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Editorial

Medical geology and mining hazards in Africa

Geology as a science could be ranked as one of the most simultaneous valuable and disturbing factors to human health. Only human can turn it towards positive or negative facts.

Any geologist is searching for what he thinks valuable to his community. Therefore, you will find applied geology is the most interesting branch of geology to several geologists; due to the robust connection between academic research and society.

For example, oil and gas exploration attracts several geologists to work in that field; of course, we cannot ignore the high salary offered to them. Evermore, scientists are searching for resources of renewable energy. As a result, oil and gas exploration may have hazy future.

In parallel, the field of geology and environment enables geologists to have wider scope for interaction with environments and societies. So far, this trend still lacks, in my opinion, the robustness and coherence in order to develop new methods and techniques for improving the efficiency of this field of research.

On the other hand, many geologists were not totally convinced that geology can solve problems related to human health, until the medical geology, as a new science of an old idea, was approved by the participating scientists of the 4th International Symposium on Environmental Geochemistry, Vail, Colorado, October 5-10, 1997. Consequently, in the year 2000, a workshop on medical geology was held in Uppsala, Sweden, in which the idea of publishing a book on medical geology has been confirmed. In the same year, a project proposal on the subject has been submitted to UNESCO.

It is worthy of note, however, that Aristotle (the great philosopher and teacher of Alexander the Great) reported his ideas on the relationship between lead mines and human health, 2000 years ago.

As our journal (JGMR) deals with mining as well as geology, thus, I intended to focus on medical geology and mining hazards in our developing countries.

Wes Gibbons (2000) stated that early awareness of asbestos-related diseases in producer countries did not translate into preventative action before hundreds of thousands of individuals had been exposed to high fibre levels. The situation was most acute in South Africa where the occupational health status of black Africans in particular was badly neglected.

Syed Hassan (2004) argued that great progress has been made during the past 25 years and medical geology has evolved to the point that it is now recognized as a distinct specialty in geosciences.

Geoffrey Plumlee (2007) mentioned the main targets he believe effective in solving problems related to mineral deposits and their surrounding watersheds that influence potential environmental and health effects, both naturally prior to mining and resulting from mining and mineral processing. These targets according to his view are:

Full understanding of pre-mining environmental and health baseline conditions, and establishing appropriate restoration standards,

Anticipating potential adverse impacts and preventing them before they occur, and

Assessing and remediating effects from historical mining and processing operations

Robert Finkelman (2008a) affirmed that in many developing countries mining activities are leaving, or have left, a legacy of environmental degradation and concomitant health problems due to poor water and air quality. His words seem to refer to the behavior of peoples of our developing countries (including Africa). If so, I may agree with him that we should think for promoting our behavior in different actions and reactions related to the human health. We should think of others parallel to thinking of ourselves.

The same author in another paper (Finkelman 2008b) clued that coal will be a dominant energy source in both developed and developing countries for at least the next century. He believes that possible solution to environmental and health problems caused by coal can be as simple as igniting the coal near the top of a brazier rather than at the bottom.

From my side, I believe we (African countries) are able to solve several mining problems if we concentrate on the following efforts:

Advising students of our universities to study medical geology,

Encouraging researchers and colleagues to shed light on medical geology in their scientific agenda,

Facilitating the needs of medical geology research through giving priority to this field in our annual scientific finance,

Preparing for regional conferences to discuss this subject matter,

Supporting postgraduate students to study their theses in USA and Europe to import the modern technology in this field,

Inviting experts to give lectures, and to make workshops, on the importance of medical geology for our health, and most important

Enhancing our way of thinking to be more useful to our communities

Starting from this point, I would so much invite the publishers of Academic Journals to think of publishing a new journal titled “African Journal of Medical Geology”. This could be the first step that would be followed by great efforts to establish a new medical geology school in Africa.

I hope this paper could open the gate to new era of progress and motivation in the African countries towards how we can benefit from geology to save the human health of our peoples.

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