

VARIATIONS IN WATER QUALITY IN COASTAL REGIONS OF NEGOMBO

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The objective of the present research study was to identify the existing water quality variations in Negombo and Maturajawela areas. In order to achieve the objectives of the study, *in situ* measurement of electrical Conductivity (EC) and temperature were conducted during the dry period of January – February 2012, in randomly selected dug wells (25 wells), and 50 sampling points in the surface water bodies.

Absolute locations of sample sites were obtained using the Global Positioning System (GPS) and collected data were analyzed using GIS package ArcMap and MS Excel.

Spatial variation of the Electrical Conductivity in ground water was varied between 200 μ S/cm and 3500 μ S/cm. The conductivity of the ground water was highest closer to the southern periphery of the Negombo lagoon and lowest in the eastern area of the lagoon. However, the ground water quality in the land parcel at the northern tip of the coastal belt had a variation from 210 μ S/cm - 995 μ S/cm.

The Negombo lagoon receives surface runoff water mainly from the Dandugam oya, Ja-El.a, Hamilton and Dutch canals. EC values of waters in Hamilton canal varies between 989 μ S/cm and 25500 μ S/cm, with the highest value of 25500 μ S/cm closer to the Kelani estuary. This may be linked to the influence of sea water intrusion through the Kelani River. EC of the water at the beginning of the Dutch canal was around 1903 μ S/cm. Nevertheless EC of 18200 μ S/cm was observed near the Kelani River. It could be concluded that salt dynamics of the two canals were different even though two canals runs parallel to each other.