CHARACTERIZATION OF MUNICIPAL SOLID WASTE STREAM AND ITS EFFECTS IN NAROK TOWN AND ITS ENVIRONS

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ABSTRACT

In this current study waste generated by residents of Narok town and the surrounding major estates namely Majengo, Total, Lenana and London was characterized. The study also sort to determine the level of heavy metals in the soil from Narok main dumpsite. Characterization was achieved by weighing the household (H.H) wastes within the study area. Soil samples were also collected from main dumpsite for heavy metal and pH analysis. They were analyzed for Lead (Pb), Cadmium (Cd), Chromium (Cr), Cobalt (Co), Copper (Cu), Iron (Fe) and Zinc (Zn). This was done using Atomic Absorption Spectrophotometer (AAS-PG 990) and pH meter (HANNAH PH 211). This study found that the solid waste in Narok composed of 46% food and other organic waste, 8% plastics, 17% paper, 10% metal and glass, 8% diapers and 11% mixed wastes. The current study shows that iron was the highest in concentration at the dump site followed by zinc, lead, cadmium, copper, cobalt and lastly chromium (Fe>Zn>Pb>Cd>Cu>Co>Cr). These concentrations were above reference sites 20m from the dumpsite. The pH range was between 7.19±0.6 - 9.8±0.12 with a mean of 8.29±0.84 in the dump site during the dry season and 8.14±0.25 during the wet season. However the mean pH during wet and dry season was not significantly different ($P>0.05$).The dumpsite was found to be 50m from the Narok River while the recommended distance should be 500m. The results indicate negative effects of these dumpsites to both land and the environment and therefore measures should be taken to ensure proper waste disposal and management. With the major dumpsite being near the river, this study recommends its relocation to prevent further water pollution, which may be a cause of human and livestock diseases.