(172)

Economic Value of Water Quality Improvement of an Aesthetic Water Body: Kandy Lake, Sri Lanka

Mudalige S.S.*, Gunawardena U.A.D.P.

Department of Forestry and Environmental Science, University of Sri Jayewardenepura, Nugegoda, Sri Lanka
**mudaligesshashika@gmail.com*

Abstract

Kandy Lake is an aesthetic water body and an iconic landmark situated in Kandy District. Many projects and activities have been implemented to improve and restore the lake from its polluted and eutrophic state to normal condition with a considerable cost, but no proper justification are available for such investments. This study intended to value the restoration activities adopting Contingent Valuation Method. According to the pre-identified benefits, three questionnaires were used to collect information from four beneficiary categories identified with a sample size of 136. Values were elicited under four scenarios: improve the water quality to reduce the odor nuisance; to reduce odor and algal blooms; to use the lake for recreational purposes; and to use the lake as a drinking water source. A linear regression model between Willingness to Pay (WTP) value and the socio-economic characters, including monthly income, age, number of dependents, and distance from the household to the lake boundary was established. Results indicate that 84% of respondents perceive that the lake has more indirect values than direct use values such as beautification of the environment, mental relaxation, microclimate moderation. Identified beneficiary categories are "household", "institutional," and "mobile" (i.e., people who come to visit the lake) and public supply water users (PSWU). Estimated WTP for the 1st scenario was LKR 239.11 per person per month. The 2nd, 3rd and 4th scenarios got higher percentages of protest answers due to the unacceptability of improvement stages. As the lake has a historical value, the "development of the lake for recreational purposes" scenario was rejected by the respondents. The fourth scenario, "improve the lake water quality to use the lake as a drinking water source" was refused because most respondents did not believe it to be cost-effective and did not like to drink water from the lake even after treatment. The best lake management strategy is maintaining the lake as it is and invest to clean the lake, instead of developing it for recreation or to use as a drinking water source.

Keywords: Contingent valuation method, Kandy lake, Water quality improvement