



## Comparative Physico-Chemical Analysis of Ground Water Quality in Aspur and Sagwara blocks of Dungarpur District, Rajasthan, India

Roshan Kumar Mehta and Jayana Upadhyay\*

Govind Guru Tribal University, Banswara, Rajasthan. **INDIA**

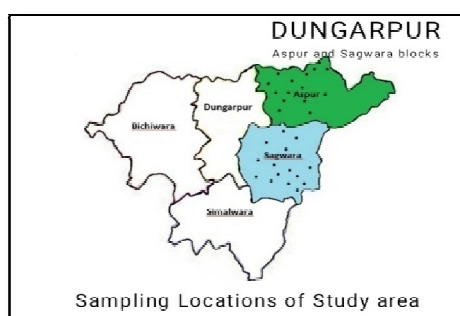
Email: [drjayanaupadhyay@gmail.com](mailto:drjayanaupadhyay@gmail.com)

Accepted on 13<sup>th</sup> June, 2022

### ABSTRACT

The quality of water sources depends on their physicochemical and microbial characteristics. In present days the Physico-chemical properties of water have been deteriorated due to various anthropogenic activities. This study aimed to assess the quality of groundwater in several sections of Rajasthan's Dungarpur district in order to determine its suitability for drinking and other applications. Therefore ground water samples were collected from hand pump and bore well and water quality parameters (Physico-chemical parameter) such as colour, taste, pH, TDS, Total hardness, Total alkalinity, chloride, fluoride, nitrate and phosphate were analyzed using standard procedures of APHA, and the physicochemical properties of all selected groundwater sample of study area were compared with drinking water standard proposed by BIS and WHO. The results of investigation revealed that all the selected parameters were found to be high in both Aspur and Sagwara blocks except pH and alkalinity. The findings also revealed that the concentration of almost all selected parameters were comparatively high in Aspur block. The correlation analysis also conducted to determine correlation coefficient ( $r$ ) among the selected chemical parameters. The highest correlation found between total hardness and fluoride ( $r=0.845681575$ ) in Sagwara block while in Aspur block it was found between chloride and nitrate ( $r=0.980543989$ ).

### Graphical Abstract:



Sampling locaitonof study area

**Keywords:** Nitrate, Physico-Chemical parameters, pH, TDS, Correlation Coefficient ( $r$ ).