**D-75: Comparative study of some physicochemical properties of Nilwala and Gin ganga waters**

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Nilwala and Gin are major rivers in the Southern province of Sri Lanka. As both are wet zone rivers, their catchment areas were subjected to heavy rainfall. Two characteristic features of these rivers were their steep drop from higher altitudes to sea-level (within a span of 68 km for Nilwala and 110 km for Gin) and their extensive tributory systems that ramify through agricultural areas, where extensive application of agrochemicals was practised.

The monitoring of the following physicochemical parameters to identify their effect on the water quality: pH, conductivity, chlorinity, salinity, hardness, total alkalinity, $DO_2$, $BOD_5$, COD, $SO_4^{2-}$, $NH_4^+$, $NO_3^-$, $NO_2^-$, suspended solids is described. The results indicate that both rivers can be categorized as polluted rivers. Nilwala showed a higher degree of pollution than Gin. However the pollution levels were reached only seasonally owing to their turbulence resulting from high rainfall. The effect of climatic parameters such as rainfall on the oscillation of physicochemical parameters was evident. A clear positive correlation with rainfall was observed for suspended solids, $NH_4^+$, $NO_3^-$. A clear negative correlation with rainfall was observed for pH, conductivity, chlorinity, salinity, hardness, COD and total alkalinity.