D-36

SOME ASPECTS OF GEOLOGY RELATED TO GROUNDWATER OCCURRENCES IN PART OF HAMBANTOTA DISTRICT

K. P. L. E. Silva, M. J. Sarathchandra *and* **E. M. Wimalasena**
(*Water Resources Board, Colombo 7*)

The area concerned is bounded by the Kirindi Oya on the East, the Hambantota-Gonnoruwa-Weliwewa road on the West, the Hambantota District boundary on the North and by the coastal line on the South, covering about 400 square kilometers. This area is underlain at a shallow depth by metamorphic rocks of Precambrian age. Along the coast these are overlain by windblown sand deposits and inland by a weathered zone and alluvial clays and sands.

Groundwater occurs at varying depths below the surface, but is often saline. In the coastal belt, saline ground water is due to the hydraulic continuity with the sea and sea water lagoons. Salinity in the inland areas can be explained by the fact that the sea once extended further inland. At present recharge of fresh water takes place by infiltration and percolation of rain water through the soil and by seepage from tanks and streams. The groundwater is held in pore-spaces in the soil and weathered rock, and also in the fractures in the hard rock. The intensity of fracturing depends on the lithology and tectonic history, while the degree of weathering depends mainly on the lithology, on the intensity of fracturing and on the history of water flow. The highest potential in this environment can be expected from the highly weathered rocks and within fractures zones. Outside the fractures zones, the groundwater yield is poor and saline water is found closer to the surface.