth study of indicators related to the managerial dynamics of solid wastes is the basis for proposing management models that meet the socioeconomic and environmental characteristics of the region. In this way, the present article studies the correlation of four indicators (population, income, generation and gravimetric composition) in 31 sectors of solid waste collection in the city of Recife, through Principal Component Analysis, in order to identify the indicators defining the realities of the sectors. The results elucidate a strong positive correlation between income and per capita generation of household solid waste (HSW), which is evident in the upper-class areas of the city and in the essentially commercial areas. The identification of indicators of greater influence in the collection sectors will assist the municipal manager in the elaboration of RSD sectorial management models that seek to understand the particular socioeconomic characteristics listed.

Keywords: Solid Waste Management. Collection Sectors. Management indicators. Principal Component Analysis.