Mangroves social-ecological system in Jaffna Peninsula: mapping stakeholder perceptions for mangroves conservation

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Mangrove forests provide key ecological processes which support the livelihoods of local communities and beyond, through the provision of a diverse set of ecosystem goods and services (Dahdouh-Guebas et al., 2021).

In recent years, mangroves in Northern Sri Lanka have been exposed to increasing anthropogenic stressors that led to their degradation (Karunathilake, 2003). Additionally, three decades of civil war and a destructive tsunami in 2004 contributed to worsen the state of the mangrove forest and threaten the livelihood of the communities living in proximity of this ecosystem (Dahdouh-Guebas et al., 2021). With this study, we investigated the most important mangrove goods and services that local communities benefit from, and derived possible mangrove forest management solutions.

We collected data from: (i) a stakeholder questionnaire, to investigate the well-being of the population, which include social, material and health concerns (White, 2010); (ii) an ethnobiological survey, to assess the mangrove forest's goods and services used by the local population and their perception of the mangrove forest. We found that the degree of dependence of the local population to the mangrove ecosystem varies among the respondents, with a majority placing high importance on wood consumption and fish nursery. Moreover, the local communities have a general positive perception of the mangrove ecosystem, especially related to coastal protection and tourism attraction; they expressed willingness to be involved in conservation projects but also showed a low understanding of regulations and legal enforcement. Therefore, we investigated the roles of authorities in mangrove management and conservation on the Jaffna peninsula. A Delphi survey (to identify expert opinions) and a Q methodology (to map perceptions) are currently being performed in the area. These data combined with bibliography will allow us to gain deeper insights of the local mangrove social-ecological system, and to lay the basis for collaborative, multi-actor conservation initiatives.

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