

# **ASSESSMENT OF GROUNDWATER POTENTIAL IN NIKATIYADDA OYA WATERSHED AND IMPROVEMENT OF WATER SUPPLY SCHEME - KADANHENA**

**P. Dhammika Prasad**

Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka.

Watershed has been selected as the study area and is located in Minipe divisional secretariat. Kandanhena village is situated within the watershed. Furthermore, Ranaviru Gammanaya and Yowun Gammanaya are the other close by villages within the particular watershed. Comparatively very few number of people live in both Yowun Gammanaya and Ranaviru Gammanaya.

Water scarcity is one of the serious problems of villagers who are living in these villages. Several dug wells and one pond could be seen within the watershed area. In particular, water demand in the Kandanhena village is primarily for domestic purposes and partly for small scale agricultural activities. Since surface water resources are not sufficient, groundwater can be considered as alternative source for augmentation of existing water supply to the village. In this study groundwater potential has been assessed on watershed basis enabling to give proposals on water resources development for providing water not only for Kandanhena and surrounding villages but also for future expansion projects of the villages for new settlements within the watershed.

Geology, geostructure and geomorphology have been interpreted to evaluate groundwater potential zones in the watershed. Measured water level fluctuation data of the dug wells in the watershed area was incorporated for groundwater recharge studies and calculations. Geographical Information System (GIS) techniques were used for systematic evaluation of groundwater resources in terms of maps integration.