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Valuing the Hikkaduwa Coral Reef: An Application of the Zonal Travel Cost Method

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Abstract

Hikkaduwa marine ecosystem is one of the major attractions among the recreationists for its fringing coral reef and the beach. However, a rapid degradation of the coral reef and the beach pollution are the main influences on the sustainable tourism. In this context, valuing the Hikkaduwa Marine National Park is important in order to draw the attention for the protection of the ecosystem. The objectives of this research were to estimate the economic values derived by the local visitors and to derive an optimal entrance fee. This research also aimed at investigating factors that influence visitation rates. Data collected from an onsite survey carried out among a sample of 231 visitors from 16 districts in Sri Lanka were analysed, using the Zonal Travel Cost Method to estimate the recreational value derived by the local visitors. The travel cost function showed that visitation rate is significantly and positively influenced by recreational experience and urban population fraction. The explanatory power of the estimated model was strong with an adjusted R^2 value of 0.752. In the second stage, these significant explanatory variables were used to construct the demand curve. The estimated local recreational value of the park is around 380 times the income from the local visitors per year, which is worth about Rs. 1,300 per local visitor. As this site does not have a proper entrance fee, the calculated entrance fee which maximises the total revenue was around Rs.1,100. However, the current level of visitors will be reduced by more than 50%, if this entrance fee is imposed implying intragenerational equity issues. The outcomes of this research are useful in the management decision making for the protection of the Hikkaduwa coral reef and the surrounding environment.

Keywords: Consumer surplus, Hikkaduwa coral reef, Tourism, Zonal Travel Cost Method