DEVELOPMENT OF A WATER QUALITY INDEX TO MONITOR STREAM WATER QUALITY : CASE STUDY OF THE MAHAOYA BASIN, SRI LANKA

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A water quality index provides a convenient means of summarizing complex water quality data and facilitating its communication to a general audience. Although there is no globally accepted composite index of water quality, most water quality indices rely on normalizing data, parameter by parameter according to expected concentrations. It needs a extensive monthly water quality research data for several years. Instead of normalizing observed values to subjective rating curves, the Canadian Water Quality Index (CWQI) compares observations to a benchmark. The Canadian Council of Ministers of the Environment (CCME) Water Quality Index (1.0) is based on a formula developed by the British Columbia Ministry of Environment, Lands and Parks and modified by Alberta Environment. The Index incorporates three elements: *scope* - the number of variables not meeting water quality objectives; *frequency* - the number of times these objectives are not met; and *amplitude* - the amount by which the objectives are not met. The index produces a number between 0 (worst water quality) and 100 (best water quality). These numbers are divided into 5 descriptive categories to simplify presentation. The index can be used both for tracking changes at one site over time, and for comparisons among sites. Sites can be compared directly only if the same variables and objectives are used. Case study of Mahaoya basin conducted in this regard concluded that CCME Water Quality Index (1.0) was reflective of real data and will provide a useful tool in assessing water quality on a watershed, regional, or national level in Sri Lanka.