ASSESSMENT OF SPATIAL DISTRIBUTION OF GROUNDWATER QUALITY IN KONDAGATTU CATCHMENT OF GREATER VISAKHAPATNAM MUNICIPAL CORPORATION, INDIA – A GIS BASED APPROACH

JANARDHANA SWAMY C[1], VENKATESWARA RAO T[2] & PRADEEP KUMAR G. N[3]

[1]Research Scholar, Department of Civil Engineering, College of Engineering, Sri Venkateswara University, Tirupati, Andhra Pradesh, India

[2]Scholar, Department of Geo-Engineering, College of Engineering, Andhra University, Visakhapatnam, Andhra Pradesh, India

[3]Professor, Department of Civil Engineering, College of Engineering, Sri Venkateswara University, Tirupati, Andhra Pradesh, India

ABSTRACT

Qualitative analysis of groundwater is having equal importance on par with the quantitative assessment for best water management practice. Present study appraises the groundwater quality in Kondagattu Catchment of Greater Visakhapatnam Municipal Corporation. Groundwater Quality Index (GWQI), a congregate parameter representing the quality and suitability of groundwater is computed and coupled with GIS technology. Spatial analyst module in ArcGIS software has been used to generate the spatial distribution of water quality parameters. Based on the analysis, most of the area under study falls in good water zone. The results revealed that the spatial distribution maps generated for various physico-chemical parameters using GIS techniques could be useful for planners and decision makers for initiating groundwater quality development.

KEYWORDS: Spatial Distribution, Groundwater Quality Index (GWQI), Greater Visakhapatnam Municipal Corporation, Geographical Information System (GIS)