

Preliminary Assessment of Arsenic Levels in Farmland Soils of Bokkos Local Government Area, Plateau State Nigeria

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Abstract : This research was undertaken to evolve community based awareness on the arsenic contamination from agricultural practices in Communities of Bokkos local government area. Contaminated farmland soil samples were collected from the surface for tailings and at various depths (50, 100, 150 cm intervals) in eight holes drilled in each farm at different locations using hand auger. A total of sixty- four (64) soil samples were collected from eight (8) different communities. A standard titrimetric method was applied for the determination of arsenic. It was found that the average concentration of arsenic in the surface soil (0-150cm) for the entire study areas was 0.0525mg/kg with range 0.0425 -0.0601mg/kg which is well above the recommended the soil to plant concentration guideline range of 2.3 - 4.3 x10⁻⁴ mg/kg value. This indicates that the arsenic concentration in the study areas does pose health risk for agricultural practices via potential bioaccumulation in plant food crops. However, some risks measures could follow the arsenic occurrence through direct exposure such as those resulting from the inhalation, oral or dermal intake of arsenic during agricultural practices and in the course of stay on the contaminated soil.

Keywords : agrochemicals, arsenic, bokkos, contamination, soil

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