

## Ground Water Regime in Tsunami Affected Southern Coastal Area of Sri Lanka

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Groundwater table behavior and physico-chemical properties of the aquifer system have been studied in Weligama area, which is situated in the tsunami-affected zone of the southern coast, Sri Lanka. Ninety affected shallow dug wells by the Tsunami wave, situated in 8 km coastal strip, were selected for the study. The Weligama bay area is located in latitudes and longitudes of 8°22', 5°97', and main river basin of the area is Polwattumodara Ganga. Continuous monitoring was conducted from April to February 2006 and Groundwater levels, Electrical conductivity, total dissolved solids and salinity were measured. The results of the study used to prepare hydrogeological map and hydrogeological map of the area using the GIS package MAPINFOR. The most of the dug wells distributed in the area were shallow with depths ranged at 3-5 m and diameters were ranges at 0.5-1.5

Precrembrian metamorphic hard rock covered by Quaternary sedimentary deposits is dominant in the area of investigation. The top unconfined alluvium aquifer, which is affected due to tsunami wave, is distributed in the river basin area and in the coastal line. The Regime of unconfined quaternary aquifer groundwater level intimately is related to atmospheric precipitation. The characteristic of the hydrograph provides a conclusion that the recharge of unconfined groundwater in quaternary aquifer takes place during the period of monsoon rain and quality of ground water due to tsunami not changed specially. The ground water table shows seasonal fluctuations, rising during the monsoon recharge periods and falling when there is no atmospheric precipitation.

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