UNDERSTANDING LOCAL FISHERMEN'S PREFERENCES AND WILLINGNESS TO ACCEPT COMPENSATION FOR COMMERCIAL SEA CUCUMBER FARMING IN THE JAFFNA LAGOON, SRI LANKA

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Abstract. This study examines the willingness of local fishermen to accept compensation for establishing commercial sea cucumber farms in the Jaffna Lagoon, Sri Lanka. A choice experiment was used to assess preferences for key attributes, including the rearing area of sea cucumbers, breeding sites for fish and crustaceans, tourist facilities, mangroves, and cost. A total of 164 respondents were randomly selected, and a random logit parameter model was used to examine their preferences. The study found that local fishermen are willing to accept compensation for sea cucumber farming in the Jaffna Lagoon and are also willing to pay more for enhanced fish breeding sites, tourist facilities, and mangrove protection. The estimated annual mean willingness to accept (WTA) compensation for the establishment of commercial sea cucumber farms in the Jaffna Lagoon is LKR 1842.25. Additionally, their mean annual willingness to pay (WTP) for improvements in breeding sites, tourist infrastructure, and mangrove conservation is estimated at LKR 1622.48, LKR 1272.48, and LKR 700.48, respectively. Furthermore, fishermen's choices regarding fish and crustacean breeding sites are influenced by education and income. These insights provide valuable guidance for policymakers to develop sustainable strategies for commercial sea cucumber farming in the Jaffna Lagoon.
Keywords: *choice experiment, sea cucumber farms, random parameter logit model, willingness- to-accept, willingness-to-pay*

Introduction

The fishing sector in Sri Lanka greatly contributes to the country's economy, providing livelihoods for coastal communities and supporting domestic and export markets. Sea cucumbers are the commercially most valuable seafood. In the face of socioeconomic and climatic challenges encountered by the traditional fisheries sector, sea cucumber production has emerged as an alternative source of income to support the livelihoods of artisanal fishermen in developing countries. Although sea cucumber farming has been practiced since time immemorial, it has become as a lucrative business venture during the last few decades along with the support of public institutions and other international organizations (Purcell et al., 2023). Moreover, there is huge demand for sea cucumber as it consists high nutritional and medicinal values that can satisfy the dietary requirements and ensure the food security of the local people. Sea cucumber is considered a cost-effective and protein-rich animal food. Sea cucumber contains essential amino acids with lower lipid content, which makes it one of the healthiest seafoods in the world. Moreover, sea cucumber-derived food products such as "Trepang" and "Beche-de-mer" are considered excellent nutritional supplements and are in high demand in the export market (Rahman et al., 2020).

Sea cucumbers also play an important role in maintaining the stability of marine environment through nutrient recycling, decaying of excess organic matters present in the

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