

APPRAISAL OF EFFECT OF ANTHROPOGENIC SOURCES ON HYDROCHEMISTRY OF GROUNDWATER OF SLUM AREAS OF NAGPUR CITY, INDIA

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Abstract

Groundwater samples collected from various slums of Nagpur city, India exhibit impact of increased anthropogenic inputs in groundwater quality and the change in its nature from Ca-HCO₃ type to a mixed Ca-Na-HCO₃-Cl and Na-Cl water types. The positive correlation of TDS with various ions also supports this fact and NO₃⁻ pollution has appeared as a major problem of safe drinking water in study area. Besides, hydrochemical data has revealed that about half of the samples are not suitable for drinking. It was observed that groundwater samples from slums with improper sanitation facilities were more polluted than slums with proper sanitation facilities while the groundwater quality in landfill area was worst affected.

Keywords: Slums, Hydrochemistry, Groundwater quality, Anthropogenic input, Nagpur urban.