Geophysical Research Abstracts
Vol. 20, EGU2018-1769, 2018
EGU General Assembly 2018

The relevance of Medical Geology in Africa: some examples

Hassina Mouri
University of Johannesburg, Faculty of Science, Geology, South Africa (hmouri@uj.ac.za)

Medical geology is a field of science that is dealing with the influence of natural geological factors, process and material on humans and animals health [1]. This field is based on a multi-disciplinary, cross-disciplinary and inter- disciplinary approach bringing together experts from various fields of science including public health, epidemiologists, toxicologists, geoscientists, environmental scientists..etc. Medical Geology has seen an important growth in some parts of the world during the recent years. However, in Africa, this field is still not yet well developed although it is in Africa that the application of research would be most relevant. The African continent is characterized by a very complex and dynamic geological history including frequent earthquakes, volcanic activities in tectonically active regions, pervasive dust, water toxicity due to interaction with the geological environment etc. All these naturally occurring processes and materials could have short and/or long term impact on humans and animals health. The situation on the African continent can be aggravated by the fact that most of the population live in rural areas, thus rely mostly on groundwater and locally produced food grown from soil that can be either enriched in toxic elements or deficient from essential elements, which are required for a healthy plants growth. We also know that a large number of population on the African continent suffers from serious health issues such as thyroid disorder, asthma, cardio-vascular diseases, cancer, neurological disorders etc.. and the causes are still unknown in most of the cases.
Thus, considering the significance of such health problems on the continent, we strongly believe that it is necessary to develop medical geology through research collaborative projects and training of a new generation of researchers in Africa. This initiative will result in a number of socio-economic benefits, amongst:
(i) A better understanding of the natural environment and its impact on human and animals health,
(ii) Education of the population (especially those who live in rural areas) and warning on the number of possible heath issues that can be caused by (hidden) geological problems,
(iii) Broadening the understanding of the diagnostic spectrum as well as therapy for many common health issues (such as certain types of cancer, asthma, thyroid issues..etc) on the African continent and contribute to the prevention of further health risks and even loss of life in future generations.
(iv) Recommendation by relevant experts for possible remediation and solutions to the problems.
References:
[1] Essentials of Medical Geology: Revised Edition 2013th Edition by Brian Alloway (Adapter), Jose Centeno (Adapter), Robert Finkelman (Adapter), Ron Fuge (Adapter), Ulf Lindh (Adapter), Pauline Smedley (Adapter), Olle Selinus (Editor)