Salinity Distribution of Ground Water in Trincomalee Coastal Region.

A dissertation submitted to the
Faculty of Science & Technology
Uva Wellassa University
In partial fulfillment of the requirements for the
Degree of Bachelor of Science.

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2013.

Abstract

Groundwater is the one of Srilanka's most precious natural resource. A large number of people depend on it for their sustenance with no expenses to the state. When compared to the surface water, groundwater is a hidden resource, which is more reliable for the consumption. Groundwater has been exploited from earliest time in Srilanka for domestic use and irrigation (Pannbokke, 2008).

Although a most precious resource, groundwater today is also a most threatened resource; Threats to groundwater quality and quantity varied many .These include over use of agrochemicals , which leach into the water table over pumping, salt water intrusion in coastal areas, contamination by pit latrines.

In this study I focused on sea water intrusion of groundwater table from 22 km coastal region of Trincomalee where from Kinniya to Nilaweli by evaluate the salinity distribution of ground water. The main aquifer type in Trincomalee coastal region called 'shallow aquifer in coastal sand'. Specially Nilaweli showing the specific characteristic of the aquifer. (Water Resource board 1999-2001).

Wells were selected along in a profile perpendicular to the coastal region until the Electric Conductivity (EC) value become very low value. 32 shallow well samples were selected for chemical analysis. Water samples were analyzed to determine Chloride and Sodium. Water samples were analysed for Cl^- by using Silver Nitrate Titration method (Argento metric method), and Na^+ was determined by using AAS. By analysis and manipulation of data conclusion revealed and GIS maps interpreted.