Groundwater Chemistry in an Over-exploited Granitic Aquifer of Gajwel watershed, Medak District, A.P, India

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Overexploitation of groundwater had taken place as a result of the pressure of providing food to the fast growing population and the dependence on agricultural profession by the majority of the population. In India, about 80% of the drinking water needs are met by groundwater. Water quality problem arises when there is excess or deficiency of various elements. A detailed hydrochemical analysis revealed that most of the groundwater quality parameters do not meet the standards set for drinking water by WHO. The average concentration of fluoride in the watershed is 1.7 mg/l exceeding the maximum permissible limit of 1.5 mg/l. A good correlation was observed between the depth to water level and concentration of fluoride. Cases of dental fluorosis are observed in the area due to excessive intake of fluoride through the drinking water. The toll of overexploitation, as is the aquifer, is manifesting not only in water quality but also as health hazard in the form of dental fluorosis.

Key words: Groundwater; Fluoride; Gajwel.