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Valuation of Marine Ecosystem Conservation: A Case Study on Hikkaduwa National Park, Sri Lanka

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Abstract

Hikkaduwa National Park is one of the four marine national parks in Sri Lanka and a main recreational attraction. Hikkaduwa coral reef is a typical shallow fringing reef with an average depth of around 5 metres. However, the reef has suffered high degradation due to both natural and manmade causes. Despite being designated as a protected area, the coral reef has been subjected to constant exploitation including removal of breeding ornamental fish for the commercial market. This stress the need for sustainable management of the resource related to tourism activities. This research aims at providing an economic valuation of coral reef management policy options, using stated preference-choice experimental analysis. Random sampling method was used and 200 visitors were interviewed using pretested questionnaire with different choice sets. Tourists were interviewed onsite from June to July 2019 for data collection. A conditional logit model was employed to analyse the data using STATA14. According to the results, highest number (34%) of respondents had A/L qualifications. Many visitors (50%) were from Gampaha and Colombo Districts. The estimated model is statistically significant with 0.46 pseudo R-sq value. The cost variable is statistically significant but negatively influenced confirming theoretical expectations. The main attributes selected for the study were condition of the coral reef, cleanliness of the beach, condition of the boats and availability of facilities. The condition of the coral reef was considered as an important attribute, but healthy and improved coral reef is insignificant in the model. In addition, bleached and broken coral was a less important variable compared to status quo option. Regarding the attribute of cleanliness of the beach, clean beach and no proper management of beach were less important compared to somewhat clean beach. Condition of the boats were the other attribute presented and new boats with safe jackets were considered as important compared to no safe jackets and old boats and boats with engines that are not properly functioning and with some safe jackets. The significant variables were used to estimate the marginal willingness to pay (WTP) values. According to the results Marginal Willingness To Accept (MWTA) if the corals are bleached and broken is Rs. 711, if the beach is clean Rs. 684 and if not properly managed Rs.66.38. The usefulness of the derived results in guiding the park management are discussed.

Keywords: Coral reef, Choice experiment analysis, Hikkaduwa National Park, Sustainable tourism, Willingness to pay

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