

Community participation in mangrove conservation in the Buffer Zones of Langsa, Indonesia: A participatory approach

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ABSTRACT

This community service activity aims to increase public participation in the efforts to conserve mangrove forests in the village of Sungai Paoh Tanjong, Langsa, Aceh, Indonesia. The method used was a participatory training approach through brainstorming sessions. A total of 23 participants, consisting of local youth, were selected for the training. The findings suggest that the local community showed high enthusiasm for the training, which aimed to enhance their participation in mangrove forest conservation, and it successfully motivated them towards this effort. Furthermore, the community expressed a desire for higher education institutions to facilitate mangrove planting activities, initiate the establishment of a village forest, and support the development of village regulations as legal frameworks to strengthen local conservation efforts. They also hope that the regional government will take serious action to promote the replanting of mangroves in the conservation areas.

KEYWORDS

Mangrove conservation; participatory training; community participation; buffer zone.

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1. Introduction

The coastal area of Kuala Langsa is a region characterized by extensive mangrove forests. However, the condition of these mangrove forests has been deteriorating due to deforestation by local communities that use mangroves as raw material for charcoal production. Presently, this area has been designated as a mangrove conservation zone. Community participation is crucial in the preservation of these mangrove forests, considering the essential role that mangroves play in protecting the buffer zone area, which also directly impacts the sustainability of the livelihoods of local fishermen living in the coastal area.

A significant portion of the population along this coastline relies on fishing as their primary source of income. One of the villages in this area is Sungai Paoh Tanjong, located in Langsa Barat District, Langsa City. As a village situated near the mangrove conservation area, some of its residents have engaged in mangrove harvesting for use

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as raw material for charcoal and construction. This activity typically occurs when fishing is disrupted due to rough seas, leading local fishermen to cut down mangrove trees as an alternative source of income to support their families. Such practices have contributed to the degradation of coastal resources. The mangrove forests in this area face serious threats and require immediate attention from various stakeholders as the threats continue to intensify. The government plays a vital role in managing the mangrove conservation areas.

One critical factor in preserving the coastal ecosystem is the level of education of the local population, and the provision of information can help mitigate the degradation of ecosystem functions (Jadin & Rousseau, 2022). Furthermore, increasing the community's understanding of the value of mangrove forests for their well-being is essential (Rahman et al., 2018). Therefore, efforts to enhance the knowledge of local communities regarding mangrove ecosystem conservation are necessary. These efforts aim to sustainably protect the mangrove ecosystem while also seeking alternative solutions to improve the economic activities of coastal communities.

2. Method

We employed a participatory training method to engage the community in the planning, implementation, and evaluation of mangrove forest conservation efforts within their local area. Through the identification of issues, we encouraged the community to develop awareness of the importance of maintaining the mangrove ecosystem. Prior to and during the training sessions, we initiated a persuasive and friendly approach to engage with the community. During the training, we invited active community participation in discussions to address the various problems they were facing. Based on these challenges, we facilitated discussions to explore alternative solutions that would ensure the sustainability of the mangrove forests.

The participatory training method to enhance community involvement in mangrove conservation is a systematic strategy that actively involves community members in the educational process. Participatory management strategies, which focus on capacity building, engagement, and participation, are crucial for mangrove conservation (Almasi et al., 2018). Participatory training involving local communities can significantly improve community-based mangrove rehabilitation and management (Damastuti & Groot, 2018). This approach is essential for fostering a sense of ownership in conservation initiatives by prioritizing collaboration, local wisdom, and experiential learning.

By facilitating focus group discussions within the community, we were able to identify specific needs, challenges, and knowledge gaps related to mangrove protection within the context of local wisdom. Research by Kumar et al. (2021) highlights the importance

of understanding local beliefs and behaviors for successful conservation efforts. This strategy has proven effective in increasing community involvement (Rahman et al., 2017). Additionally, we utilized participant feedback to enhance subsequent training sessions, recognizing that continuous feedback is crucial for improving training programs.

3. Results and discussion

Most of the residents of Sungai Paoh Village work as fishermen. During periods of rough seas, these fishermen are unable to go out to sea. To survive, some resort to cutting down mangrove trees to sell as raw material for charcoal. Over time, the felled mangrove trees have not been replanted, posing a significant threat to the surrounding environment. Therefore, to reduce illegal mangrove logging in the village, it is crucial to raise awareness among the community and encourage active participation in the conservation of the mangrove forest.

This community engagement initiative was designed to increase community participation in mangrove forest conservation. Through this program, the aim is to enhance community involvement in mangrove conservation efforts in Langsa City.

During the training sessions, the primary issue identified was the logging of mangrove trees for charcoal production, which is then sold to meet the community's basic needs. Additionally, mangrove trees are used as construction material for local homes. This has led to the degradation of the mangrove ecosystem. The local community recognizes that their activities are harming the environment in the buffer zone, but the problem of poverty has placed them in a difficult position.

The training we initiated has led to several efforts aimed at mitigating the negative impacts of these community activities. One effort includes replanting mangrove trees in the areas where logging has occurred. For every tree cut down, a new tree is planted in the exact location. Furthermore, the community is working towards mangrove conservation by designating mangrove forest areas as customary forests. Alongside these conservation efforts, it is essential to educate the community about the importance of mangrove preservation and explore solutions that foster and enhance alternative economic activities for the residents.

Sustainable mangrove conservation requires community involvement (Limberg et al., 2009) and recognition of their efforts through incentives (Ntibona et al., 2022). However, incentives alone are insufficient; a strong commitment from stakeholders in mangrove governance that actively involves the community is necessary (Limberg et al., 2009). To maintain the ecological function of mangroves, all stakeholders must ensure that

mangrove conservation is integrated into regional development governance (Rahmawaty et al., 2023).

Additionally, community-based mangrove conservation governance is more suitable for mangrove rehabilitation efforts, although the results may vary from one region to another (Damastuti et al., 2022). In the context of community-based conservation, it is also necessary to establish local institutions to manage conservation efforts independently (Abdullah et al., 2014). By directly involving the community in mangrove conservation, they will feel more valued and motivated to protect their environment.

4. Conclusion

Tour guides play a strategic role in the success of any tourism destination, particularly in helping tourists discover unique and memorable experiences during their visit. Therefore, every tour guide must possess sufficient skills and knowledge about their local area. Experiences from several countries have shown that tour guides often face challenges related to a lack of knowledge and skills.

The community service program aimed at increasing public participation in mangrove forest conservation has successfully enhanced community involvement in this effort. The village's youth demonstrated great enthusiasm in participating in the training activities. Through this training, which focused on increasing community participation in mangrove forest conservation, the residents in the buffer zone expressed their hope that higher education institutions could facilitate the replanting of mangroves in their village. Additionally, to further strengthen community participation in mangrove conservation, there is a need to initiate the establishment of a village mangrove forest area and to create village regulations as legal frameworks to empower the youth in their conservation efforts. Moreover, serious commitment from the regional government is required to promote the replanting of mangrove trees in the conservation area.

Disclosure statement

The authors declare that there is no conflict of interest regarding the publication of this paper.

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