

Role of Geohydrology in Groundwater Management-Case Study of Pachod Village, Maharashtra, India

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Abstract : Maharashtra is covered by heterogeneous flows of Deccan basaltic terrains of upper cretaceous to lower Eocene age. It consist mainly different types of basalt flow, having heterogeneous Geohydrological characters. The study area Aurangabad dist. lies in the central part of Maharashtra. The study area is typically covered by Deccan traps formation mainly basalt type of igneous volcanic rock. The area is located in the survey of India toposheet No. 47M and laying between 19° to 20° north latitudes and 74° to 76° east longitudes. Groundwater is the primary source for fresh water in the study area. There has been a growing demand for fresh water in domestic & agriculture sectors. Due to over exploitation and rainfall failure has been created an irrecoverable stress on groundwater in study area. In an effort to maintain the water table condition in balance, artificial recharge is being implemented. The selection of site for artificial recharge is a very important task in recharge basalt. The present study aims at sitting artificial recharge structure at village Pachod in basaltic terrain of the Godavari-Purna river basin in Aurangabad district of Maharashtra, India. where the average annual rainfall is 650mm. In this investigation, integrated remote sensing and GIS techniques were used and various parameters like lithology, structure, etc. aspect of drainage basins, landforms and other parameters were extracted from visual interpretation of IRS P6 Satellite data and Survey of India (SIO) topographical sheets, aided by field checks by carrying well inventory survey. The depth of weathered material, water table conditions, and rainfall data were been considered. All the thematic information layers were digitized and analyzed in Arc-GIS environment and the composite maps produced show suitable site, depth of bed rock flows for successful artificial recharge in village Pachod to increase groundwater potential of low laying area.

Keywords : hard rock, artificial recharge, remote sensing, GIS

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