

**WATER CHEMISTRY AND SEDIMENTATION PROCESSES OF A MICRO-CATCHMENT
(NILAMBE OYA) OF THE UPPER MAHAWELI RIVER BASIN**

D. Withana and E.I.L. Silva

Institute of Fundamental Studies, Hantana, Kandy, Sri Lanka

Concentrations of several macro-chemical species and suspended solids of the Nilambe Oya, a 5th order tributary of the upper Mahaweli River, were determined at 10 randomly selected sites from September 1989 to August 1990. ANOVA shows significant site-specific and time-specific variations in both major cations and suspended solids. Percentage ratio of major cations (viz., Ca : Mg : Na : K = 3 : 4 : 91 : 2) indicates sodium dominance which may be of oceanic origin. Temporal variation has been correlated to dilution effects resulting from the monsoonal rain pattern but spatial variation may be attributed to land use forms. Low concentrations of Ca⁺⁺ indicate low levels of micro-nutrients in stream water which is characteristic of the Southeast Asian region. Magnitude of cations and suspended solid distribution between sites is described in relation to concentration ranks.