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Studies on Water Quality Index of Ground Water in Budigumma Village, Anantapur District, Andhra Pradesh

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Abstract : The aim of the project is to assess the suitability of groundwater for human consumption based on the computed water quality index values, characteristics of groundwater and assessment of water quality. The water quality index (WQI) is main tool to determine the drinking water quality in urban, rural and industrial area. This means as an index reflecting the composite influence of different water quality parameters which is considered and taken for calculation of water quality index. In the present study, fifteen groundwater samples were collected from the Budigumma Village Anantpur district in the state Andhra Pradesh in in india. Nine water quality parameters have been considered for the calculation of water quality index viz. pH, total hardness (TH), total dissolved solid (TDS), calcium (Ca), magnesium (Mg), nitrates (NO₃), chlorides (Cl), sulphates (SO₄), fluorides (F). The World Health Organization (WHO) has been considered to assess the suitability of groundwater for drinking purposes and for the calculation of WQI. The WQI index for the same has been calculated and the values ranged from 97.78 to 108.37. The current study shows that 87% area is falling under the poor category for drinking water and the remaining 13% comes under as good for drinking purposes as per the WQI classification. The analysis reveals the fact that the ground water of this village needs a degree of treatment before consumption and needs to be protected from further contamination.

Keywords : Groundwater, Water Qulaity Index, Physical characteristics, Chemical characteristics, Water classification.

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