

IMPACT OF PHOSPHATE MINING ON THE OCCURRENCES OF FLUOROSIS

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Elevated fluoride level in water around the vicinity of the phosphate mines has been observed by several authors in different countries. However the concentration of fluoride in groundwater around the phosphate rocks is least investigated. The occurrences of fluorosis in the livestock around the plateau area of Beni Meskine, Morocco is well-documented. A case study showing the buffering of phosphate rocks in elevating the groundwater fluoride. The phosphate group of minerals mainly apatite possesses the third highest concentrations of fluoride while silicates and halite's are the first two. Geochemical and hydro chemical study from the Rogaland igneous complex suggested that there is a positive correlation between groundwater fluoride concentration and phosphate rocks. The phosphate fertilizer industry mostly located near the phosphate mines is also known to contribute free fluoride in the soils and ground water. The geochemistry of the dust particles shows 41000-21000 ppm of fluoride depending on the particle size. The population residing in the adjoining areas of the phosphate mines are likely to be effected by air contamination. Hence the phosphate mining should be carried with proper precaution and routine monitoring of the groundwater and air quality is needed to protect the population from being effected by fluorosis and other health hazard

Biography

Anirban Chowdhury has completed his master's in applied geosciences at the age of 22 years from Presidency University, India and pursuing his doctoral studies from Sidho-Kanho-Birsha University, Purulia. He is senior researcher in the department of chemistry, Sidho-Kanho-Birsha University, India. He has published more than 7 research article in reputed journals and has been serving as student member of Geochemical Society of America. His research work is interdisciplinary and focuses on the application of geochemistry in earth sciences.

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