

Water Quality of Chole River

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EDITORIAL

Currently, environmental pollution in general and pollution of flowing waters in particular has become a key focus of concern all over the world. Despite humanity's reliance on flowing water rapid urbanization, industrialization and the expansion of agriculture have severely degraded the quality of rivers worldwide, diminishing their ability to provide valuable ecosystem services and driving species to extinction. Moreover, rivers in underdeveloped and developing countries are widely used as waste disposal sites for domestic and industrial wastes. Growing anthropogenic influences on lotic environments has captured public interest because of the consequent problems associated with deterioration of water quality.

Anthropogenic activities may alter the physical, chemical, or biological processes associated with water resources and thus modify the resident community. Though physicochemical and bacteriological measurements commonly form the basis of river monitoring, they cannot reflect the integration of numerous environmental factors for their instantaneous nature. Because they focus on living organisms whose very existence represents the integration of conditions around them biological evaluations can diagnose chemical, physical, and biological impacts as well as their cumulative effects. The use of biological methods is based on the straightforward premise that living organisms are the ultimate indicators of environmental quality. When water no longer supports living things it will no longer support human affairs. Biomonitoring is a useful complementary approach to physicochemical

monitoring and has proved invaluable in tracking water quality trends over time. Together physicochemical and biological methods constitute the basis a correct assessment of the quality of running waters.

Amongst aquatic organisms, benthic macroinvertebrates have proved to be excellent indicators for the quality of freshwater stream habitats. They are widely used as bio-indicator in wadeable waters because they have generally limited mobility, quite easy to sample, well established sampling techniques, and there is a diversity of forms that ensures a wide range of sensitivities to changes in water quality. The use of macroinvertebrates as indicators of environmental change in Ethiopia dates back to the 1980s, with a renewed interest in recent years following the advent of multimetric assessment methods.

Chole River has long been used for a variety of purposes including source of public water supply, small scale irrigation, bathing, washing and livestock watering. Nevertheless, poor agricultural practices, overgrazing, deforestation, effluent discharge and unregulated solid waste disposal which are generally widespread in the country remain serious problems in the catchment of Chole River with a potential of degrading its water quality. However, so far there is no research conducted on water quality of the river despite the multiple stressors prevalent in its catchment. This study was conducted to assess the water quality of Chole River based on benthic macroinvertebrates indicators and selected physicochemical parameters.

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