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ORIGINAL ARTICLE

GROUNDWATER QUALITY ASSESSMENT IN RIVER HINDON CATCHMENT OF SAHARANPUR, UTTAR PRADESH, INDIA

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Abstract : Potable water is considered essential resources for sustaining human population on all geographical locations on Earth. However, ground and surface water have been contaminated due to anthropogenic and geogenic activities. Hindon River, is the tributary of Yamuna River which originates in Saharanpur district of Uttar Pradesh. The length of river is approximately 400 km and its received heterogeneous contamination from different sources. Therefore, there is necessity for groundwater quality assessment in the catchment of River Hindon. In the present study, groundwater samples were collected from rural catchment region of River Hindon, Saharanpur district, Uttar Pradesh, India. In this study the physicochemical parameter such as pH, TDS, TH, Chloride, Na, Ca, Mg, K and Fluoride and two heavy metals Fe and B were analysed. The pH in the study ranged from 6.5 - 7.5 and it was within the BIS (2012) permissible limit and below the WHO (2011) drinking water guidelines. The mean concentration of Fe and B was 4.793 ± 2.415 and 2.068 ± 1.016 respectively, and it was above the drinking water permissible limit of BIS (2012). The concentration of Mg and Fe was found 100% of samples while B was found 83% of samples. The results reveal that geogenic and anthropogenic activities play main role in groundwater contamination in the study area.

Key words: Groundwater, Contamination, Iron, Boron.