Title

Water Resource Assessment of Barangay San Juan, Kalayaan, Laguna Philippines

Authors & Affiliations:

FJ T. Macalam , R. Arobang J. Cabral*[1], M. Bagangao, Ma. R C. Lopez, JM A. Dela Vega
Joela Mizchelle A. Dela Vega, N.J. Lobite, A. T. Dioquino Jr., K.Y. Rabaño, C.F. Caramihan
University of the Philippines Los Banos, Philippines
ftmacalam@up.edu.ph

Abstract

The implementation of water quality objectives into planning initiatives can help protected watershed values; mitigate impacts of upland-use activities on source area watersheds, and protect water in the context of both acute and chronic impacts to human and aquatic ecosystem health. In this study, it assessed and compared the water quality of three (3) selected drinking water source continuously used in Barangay San Juan, at the Kalayaan, Laguna Philippines. The main objectives of the study includes water quality monitoring and analyses of the physico-chemical variables (Taste, Odor, DO, pH, temp, electrical conductivity, Chloride, Nitrates, Ammonia and Turbidity) using multi parameter equipment apparatus and were carried out for one time sampling during normal rainy days. Identification and quantification of floral diversity and species richness within the water source was also evaluated in this study through transect walk and identification of plants. Based on physico-chemical assessments of the three different sampling stations in Barangay San Juan water source, it generally observed a high level of Turbidity that failed to meet the Philippine National Standard for Drinking Water (PNSDW). Sediment often tops the list of substances or pollutants causing turbidity. Meanwhile, current result for Taste, Odor, Nitrate and Chloride are in good condition and all are within and meet the acceptable standard values set by PNSDW. Temperature, DO, Ammonia and EC parameters tested don't have equivalent standard in PNSDW for drinking water. For riparian vegetation assessment, results showed that in every plot, there is an invasive species dominant. Recommendation includes continuous water quality monitoring is encouraged to effectively analyze the impact of human intervention on the environment and human health as this is the basis for policy or management decisions concern a drinking water sources and its uses. In addition, the local's ordinances on protecting watershed vegetation cover must be implemented more strictly.

Keywords: Drinking water source, watershed vegetation, Assessment, Water Plan