

ASSESSMENT OF NATURAL GROUND WATER RECHARGE IN VIZIANAGARAM DISTRICT AREA

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Abstract

Quantification of the rate of natural ground water recharge is a pre-requisite for efficient ground water resource management. It is particularly important in regions with large demands for ground water supplies, where such resources are the key to economic development. However, the rate of aquifer recharge is one of the most difficult factors to measure in the evaluation of ground water resources. Estimation of recharge, by whatever method, is normally subject to large uncertainties and errors. In this paper, an attempt has been made to derive an empirical relationship to determine ground water recharge from rainfall in Vizianagaram district Catchment area based upon seasonal ground water balance study carried out for a number of years. The equation obtained for groundwater recharge based on rainfall in the catchment is $R = 2.43 (P - 20.9)^{0.4}$ with a correlation coefficient of 0.986. Hence it is recommended to use the above equation for effective utilization of groundwater in the study area.

Keywords: Ground water recharge, Ground water levels, catchment, rainfall and water balance