

Abstract

Exposures to various components of the natural background radiation in Kenya were estimated using measured activity concentrations of natural radionuclides and conversion factors. Contributions to the total effective dose include: 0.1 to 2.0 mSv.y⁻¹ from terrestrial gamma radiation; 0.2 to 0.7 mSv.y⁻¹ and a *per capita* of 0.4 mSv.y⁻¹ from cosmic radiation; and 0.4 to 6.0 mSv.y⁻¹ from inhalation of radon (²²²Rn). Radon concentrations also range from 5 to 1200 Bq.m⁻³ in indoor air and from 1 to 410 Bq.l⁻¹ in drinking water. Considering the population distribution in relation to living habits of the people and to the relief and the geology in Kenya, it is concluded that the average annual effective dose in Kenya is higher than the global average. Ingestion of volcanic ash by some people, particularly pregnant women, was also identified as an additional (unusual) internal exposure pathway.