Mangrove Conservation in Coastal Jaffna: Evidence from a Household Willingness to Pay Study

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Mangrove ecosystems provide important ecological and socio-economic services, including coastal protection, biodiversity conservation, climate regulation, fisheries support, recreation and carbon sequestration. The *Sarasalai* mangroves are among the important coastal mangrove ecosystems in Jaffna, supporting environmental stability and local livelihoods. However, increasing anthropogenic pressures and fragmented land ownership threaten their effective conservation and long-term sustainability. This study attempted to estimate households' Willingness to Pay (WTP) for mangrove conservation, identify the socio-economic and institutional factors influencing WTP, and assess community perceptions regarding mangrove ecosystem services and conservation responsibility to support sustainable and community-based mangrove management strategies in *Sarasalai*, Jaffna. The study employed the Contingent Valuation Method (CVM) using a payment card approach with six bid amounts (0, 500, 1000, 1500, 2000 and 2500) and a 'don't know' response option, determined on a pre-test findings and socio-economic conditions in the study area. Primary data were collected from 100 randomly selected households through a pre-tested structured questionnaire and key informant interviews. An interval regression model was applied to estimate the mean WTP and to analyse the determinants influencing households' willingness to contribute toward mangrove conservation. The findings revealed that the estimated mean annual WTP for mangrove conservation was LKR 1,185 per household (95% CI: LKR 1,021–1,350). Environmental awareness emerged as the most influential determinant, increasing WTP by approximately 228%, indicating the strong influence of knowledge and understanding of ecosystem services on conservation attitudes. Higher income households and respondents employed in private sector demonstrated significantly higher WTP, suggesting greater financial capacity and stronger support for conservation. Conversely, respondents who perceived mangrove conservation as solely the government's responsibility showed approximately 67% lower WTP, suggesting reduced community participation when conservation responsibility is externally assigned. Respondents with secondary education exhibited relatively lower WTP compared to those with primary education, warranting further investigation of education-related influences on conservation behaviour. The study highlights the importance of environmental awareness, community participation and shared responsibility in strengthening sustainable mangrove conservation. The findings provide valuable insights for policymakers and environmental institutions in developing participatory conservation strategies, awareness programs and locally managed conservation funding mechanisms for the long-term protection of mangrove ecosystems in coastal Jaffna.

Keywords: willingness to pay, contingent valuation method, payment card