

Environmental Radiation Level in Soil from Some Selected Mining Sites in Minna Environs, Niger State, Nigeria

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Abstract : In this research work, the activity concentrations of the well-known naturally occurring radionuclide materials ^{40}K , ^{226}Ra and ^{232}Th were determined in soil samples obtained from three mining regions of Niger State, Nigeria. A total of 24 soil samples were analysed using NaI(Tl) detector to determine the activity concentrations of sample. The range of activity concentration found in this study for the soil samples ranges from 256 to 447 Bq kg⁻¹, 12.2 to 27.56 Bq kg⁻¹ and 3.50 to 11.90 Bq kg⁻¹ for ^{40}K , ^{226}Ra and ^{232}Th , respectively. The perspective of safety and considering the low level of radiation hazard index compared to the world averages and recommended safety limits, these samples can be considered safe for use in building and construction without causing radiological risk to the people residing in these areas.

Keywords : activity concentrations, ^{40}K , ^{226}Ra and ^{232}Th , radiation hazard

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