

Assessment of groundwater resources in Jaffna limestone aquifer

Thushyanthy, M^{1*} . and De Silva, C.S².

¹Department of Agricultural Engineering, Faculty of Agriculture, University of Jaffna, Sri Lanka

²Department of Agricultural and Plantation Engineering, Faculty of Engineering Technology,
The Open University of Sri Lanka

Abstract

This study is centered on quantitative estimation of groundwater resources of a selected study area in a limestone aquifer, which is the main resource for agriculture, domestic use and water supply in Jaffna Peninsula. Inflow to the system includes groundwater recharge from precipitation and irrigation and outflow to the system includes lateral groundwater outflow and groundwater extraction. Results showed that the total average annual withdrawal from the study area (0.66 MCM) exceeded the total average annual recharge (0.57 MCM), implying that the system is in deficiency indicating unsustainable water withdrawal. A further recommendation is the establishment of an institution for a groundwater regulatory frame work to optimize the usage of groundwater and to arrest negative groundwater balance.

Keywords

Limestone aquifer, Groundwater, Recharge, Extraction

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