

418. **Rama Mohan Rao, M.S., Adhikari, R.N., Chittaranjan, S. and Chandrappa, M. 1996.** Influence of conservation measures on groundwater regime in a semi-arid tract of South India. *Agri. Water Mgmt.*, 30: 301-312.

The paper deals with a hydrological study conducted at a predominantly agricultural watershed treated with soil and water conservation measures, such as, diversion drains and staggered contour trenches in non-arable land, terraces of trapezoidal cross-section with graded channel on the upstream side (graded bund) and stone checks in arable lands and rockfill dams, arch-weir and nala bund (earthen embankment across the drainage channel) across the gully. The analysis revealed that integrated management of land and water resources consistently improved the groundwater regime. Surface runoff from the treated forest and agricultural catchments were only 27.4 and 57.4% of the untreated agricultural catchment, reflecting in high infiltration of rain water due to enhanced opportunity time. Consequently, water levels in the open wells rose by 0.5 to 1.0 m, thereby increasing the area under well irrigation by 172% when compared to the preproject period, which in turn improved crop yields by 70%. Hypsometric analysis indicated that water surface levels do not follow the trend of land surface levels due to the nature of the underground geological formation.