Aquifer characteristics of a coastal aquifer in and around Tuticorin, India

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The deterioration of groundwater quality is a concern of people around the globe due to urbanization activity and further saline water incursion may add to the water quality problem. The dynamics and geochemical properties in coastal aquifers are unique and important to understand the management of groundwater.

Electrical resistivity method is the most feasible method used to understand the sub-surface conditions resulting in the exploration as well as migration of contaminant plume. Based on the fact that, introduced contaminants reduces the resistivity of the fresh water. In this connection study area of 112 sq.km of Tutocorin at eastern cost of India has been selected for detail well inventory and 28 VES data to understand the aquifer characteristics.

Anthropogenic pollution of shallow groundwater resources due to the industrial activities is becoming a cause of concern in the east coastal belt of India. The objective has been to determine the aquifer characteristics in coastal aquifer regime. The pH, electrical conductivity and other chemical constituents of the groundwater have been taken into consideration along with the resistivity results in order to delineate the interface.

Keywords: Groundwater pollution, VES, electrical conductivity, Coastal belt, Sea water intrusion