

Social network analysis to support mangrove management: A case study from Sri Lanka

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Identifying and involving appropriate stakeholders is a crucial step in natural resource management. Each of these stakeholders involved in natural resource management needs to be legitimate and transparent in their collaboration with each other to sustainably manage natural resources. Mangrove forests are natural resources at the sea-land interphase. Thus, the intervention of numerous land and sea-related stakeholders in mangrove management is inevitable. The objective of our study was to understand the degree of collaboration and constraints faced by mangrove management stakeholders in Sri Lanka. We carried out social network analysis (SNA) and open-ended questionnaires through a survey, to understand stakeholder collaborations and constraints in mangrove management in Sri Lanka. The survey was carried out from January 2020 to March 2022 covering 25 mangrove management stakeholder groups in Sri Lanka belonging to government organizations, non-governmental organizations, and private institutes. Our survey covered all five coastal provinces of Sri Lanka. Through the SNA questions, we found that there were differences between the five coastal provinces in terms of the degree of collaboration between stakeholders and the number of stakeholders included in the mangrove management network of each province. The northern province of Sri Lanka had dense mangrove management networks compared to the other four (eastern, southern, western, and north-western) provinces. Northern province mangrove stakeholders consider mangrove management a priority after the end of a three-decade-long civil war in 2009. Conserving natural ecosystems was an important part of post-war recovery in the northern province. Land ownership and tenure are considered to be important factors in the conservation of mangrove forests. In Sri Lanka, the Land Use and Policy Planning Department (LPD) is responsible for clarifying land ownership-related issues. However, LPD was not included in the mangrove management networks in the eastern and western provinces. Lack of funding, staffing, limited post-care of mangrove plantations, and overlapping policies were highlighted as major constraints for mangrove management by the mangrove stakeholders in Sri Lanka. We suggest the inclusion of bridging entities and common e-forums for stakeholder collaboration to foster sustainable mangrove management in Sri Lanka. Furthermore, SNA can be incorporated and adopted by the policymakers to contextualize the collaborations between mangrove stakeholders in Sri Lanka and beyond

Keywords

Governance; Environmental Policy; Forest Management; Wetlands