



## Geology, geotectonic, georesources and potentialities of mining industry of Sudan

### Геология, геотектоника, георесурси и потенциал на минната индустрия на Судан

*Badr el Din K. A. Khalil*  
*Бадр ел Дин К. А. Халил*

EL-Neelain University, Faculty of Petroleum and Minerals, Khartoum, Sudan; E-mail: baderkhalil@hotmail.com

**Keywords:** geology, tectonic, mining industry, Sudan.

This presentation is an attempt to reveal the present status of geological criteria in Sudan so as to encourage mining industry.

Sudan has been known for its diversity and prolonged history of geological processes and events. This and the vast area of the country make it one of the relatively richest African countries in georesources. Irrespective of this, most of the country is considered still virgin, as far as prospecting, exploration and extraction of georesources are concerned. Gold mining has been active in the “Nubian desert” since Pharaonic times. The general outline of the geology of the Sudan, displayed geochronologically, consists of: metamorphic and igneous rocks of Precambrian referred to as Basement complex. These are unconformably covered by Phanerozoic sedimentary and volcanic sequences. All of these units had been subjected to more than one phase of deformation. The georesources of Sudan consist of:

– Solid metallic and non-metallic minerals, industrial and building materials; most of these are confined to the uplifted blocks of Precambrian basement complex.

– Hydrogeological aquifers and hydrocarbon energy are confined to subsidizing Phanerozoic basins and depressions of sedimentary sequences separating the uplifted blocks of Precambrian basement complex.

This presentation also displays gold mining activity, with special stress on indigenous (artisanal) mining, prevailing now in the country and account for positive and negative impacts on socio-economic and environment. In Sudan, as well as other African countries, national and international conflicts (“Hot Spots”) are usually located, where georesources, of great economic potentialities are expected. The suggested recommendation, in this review, is to set a road map to adopt a national policy governing laws and regulations for sustainable and rational mining industry.