Indian Journal of Ecology (2021) 48(2): 496-502

Manuscript Number: 3241
NAAS Rating: 5.79

Fluoride Health Hazard Assessment in Ground Water Resources of Tiruchirappalli District, Tamil Nadu

S. Vinothkanna, R. Rajee and K. Senthilraja[1]

Department of Geography, Madurai Kamaraj University, Madurai-625 021, India
[1] Agro Climate Research Centre, Tamil Nadu Agricultural University, Coimbatore-641 003, India
E-mail: vinothkanna.gis@gmail.com

Abstract: Hydrogeochemistry of the groundwater is controlled by rock-water interaction was characterized using Gibbs plot. The groundwater in the study area is dominated by HCO_3^- and Na^+ facies character with alkaline nature. The correlation technique has been used to understand the relationship between chemical parameters. The adversative health effect by in taking fluoride contaminated groundwater by humans including male, female and children are the major concern in this study by using secondary data. Among all the samples, seven samples were recorded above the permissible limit of fluoride during the post-monsoon season. Oral intake of fluoride and total hazard index resulted in 15 per cent of children in pre-monsoon and 13 per cent of male, female and children during the post-monsoon season were categorized under fluoride risk. Dermal intake of fluoride is normal in all the samples studied.

Keywords: Fluoride, Pre-monsoon, Post monsoon, Dermal and oral intake, Health risk