

QUALITY OF GROUNDWATER IN COASTAL REGION OF ANDHRA PRADESH, SOUTH INDIA

P. Surya Rao and N. Subba Rao

Department of Geology, Andhra University, Visakhapatnam

Email: srmandipati@gmail.com

Abstract

A study on groundwater quality has been carried out in parts of coastal region of Andhra Pradesh, South India, where groundwater is a major source for drinking and irrigation. The area is underlain by rocks representing the Eastern Ghats (khondalites, charnockites etc), over which the river alluvium occurs. The results of pH, EC, TDS, TH, Ca^{2+} , Mg^{2+} , Na^+ , K^+ , HCO_3^- , Cl^- , SO_4^{2-} , NO_3^- and F^- suggest that the quality of groundwater is of alkaline nature with fresh to brackish and controlled by rock-weathering, mineral dissolution, ion exchange and evaporation. Poor drainage conditions and chemicals from agricultural fertilizers degrade the groundwater quality. In many locations, the quality of groundwater is not suitable for drinking with reference to TDS, TH, Mg^{2+} , Na^+ , Cl^- , NO_3^- and F^- , while it is not good for irrigation with respect to USSL's diagram. Thus, the study suggests management measures to improve the groundwater quality.

Keywords: Groundwater quality, drinking water, irrigation water, management measures, coastal area, Andhra Pradesh