Preliminary Report on Radon Concentration in Drinking Water and Indoor Air in Kenya

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Abstract

A screening survey has been carried out to determine activity concentrations of radon (^{222}Rn) in drinking water and indoor air in various locations in Kenya. The concentration of ^{222}Rn in water was measured using a liquid scintillation counter (LSC). Three different passive integrating devices were used in the measurements of ^{222}Rn in air. In the short-term measurements, radon is absorbed in activated charcoal and the analyses were carried out using either LSC or gamma ray spectrometry. The long-term measurements were carried out using solid-state nuclear track detectors (SSNTD). The mean and maximum values of ^{222}Rn concentrations in water are 37 and 410 Bq L^{-1} and 100 and 1160 Bq m^{-3}, respectively, in air. The highest values were obtained from groundwater sources and in the basements of buildings. When these values are compared with the internationally recommended reference levels, there are indications of existence of radon problems in some of the water sources and the dwellings tested in this survey.