

Socio-economic impacts of eutrophication of Beira Lake in Colombo, Sri Lanka

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Abstract

Beira Lake has remained as a conspicuous water body since the colonial past. The reclamation of certain sections of the lake, improper construction activities and the discharge of municipal and industrial waste water etc. have caused the deterioration of the lake since the latter part of the 19th century. At present, Beira Lake has become an essentially stagnant water body which is entirely dependent on the run-off of its highly urbanized catchment, which covers an area of approximately 448 ha. The current study was carried out in order to determine the impacts of eutrophication on its recreational value, public health and livelihoods of the people. An interviewer based socio-economic survey was carried out by interviewing 30 individuals who visited the recreational area at the floating market and Gangarama sites and 10 vendors at the floating market. Random sampling technique was used in selection of the individuals to be interviewed.

The results showed that 70 % of the local community who visited the floating market and Gangarama sites were belonging to the age class of 20 - 40 years, followed by 15 - 20 age class (10 %) and above 40 years (20 %). Among the interviewed individuals only 30% were aware of the phenomenon, eutrophication. Yet, 60, 70 and 10 % of the interviewed individuals complained about the bad odor, unpleasant view and the poor environmental conditions around the recreational areas, respectively. 90 % of the individuals were found to visit the selected study sites mainly to spend their leisure time, while boating was favored by only 10 %. When the frequencies of visitation are taken into consideration, more than 40 % of the respondents were visiting the lake only few times (1 to 3) times a year, followed by once a week (30 %), daily (10 %), several times a week (10 %) and once a month (10 %). Among the vendors, 80 % have been continuing their economic activities around the Beira Lake for more than

one year. 90 % of the vendors pointed out a decrease in their daily income after the restoration of the lake. 90 % of the vendors complained about the mosquito problem in the surrounding area during the evening.

The findings of the current study suggested that the negligence of the application of adequate restoration techniques and poor maintenance of the eutrophic water bodies such as Beira Lake in the heart of Colombo city could deteriorate the aesthetic value of the commercial capital of Sri Lanka. The unpleasant scenery and bad odor had caused the reduction of the interest of the community on the recreational activities around the lake. Proper maintenance by local authorities, proper effluent discharge and waste water treatment activities could be recommended to save the aesthetic value, as well as the economic value of the lake.

Keywords: Eutrophication, Beira Lake, Socio-economic impacts