

ASSESSMENT OF GROUNDWATER QUALITY FOR IRRIGATIONAL SUITABILITY IN PART OF ARKALGUD TALUK, HASSAN DISTRICT, KARNATAKA, INDIA, USING WATCHIT.

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Abstract

In the Arkalgud Taluk of Hassan District, groundwater is the fundamental source of irrigation. Factors, such as soil characteristics, geology of the region, and intensive farming have impacted the water quality. Therefore, the appropriateness of groundwater for irrigation was evaluated using the following criteria: Permeability Index, Salinity and Sodium Hazard Classification, Sodium Adsorption Ratio, Residual Sodium Carbonate, Sodium Ratio, Adjusted Sodium Adsorption Ratio, United States Salinity Laboratory (Salinity USSL, 1954), Salinity Hazard, Kelly's Ratio, and Corrosivity Ratio. The research aims to learn more about groundwater quality and its potential for agriculture in the Arkalgud Taluk, Hassan District of Karnataka, India. The standard technique proposed by APHA (2005) was used to collect 25 representative groundwater samples from various tube wells in the study area. The data was analyzed using the WATCHIT-1 (Water Chemistry Interpretation Techniques Version 1) software program and compared with standards to evaluate groundwater suitability for irrigational purposes. After a complete chemical examination, these groundwater samples show that 80% of the samples collected for this study were suitable for irrigation.

Keywords: Water Quality, Irrigational Suitability, Pollution, Groundwater, Wells, Arkalgud Taluk