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Exploring the well-being of communities adjacent to coastal forests: a case study from Sri Lanka

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Abstract

The well-being of communities living adjacent to coastal forests plays an important role in their conservation and management. The positive outlook of communities towards these forests helps to plan sustainable conservation trajectories. This study outlines different dimensions of the well-being of coastal communities living closer to Mandaitivu on the Northern coasts of Sri Lanka. A well-being questionnaire survey was carried out among 30 households from July to September 2021. The well-being approach conducted focused on the human, social, and material concerns and how these three are related to coastal forest services, disservices, ecosystem processes and functions. The results for human concerns showed that 90 % of the respondents relate that the mangrove ecosystem contributes to their happiness while 100% think that mangroves are not dangerous. About 80 % do not fear the coastal forest ecosystems and encourage conservation. Considering the social concerns none of the respondents thinks that forest ecosystems help them in enhancing their relationships with others and 90% of respondents believe these ecosystems are culturally important. Even though coastal ecosystems were destroyed by the 30-year civil war which ended up in 2009 none of the respondents believe that these ecosystems remind them of violence, conflict, and insecurity. Only 20% of the respondents have a clear understanding of mangrove-related laws, regulations, and local bylaws and are satisfied with the current legal enforcement related to coastal forests. When considering the material concerns only about 20% of the respondents are getting environmental resources goods and services. Around 50% of the respondents think that the coastal forest spread/enhancement makes them happier now than before. Coastal communities are marginalized in the decision-making processes related to coastal management in Sri Lanka. In order to develop sustainable cost conservation initiatives, we recommend the consideration of the well-being of coastal communities so that they can act as guardians for sustainable coastal forest management in Sri Lanka and beyond.

Keywords: Mangroves, coastal ecosystems, Regulations, Co-management, Ethnobiology

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Introduction

Mangrove forests are a prominent type of coastal forest found in all continents with (sub)tropical and warm temperate climates. Mangrove ecosystems support and empower the lives and livelihoods of millions of people living adjacent to mangroves. Mangrove forests consist of the coastal communities and the stakeholders, laws, and regulations as the social component along with the ecosystem components. Due to the continuous interactions between social and ecological components, mangroves can be conceptualized as a social-ecological system. Mangrove social-ecological systems make a great background to examine the system's potential for promoting the well-being and preservation of coastal communities (Dahdouh-Guebas et al., 2021; Orchard et al., 2015). The well-being of communities living adjacent to coastal forests plays an important role in the conservation and management of mangrove forests. The positive outlook of communities towards these forests helps to plan sustainable conservation trajectories. On the other hand, the communities benefit from the goods and services from mangrove forests when they are well preserved. In the global south, harmonizing conservation and restoration while improving the well-being of communities poses significant policy difficulties (Chazdon, 2019). Because most communities are banned to enter adjacent forests as part of conservation initiatives. Preliminary on-the-ground data and qualitative information may be required to truly understand how mangroves are connected to their livelihoods and well-being. Acquiring such details can help to develop successful policies to safeguard the ethnobiology, local ecological knowledge, sustainability, and health of coastal communities.

The coastal community adjacent to mangrove forests in Sri Lanka has faced numerous challenges for many decades. These challenges are of diverse nature that include a variety of social, economic, and ecological problems that either directly or indirectly affect the coastal communities' well-being. The Northern province of Sri Lanka was not accessible for scientific research for about 25 years due to the civil war which ended in 2009. Moreover, the coastal ecosystems were affected by the Indian Ocean Tsunami in 2004. Both war and tsunami had an influence on mangrove ecosystems and adjacent communities. (Soosai Siluvaithasan, & Stokke, 2006; Suthakar & Bui, 2008). Many families were compelled to abandon their homes as a result of these events, which also had a detrimental effect on the local population and caused the construction of an inaccessible "high-security zone" around both land and marine fishing grounds. (Suthakar & Bui, 2008; Dahdouh-Guebas et al., 2021). Wellbeing of coastal communities living adjacent to mangroves in the Northern Province of Sri Lanka is poorly examined and the communities seem to have neglected in mangrove management decision-making processes. Our study primarily centered on gaining a preliminary understanding of how mangrove forests sustain and preserve human well-being in the Northern province of Sri Lanka and provide recommendations to improve mangrove management and enhance community well-being.

Material and Methods

The community we were interested in was in Mandaitivu in the Northern province of Sri Lanka which was affected by war and covered with mangrove forests and a coastal community living near the mangroves. We carried out surveys to understand the well-being of the community in relation to their coastal ecosystems. This was part of an island-wide ongoing survey.

Questionnaire surveys on different components of well-being in 30 households in Mandaitivu, Sri Lanka were carried out and the well-being approach conducted focused on Material well-being: Satisfaction with a range of economic concerns (i.e., cost of necessities, household income, financial security, standard of living) Subjective well-being: Happiness and life satisfaction—thinking and feeling that your life is going well, not badly, Relational Well-being: Relationships and connections and how we interact with others (REF).

We investigated communities located within 10 km of the mangrove forests in Mandaitivu to develop the questionnaire. The survey was carried out with organized interviews that investigated the community's perceptions of the products and services provided by mangrove ecosystems (Satyanarayana et al., 2013). Age, ethnicity, degree of education, the primary source of income, and house characteristics were all covered in the questionnaire. The evaluation of the ecosystem's goods and services that the community values the most, with a focus on fuelwood, wood used in construction, and food, chemical, and medicinal supplies were also considered. The respondents' impressions and opinions about the significance and development of mangroves over time are evaluated in the last part of the questionnaire survey.

Results and Discussion

Socio-demographic profile of the stakeholders

60% of the stakeholders are women and 40% are men collectively, but they are dispersed unevenly throughout the villages. One third of the participants (35%) are under the age of 61 and are spread-out across the lower age groups. High school (40%) education is the highest educational level that most of the participants have earned, followed by secondary school (35%), elementary school (20%), and university (5%). Of the remainder, 5% are farmers, 15% are engaged in fishing activities, 8% are store proprietors, and the remaining 55% are either students or employed in other occupations like education or gardening.

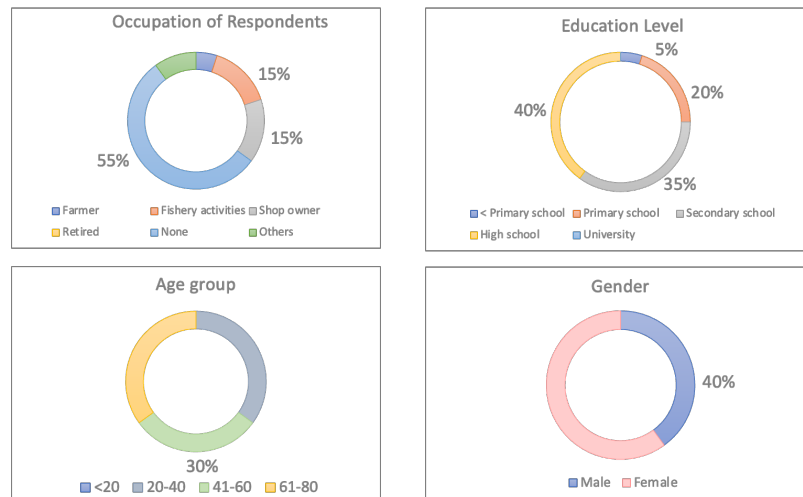


Figure 1: The Socio-demographic indicators including occupation, education level, age group and gender of the stakeholders

Well-being of the community

The results for human concerns of wellbeing showed that 90 % of the respondents relate that the mangrove ecosystem contributes to their happiness while 100% think that mangroves are not dangerous. About 80 % do not fear the coastal forest ecosystems and encourage conservation. Considering the social concerns none of the respondents think that forest ecosystems help them in enhancing their relationships with others and 90% of respondents believe these ecosystems are culturally important. Even though coastal ecosystems were destroyed by the civil war which ended up in 2009 none of the respondents believe that these ecosystems remind them of violence, conflict, and insecurity. Only 20% of the respondents have a clear understanding of mangrove-related laws, regulations, and local bylaws and are satisfied with the current legal enforcement related to coastal forests. When considering the material concerns only about 20% of the respondents are getting environmental resources goods and services. Around 50% of the respondents think that the coastal forest spread/enhancement makes them happier now than before. At the same time, they did not connect with mangroves for any relational wellbeing.

However, due to growing urbanization, environmental awareness, and the availability of sustainable alternatives, a considerable decline in the use of mangroves' services and goods was also reported in part in the Southern and North-Western provinces (Satyanarayana et al., 2013). Old community members claimed to have utilized mangroves as children, but this habit gradually faded away over time. Older individuals were more aware of changes in mangrove extension through a period of time and more likely to anticipate that expansion will continue in the years to come (Satyanarayana et al., 2013). We predicted that the people would associate mangroves with fear and bad experiences given past experiences with landmines, clearing mangroves for security reasons, ambushing rebels, etc. However, they were unable to recall negative experiences attached to mangroves. The immigrant community and younger generations of the Northern province encountered were generally free of war-related trauma.

Conclusions and Outlook

Little research has been conducted on the mangrove social-ecological systems in Northern Sri Lanka, despite reports in the literature that mangrove goods, services, and functions continue to be crucial for the livelihood of communities in other parts of Sri Lanka. This study shows a considerable disconnect between the local mangrove ecosystems and the inhabitants in the Jaffna district when it comes to using mangrove goods and services. According to our study, the main causes for the detachment of communities from mangrove ecosystems are the temporary migration during the civil war and the growing accessibility of alternative, non-mangrove possibilities that are better than mangroves (i.e, cooking gas instead of mangrove fuelwood). Despite the lack of apparent direct benefits to the local communities, we hope that this study will highlight the significance of mangrove ecosystems for the prosperity of the world. The results of our study show that more research is required to guarantee the development of suitable procedures for effective mangrove conservation in the Northern Province. This study can be used as a baseline survey for mangrove ecosystems that are facing challenging and complex situations. Insights from this study can also be used as a possible preliminary tool to identify management flaws and initiate steps toward more effective environmental protection.

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