

Impact of Bauxite Mining on Groundwater in the Dabiss Mining Area

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ABSTRACT

The Prefecture of Boké has become a mining site where several extractive companies compete in the exploitation of bauxite. All the sub-prefectures carrying bauxite plateaus are affected, particularly Dabiss. The objective of this research is to study the impact of bauxite mining on groundwater in the mining area of Dabiss Sub-Prefecture of Boké. To achieve the objective, a comparative study of the physico-chemical parameters of groundwater with the WHO standard was carried out. Additionally, the vulnerability of groundwater pollution by mining activities was studied by applying the standard DRASTIC method coupled with a geographic information system (GIS). The water samples analyzed show that the majority of groundwater in the study area is acidic. By applying the DRASTIC method, we established the vulnerability map, showing the low vulnerability index. The results of this study could prevent diseases related to the consumption of water contaminated by bauxite mining and will serve as a reference document in other mining areas.

Keywords: Dabiss Mining, Bauxite, Groundwater vulnerability, DRASTIC method.

