

FLUORIDE CONTAMINATION IN GROUNDWATER FROM KORPANA TEHSIL, CHANDRAPUR DISTRICT, MAHARASHTRA

Yogesh A. Murkute^{1*}, Mrunalini V. Khond^{2#}, Ashish R. Salankar³

¹ *Postgraduate Department of Geology, R.T.M. Nagpur University, Law College Square, Nagpur, India*

² *Groundwater Survey and Development Agency, Laddha plot, Biyani Square, Amravti, India*

³ *Medical Officer, Sub-District Hospital, Kamthi, Nagpur District, India*

*Email: *yogmurkute@rediffmailcom; #mvkhond@gmail.com*

Abstract

A total of 28 drinking water samples were collected from Gadchandur and Awarpur area of Korpana Tehsil, Chandrapur District, Maharashtra. Hydrogeochemical investigations were carried out in this area in which TDS, TH and fluoride concentrations were found to exceed the permissible limits. The fluoride concentration ranges from 0.44 to 7.52 mg/l in shallow aquifer (dug wells) while in deeper aquifer (bore wells) it ranges in 0.48 to 6.28 mg/l in pre monsoon and 32% water samples contain fluoride concentration above the permissible limit of 1.50 mg/l. The present investigation reveals that F⁻ concentration in groundwater from shallow aquifer is higher than that of deep aquifers. This may be attributed to the leaching of F⁻ into groundwater from weathered zone. Physicochemical conditions like decomposition, dissociation and subsequent dissolution with long residence time might be responsible for leaching of fluoride into the groundwater. On the basis of result of this study it is suggested that the groundwater should be used by the inhabitants only after defluoridation.

Keywords: Hydrogeochemistry, Fluoride, Groundwater, Fluorosis, Korpana Tehsil, Chandrapur District, Maharashtra