UNIVERSITY OF GHANA

SCHOOL OF PHYSICAL AND MATHEMATICAL SCIENCES

DEPARTMENT OF CHEMISTRY

ABSTRACT

The study investigated the concentration of seven heavy metals (As, Cd, Cu, Pb, As and Co) in the soil of some selected communities (Ejura, Anyinaso, Babaso Aframso and Drabon) in the Ashanti Region of Ghana using acid digestion and Atomic Absorption Spectrophotometer methods. In all the samples analysed, the concentration of Cobalt and Lead were found to be highest, while Cadmium showed the highest exceedance compared to WHO/FAO permissible values. The potential ecological risk index of the heavy metals increased in the order of Cr<Ni<Cu<As<Co<Pb<Cd and was similar to the mean contamination factor and geoaccumulation index. Also, the combined ecological risk of anthropogenic metal differed from one site to another, which is highly significant in the case of Cd. However, the hazard index for children and adult were less than one which showed that the metals possessed non-carcinogenic effects on individual health.

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