

Potential benefits and earnings from improving the water quality of Hussain Sagar Lake in Hyderabad, India

To finance much-needed water quality improvements in Hussain Sagar Lake in Hyderabad, park authorities should consider increasing the entry fee for enjoying this well-used lake from its current level of INR 10 to enter Lumbini Park to at least INR 20 per visit. This will boost yearly revenues by 80% and provide financial resources that can be used to clean the lake and its surroundings. This, in turn, will increase visitor numbers and further enhance revenues. According to administrators, lack of funding is one of the main obstacles to lake restoration. Visitors are willing to pay a higher fee for recreation – thus, by increasing the fees, this obstacle can be removed.

Background

Hussain Sagar, a lake constructed in 1562, joins the twin cities of Hyderabad and Secunderabad in India. With many parks, recreational spots and boating facilities, Hussain Sagar attracts tourists as well as residents. For instance, Lumbini Park, just one of the surrounding parks, receives some 1 million visitors every year. Yet, over the years, the lake area has halved in size. It is also increasingly polluted as a result of untreated domestic sewage and toxic industrial chemicals being discharged into the lake. Visitors to parks around the lake complain about its foul

smell and dirty water. Administrators are keen to improve water quality, but need to justify any investments in economic terms.

Approach

Prajna Mishra of the University of Hyderabad surveyed some 800 visitors and residents of the twin cities to identify the benefits they derived from the lake. She interviewed visitors who came to Lumbini Park and residents at e-Seva centers around Hyderabad in order to capture the breadth of the demand for improving the lake. Prajna estimated how demand for the lake and surrounding parks would change if the lake was cleaned up. This was done using economic valuation techniques including revealed and stated preference methods. Based on careful statistical analysis, Mishra estimated the monetary value of benefits citizens derive from recreation associated with the lake and how much they are willing to pay for improvements in the environmental quality of the lake and its surroundings.



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Author

Prajna Paramita Mishra

Editor

Rufus Bellamy

Series Editor

Priya Shyamsundar

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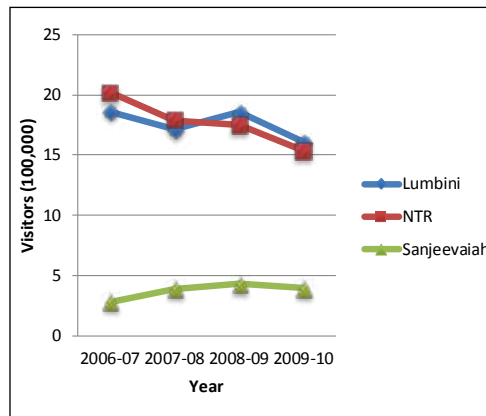


Figure 1: Numerous visitors use the parks around Hussain Sagar for recreation

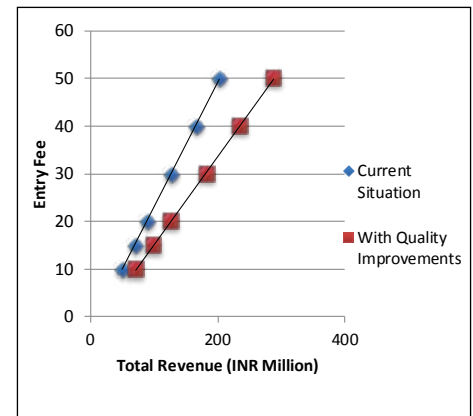


Figure 2: Estimated revenues to the government are higher with improvements in environmental quality relative to the current situation

Table 1: Summary information from the survey of visitors

Location	Average number of visits per year with current water quality	Average stated number of visits per year with improved water quality	Average Cost per trip per group of four (INR)	Average Household Income per year (INR)	Visitors who said current lake water quality is very poor (%)
Surveyed Visitors at Lumbini Park	3.48	5.05	350	21,296	0.92
Surveyed People at E-Seva Centers	1.14	2.34	353	18,162	0.84

Results

The results of the study suggest that the citizens of Hyderabad and Secunderabad want improvements made to Hussain Sagar and are very willing to pay to clean it up. Specifically, visitors would like to see improvements in water quality, a ban on plastic carry bags and an increase in the number of trash cans and restrooms. Visitors interviewed at Lumbini park, for example, said that the average number of visits would go up from 3.5 to 5 visits per year if the lake was cleaner. People are willing to pay more if the lake waters are cleaned up and the number of visits will increase. While an increase in entry fees will reduce the average number of visits by any group of visitors, total revenues will increase.

Recommendations

The study recommends that the Park Authority increase the entry fee to the lake from INR 10 to at least INR 20. This hike in fees will result in only a small decline in visits but should provide an 80% rise in revenues (which are projected rise to between INR 22 and 89 million). This extra revenue could be used to make investments in lake conservation and recreation. This would, in turn, boost visitor numbers – creating a positive cycle of environmental improvement.

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SANDEE | P.O. Box 8975, E.P.C 1056 | Kathmandu, Nepal
 Street address: c/o ICIMOD, Khumaltar, Lalitpur, Nepal
 Tel: 977 1 5003222, Fax: 977 1 5003299
 Email: info@sandeeonline.org Website: www.sandeeonline.org