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Valuation of the Bar Reef Marine Sanctuary from the Perception of the Visitors

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Abstract

Bar Reef is a diverse ecosystem with near shore coral reefs, sea grass beds and associated ecosystems with over 120 coral species and over 300 fish species reported from the surrounding sea. It has been declared as a marine sanctuary by the Department of Wildlife Conservation in 1992. Despite of the efforts it is subjected to over exploitation by extractive users, destructive fishing practices and visitor pressure on the ecosystem. The study sought to value the ecosystem degradation prevailing in the bar reef from the perception of the visitors using choice experiment method. Different attributes for the choice experiment were identified using two focus group discussions and 10 key informant interviews held prior to the mail survey. Identified attributes were level of plastic accumulated, use of illegal fishing nets, level of crowding and monetary contribution. An orthogonal main effect design was generated and 9 choice cards were prepared, each with 4 different attributes. Randomly selected 250 visitors were interviewed onsite during January to June 2021 and conditional logit model was used to analyze the significance of their preferences. Paying LKR 1,000, reducing crowding the beach area by 15% and reduction of plastic and polythene by 50% were the significant factors according to the results obtained at α=0.01. People are willing to pay LKR 1,001.18 if plastic pollution can be reduced by 50%. People are willing to pay LKR 998.92 if the crowding of the beach can be reduced by 15%. The results of this research emphasize the importance of protecting this habitat to the relevant stakeholders. Further, this research will enable to introduce new policies and practices so that sustainability of the ecosystem can be ensured.

Keywords: Ecosystem sustainability, Choice experiment, Conditional logit, Marine plastic pollution, Visitor access management