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عنوان مقاله:

Evaluation of the Environmental Contaminants Associated with Household Waste Dumpsites in Yenagoa Metropolis, Nigeria

محل انتشار:

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خلاصه مقاله:

Due to urbanization and industrialization, large magnitude of streams of waste are generated on daily basis. The adverse impacts of this waste cannot be overemphasized due to their illicit and inappropriate discharge to the environment. This research assessed the environmental contaminants of top (0-15cm), and sub (15-30cm) soils with regards to heavy metals, microbial counts as well as some physicochemical parameters such as; temperature, pH, electrical conductivity from Household dumpsites in Yenagoa metropolis. Seven soil samples were collected including control. The mean result obtained showed that pH ranged from 4.96±0.38 - 6.75±0.61, electrical conductivity 65.40±0.50 - 90.48±0.77 µS/cm. Calcium (17.95±0.11 - 55.31±0.82 mg/kg), magnesium (7.36±0.82 - 17.22±0.23 mg/kg) and sodium (0.11±0.38 - 4.43±0.52 mg/kg) and potassium (1.15±0.43 - 5.46±0.42 mg/kg). While the result of the microbial counts ranged from 6.05±0.66 – 0.077±0.27 x 106 cfu/g (total heterotrophic bacteria); 2.07±0.31 - 8.82 ± 0.32 x 104 cfu/mg (total fungi). Furthermore, results of heavy metal analysis showed less impact on the control site however; significant levels of iron (8.75±0.37 - 17.79±0.19 mg/kg), copper (1.87±0.51 - 8.08±0.49mg/kg), zinc (1.04±0.18 - 4.52±0.14 mg/kg) and lead (5.25±0.72 - 11.37±0.09 mg/kg) were reported while chromium, Nickel and Cadmium were not detected. Generally, the results confirmed mild contamination of soil in dumpsites. As such drastic step should be taken in order to mitigate the incipient adverse consequences.

کلمات کلیدی:

Heavy Metals, Household Dumpsite, Bayelsa State, Pollution

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