

## **E1-19: Measurement of radium concentrations in some building materials used in Sri Lanka**

**P Mahawatte, Hemanthi Ratnayake**

*(Radioisotope Centre, Univ of Colombo, Colombo 3)*

Building materials are commonly derived from natural materials such as sand, soil, rock, etc., which contain traces of radium - 226. Radon -222 is the immediate daughter product of Ra -226. Being an inert gas when formed, radon can diffuse out from the building materials to the inside atmosphere of the dwelling. The radioactive daughters of radon -222 which are solids under ordinary conditions, attach themselves to atmospheric dust and when inhaled can cause lung cancer.

The activity concentration of radium -226 of the building material is one factor which determines the activity concentration of radon and its decay products in a room atmosphere.

The activity concentrations of radium -226 in some common building materials found in Sri Lanka were measured using gamma ray spectrometry. The values range from 0 -104 Bq kg<sup>-1</sup>.