

DELINEATION OF GROUNDWATER POTENTIAL ZONES IN LOWER PONNAIYAR RURAL WATERSHED, CUDDALORE DISTRICT, TAMILNADU, INDIA

N. SRIDHAR & S. POONGOTHAI

Research Scholar and Professor, Department of Civil Engineering, Annamalai University,
Annamalainagar, Tamilnadu, India

ABSTRACT

A systematic planning of groundwater development using modern techniques is essential for the proper sustainable groundwater resource management. The groundwater potential zones have been evaluated in Lower Ponnaiyar river basin, Cuddalore District, Tamilnadu, India using Remote Sensing and GIS techniques. The thematic maps considered in this study are geomorphology, soil, land use/land cover, slope, drainage density and lineament density, which are prepared from satellite imagery and conventional data. The groundwater potential map was prepared by assigning appropriate weightage to different thematic layers and finally all thematic layers integrated using overlay analysis of ARCGIS software to identify the groundwater recharge potential zones. Based on the weightage factors the map showing these groundwater potential zones categorized as poor, moderate, good and excellent is prepared. The results of this study suggested an efficient groundwater management plan for the study area so as to ensure sustainable management of groundwater resources.

KEYWORDS: Groundwater Potential, Remote Sensing and GIS, Thematic Maps