

Groundwater Distribution Features in the Right Bank of Nilwala Ganga- Sri Lanka and Kirama Oya Basins)

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ABSTRACT

Groundwater monitoring in the Right Bank of Nilwala Ganga Basin - (Badulla oya and Kirama oya basins) was conducted during January to June 2006 to determine the hydro geological conditions by selecting 60 (sixty) dug wells where water level, electrical conductivity (EC), total dissolved solids (TDS) and pH was measured in two weeks interval.. Groundwater is the major water source in the study area, where shallow unconfined groundwater is used for domestic purposes and irrigation

The study helped to prepare hydro geological map and the distribution of EC, TDS and pH maps using the GIS package MAPINFO. Hydro geological map help to identify recharge and discharge areas of the catchment. There exist a closed relationship is identified between topographical map & groundwater contour map. The pH of the groundwater remains between 4.5 - 6.5 and it usually decreases within a small range consequent to rains and EC fluctuation was in the range of 200 - 600 $\mu\text{S}/\text{cm}$.

INTRODUCTION

In the dry regions of Sri Lanka due to high temperature, surface water is very easily evaporated and groundwater extracted from shallow dug wells or deep tube wells are the most reliable resources of water to meet the water needs of the population. Even the available surface water is subjected to pollution and is found in limited areas,

Groundwater resources in Sri Lanka are limited due to occupation of the 90 % of the underlain land cover by poor yielding Crystalline Precambrian metamorphic rocks (Panabokke C.R, Perera A.P.G.R.L.2005). High yielding local aquifers dominated by alluvial and coastal sand deposits are found in coastal areas. Even though Sri Lanka is generally considered to be relatively water abundant island, with increasing needs of water for urban expansions, agriculture and industry a pressure on the available groundwater resources is exerted especially in the rural areas. Therefore study on the availability and distribution of the groundwater is important.



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the groundwater distribution of the right bank of
and to introduce the graphical representation of
Total dissolved solids (TDS) using the GIS
