

Groundwater Quality Monitoring and Evaluation in Sagar District, M.P.

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ABSTRACT

A hydro-chemical study of the ground water of district Sagar has been carried out during 1996 to examine the suitability of water for drinking and irrigation purposes. Thirty five water samples representing the shallow ground water of the region were collected during pre-monsoon and post-monsoon seasons in the month of June and November 1996 respectively. Various parameters, viz., pH, conductance, total dissolved solids, alkalinity, hardness, chloride, sulphate, phosphate, sodium, potassium, calcium and magnesium, have been determined for each sample. The data was analysed with reference to BIS and WHO standards, ionic relationships were studied, hydro-chemical facies were determined and water types were identified. The results of the study provide information needed for ground water quality management in the region. The values of sodium adsorption ratio indicate that ground water of the area falls under the category of low sodium hazards.

The ground water of the region has also been classified on the basis of Stiff, Piper trilinear and U.S. Salinity Laboratory classifications. These classifications allowed to characterize the samples of ground water according to their hydro-chemical facies and their quality for agricultural use. Majority of the samples of the study area fall in the Ca-Mg-HCO) hydro-chemical facies. The ground water is acceptable for irrigation purpose.

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