

Groundwater Chemistry in Jind District: Physiochemical Appraisal and Drinking Water Quality Assessment

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Abstract: *It is essential to have access to safe drinking water, particularly in rural regions where groundwater is the primary water source. The physicochemical quality of the groundwater in Jind District, Haryana, India, has been evaluated in this research. Six hundred samples were collected from thirty different places, and the following physiochemical characteristics were measured: pH, total dissolved solids, total hardness, alkalinity, electrical conductivity, calcium, magnesium, sodium, potassium, nitrate, fluoride, and sulfate. The World Health Organization, the Bureau of Indian Standards, the Indian Council of Medical Research, and other regulatory bodies' standards were compared to these results. Most of the necessary criteria were found to be within acceptable levels; however, total hardness, calcium, and magnesium were found to be greater than recommended in certain areas. The Water Quality Index states that the declining quality of the groundwater in certain areas makes it unfit for human consumption. In addition to providing critical information to assist mitigation measures and ensure the provision of sustainable and clean water resources for the population of the Jind district in the state of Haryana, this research highlights the need of regular monitoring.*

Keywords: Physiochemical, groundwater, water quality, jind, water quality index