

Oncological Consequences of Heavy Metal Deposits in Jos East, Plateau State, Nigeria

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Abstract : Carcinogenic substances are those that induce tumours (benign or malignant), increase their incidence or malignancy, or shorten the time of tumour occurrence when they get into the body through inhalation, injection, dermal application, or ingestion. Using X-Ray Fluorescence, this study reveals the accumulation of heavy metals in Jos East. The results of this study showed that the Geo-Accumulation Index (Igeo) of water for different heavy metals decreased in the order of Cd (0.15) > Cr and As (0.03) > Pb (-0.13) > Ni (-0.6). The soil content for different heavy metals decreased in the order of As and Cd (0.4) > Ni, Cr and Pb (0.2). The edible plants for different heavy metals decreased in the order of Cd (0.512) > As (0.25) > Pb (0.23) > Ni (0.01) > Ni (-0.06). 21% of these points are uncontaminated, except for a few points that are found within the uncontaminated to moderately contaminated level. It is possible to conclude that the area is uncontaminated to moderately contaminated, necessitating regulation. Hence, this study can be used as reference data for regulatory bodies like the Nigerian Nuclear Regulatory Authority (NNRA) and the rest.

Keywords : heavy metals, soil, plants, water, contamination factor

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