

Groundwater Recharge evolution in a river basin, Andhra Pradesh, India

RAMESH CHAND¹, N.C. MONDAL¹, V.S. SINGH¹ and A. PRASANTI¹

¹*National Geophysical Research Institute, Uppal Road, Hyderabad-500 007, India*

The average natural recharge to the phreatic aquifer of a river basin, Andhra Pradesh, India, is estimated using injected tritium technique. Tritiated water was injected at 45 selected sites in this basin before the onset of monsoon covering different soil types. Moisture content and tritium activity of the soil core samples, collected from the injected sites after the monsoon rains were measured. The variation in tritium activity and moisture content with depth is used for the estimation of tracer movement and calculation of recharge. The recharge values were found varying from 26 mm to 94 mm with the mean value of 29 mm corresponding to the rainfall of 615 mm. The quantum of groundwater recharge through vertical infiltration has been estimated as 211 Million Cubic Meters (MCM) over an area of 8659 km².

Keywords: Recharge, Injected Tritium Technique, Hard Rock, India.