

BIOLOGISTS' WILLINGNESS TO PAY FOR THONDAMANARU LAGOON ECOSYSTEM MANAGEMENT: A CHOICE EXPERIMENT APPROACH

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Thondamanaru lagoon is in the Northern part of Sri Lanka and is one of the most important lagoons in the country. Barrage was built in the lagoon to prevent groundwater salinity in Thondamanaru lagoon; however, this barrage altered the ecosystem. Biologists were chosen as the primary respondents for this study due to their specialized knowledge of ecosystems, biodiversity, and environmental conservation. This study used the choice experiment approach to understand biologists' preferences and willingness to pay (WTP) for lagoon management practices in Thondamanaru lagoon. The attributes considered for this study include barrage, fish stock, mangroves, tourist facilities, and payment. For this study, 154 biologists were purposively selected in the Jaffna and Kilinochchi districts. The random parameter logit (RPL) and latent class models (LCM) were employed to analyze their preferences. Findings revealed that biologists do not prefer the complete closure of the barrage, while they prefer an increase in fish stock, mangroves, and improvements in tourism. Notably, biologists had a negative WTP (LKR 1426.39) for completely closing the sluice gate, while they had the highest WTP (LKR 2956.65) for sluice gate opening for one month per year. Furthermore, they are also willing to pay LKR 913.21 for a 25% increase in the fish stock, LKR 1420.74 for a 50% increase in the fish stock, LKR 437.73 for an increase in the mangrove plants, and LKR 852.79 to improve tourist facilities in the lagoon. Results show that respondents' gender, knowledge, and understanding of lagoon management practices significantly influence their choice. LCM identifies two classes. Class 1 respondents had a higher WTP for lagoon conservation practices than class 2 respondents, revealing a significant variation in the preferences among the community. The findings of this study will help policymakers to develop suitable policies.

Keywords: Barrage, Biologist, Latent class model, Random parameter logit model, Thondamanaru Lagoon, Willingness to pay