



Water Quality Index (WQI) for Assessment of Groundwater Quality Around Gevra Coalfields Area, Chhattisgarh

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ABSTRACT

Since the 1960s, the use of water quality index (WQI) as a method has been implemented to determine the status of water quality in rivers. The current study's aim is to use the weighted arithmetic water quality index method to estimate the Water Quality Index (WQI) of groundwater in the area of the Gevra coalfields project. In the months of October to December of 2020, Water samples were taken from eight stations, and sixteen water quality parameters were examined: pH, electrical conductivity, turbidity, total dissolved solids, total hardness, total alkalinity, chloride, fluoride, chemical oxygen demand, dissolved oxygen, biological oxygen demand, sulphate, iron, arsenic, lead and zinc. Public health is at risk due to environmental contamination in drinking water that could have immediate health implications. Based on geological conditions and farming, mining, and other man-made operations, groundwater supplies are vulnerable to pollution. Therefore, maintaining the quality of drinking water is a rising concern.

Graphical Abstract

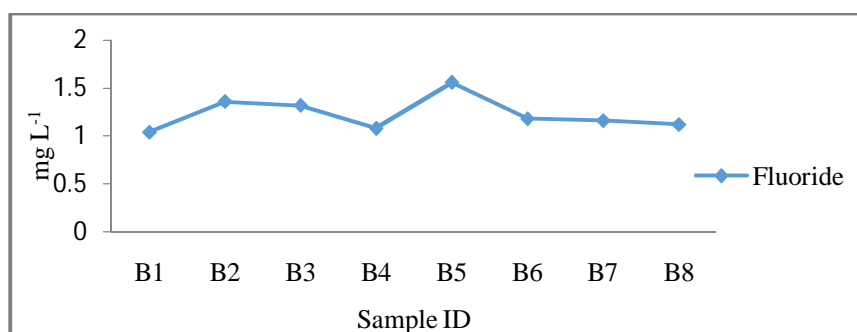


Figure 13. Comparative analysis of the fluoride content of 8 groundwater samples

Keywords: Groundwater, Parameters, Water Quality Index, Gevra coalfields project.