

## **Evaluation of Hydro-Geochemical Characteristics of Ground Water Quality Parameters in and Around Tiruvallur District, Tamil Nadu, India**

Kumar G<sup>1</sup>, Thangavelu P<sup>2</sup> and S. Baskar<sup>3</sup>

<sup>1</sup>Associate Professor, Department of Civil Engineering, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Chennai- 600062, Tamil Nadu, India.

<sup>2</sup>Assistant Professor, Department of Geography, Arignar Anna Government Arts College, Namakkal, Tamil Nadu

<sup>3</sup>Assistant Professor, Department of Civil Engineering, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Chennai- 600062, Tamil Nadu, India.  
kumarggeo@gmail.com

### **ABSTRACT**

The overall study aims in evaluating the hydro geochemical quality index for the drinking purpose around the Thiruvallur district of Tamil Nadu. In the current scenario, it is much more important for investigating several factors for influencing the groundwater quality and also the overall suitability for the drinking purpose. Furthermore, the survey was done by the Central Ground Water Board (CGWB) in several blocks and several sites within the district of Thiruvallur between Krishna and Cauvery River basin. The survey is done for understanding the overall pH level and also for analysing the level of the chemical contaminants are increasing or decreasing. After the overall analysis it is seen that, the pH level was maximum in in the year 2016 and minimum in the year of 2010. Therefore, it proves that the purity of the groundwater is decreased in the recent years. Hence, the water quality index of that area is falling under the excellent category and the groundwater is suitable for the purpose of drinking water. The current research paper has detected that, presence of different geo physical components in drinking water is beneficial. Four specific areas were chosen to collect water sample. Collection of water sample from different areas helped to detect the irrigation suitability in Tamil Nadu. The accessibility of the groundwater is much important goal, and these effects are felt within the developing countries. The actual benefits for understanding the geochemistry of groundwater are only for ensuring the better quality of water for drinking purposes.

**Keywords:** *Carbonate and bicarbonate, pH, Central Ground Water Board, Water Quality Index, Electrical Conductivity*