

**CATCHMENT GEOCHEMISTRY AND WATER QUALITY OF THE
MAHAWELI BASIN**

by

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The Mahaweli Basin which covers approximately one sixth of the Island, cuts across different geological formation, climatic zones and varying soil types. The water quality of the Mahaweli River is therefore a result of the complex interactions of the hydrological cycle with the lithosphere and biosphere within the basin. It was observed that the chemical quality of the river is largely controlled by natural factors as against anthropogenic factors. From among the metals however, zinc, copper and vanadium showed concentrations higher than the average, indicating the existence of certain mineralized zones. Lead and cadmium, mostly supplied by anthropogenic activities, showed a correlation coefficient of $r = + 0.58$ for each other in river water. Interestingly, in the Kandy Lake, this correlation coefficient for Pb with Cd was + 0.94. For the Mahaweli River, cobalt showed a highly significant correlation of + 0.98 with copper

The general water quality of the Mahaweli Basin varies from the Ca-HCO₃ type at the source area of the river, through Na+K - HCO₃ type, Na⁺+K⁺ - Cl type, non dominant cation type and Na+K - Cl type at Trincomalee. The general increase of the chloride type is noteworthy in view of the possible implications for agriculture.