

Development of a Menu of Mangroves to Increase Knowledge of the Mangrove Ecotourism Group (Pokdarwis) Sekotong West Lombok

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Abstract

Mangrove ecotourism in Sekotong, Lombok Barat, holds immense potential for education and local economic development. However, there are still limitations in effectively communicating mangrove education information to tourists and local communities. This study aims to determine the role of "Menu of Mangrove" in raising awareness and knowledge about the mangrove ecosystem among Pokdarwis (tourism awareness groups) and visitors, as well as transforming the traditional perspective on ecotourism visits. The research employs a qualitative approach with a case study design. Data collection methods include participant and structured observation, in-depth interviews, FGD (Focus Group Discussion), and document analysis. The data analysis techniques used are descriptive and qualitative analysis. The findings of the study demonstrate that Menu of Mangrove is an effective innovation in enhancing awareness and knowledge about the mangrove ecosystem among Pokdarwis and visitors. Menu of Mangrove also successfully transforms the traditional perspective on mangrove ecotourism visits and motivates Pokdarwis to better understand and conserve the mangrove ecosystem.

Keywords: Menu of Mangrove, Mangrove Ecotourism, Mangrove Education

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1. INTRODUCTION

Mangrove ecotourism integrates the preservation of unique coastal ecosystems with educational and recreational activities, offering a sustainable alternative to traditional tourism models. Mangroves, characterized by dense root systems and tolerance of salt water, play a crucial role in protecting coastlines from erosion, supporting marine biodiversity, and storing carbon, thereby mitigating the impacts of climate change (Massiseng et al., 2020; Hakim et al., 2018; Abdullah et al., 2020; Abidin et al., 2021;

Management of mangrove ecotourism requires a legislative framework that ensures the sustainability of this critical habitat while encouraging community engagement and economic development. Existing regulations, such as environmental protection laws and policies on sustainable tourism, provide the legal foundation for mangrove conservation and responsible ecotourism development. These regulatory demands emphasize the importance of preserving natural resources, increasing biodiversity, and fair distribution of ecotourism benefits among local communities (Fattah et al., 2020; Abiyoga et al., 2018; Sitohang et al., 2015; Ramadoni et al., 2023; Yuliana et al., 2020; Hartati et al., 2021;

The theoretical basis for mangrove ecotourism management comes from concepts such as sustainable development, ecosystem services, and community-based natural resource management. These theories advocate a balance between environmental conservation, economic growth, and social equity, suggesting that ecotourism can contribute to conservation efforts while providing livelihood opportunities for local populations (Khakhim et al., 2021; Santoso et al., 2022; Hapsari et al., 2021;

al., 2017; Kurniawan, 2020; Bustam, 2021). Scientific studies and literature on mangrove ecotourism highlight best practices in ecosystem management, including community participation, environmental education, and development of environmentally friendly tourism infrastructure. Case studies from around the world, such as the Penta Helix Model in Sorong City, West Papua Province, demonstrate the successful implementation of mangrove ecotourism, showcasing the role of multi-stakeholder collaboration in achieving sustainable outcomes (Lewenussa, 2023; Nanang et al., 2023; Masud et al., 2020; Rajab et al., 2021);

The practice of managing mangrove ecotourism sites often shows a mismatch between ideal guidelines and reality on the ground even though the legislative and theoretical framework already exists. In some areas, ecotourism development has caused habitat degradation, pollution and social conflict. This shows the challenges in enforcing sustainable practices (Asniar et al., 2022; Darda et al., 2022; Arrage et al., 2019; Fernando et al., 2020; Wondirad et al., 2020). Lack of comprehensive management plans, inadequate community involvement, and inadequate enforcement of environmental regulations can result in overexploitation of natural resources and negative impacts on local ecosystems and communities (Khakhim et al., 2021; Eshun et al., 2020; Putrijanti, 2021). This discrepancy indicates a gap between theoretical ideals and practical implementation, with significant implications for the sustainability of mangrove ecosystems and the long-term viability of ecotourism enterprises.

The impacts of mismanagement are multifaceted, affecting ecological integrity, community well-being, and the overall quality of the tourism experience. Degradation of mangrove habitat can lead to loss of biodiversity, reduced ecosystem services, and increased vulnerability to natural disasters. Socially, communities can face economic displacement, loss of cultural heritage, and conflict over resource use. These consequences not only frustrate the goals of sustainable ecotourism but also threaten the long-term conservation of mangrove ecosystems (Khakhim et al., 2021; Hamilton et al., 2022; Bryan-Brown et al., 2020; Sambou et al., 2019; Jones et al., 2020; ., 2016; Thomas et al., 2017).

Comparative analysis between theoretical frameworks and management practices of mangrove ecotourism sites reveals significant gaps, particularly in aspects such as stakeholder engagement, environmental education, and integration of conservation efforts into tourism development. The main causes of this gap often stem from a lack of awareness among tourism operators and visitors, insufficient resources to implement sustainable practices, and challenges in coordinating actions among diverse stakeholders (Asniar et al., 2022; Fatimatussahroh et al., 2020; Hakim et al., 2018; Sulistyaningrum et al., 2022).

The broader implications of this management gap include reduced environmental sustainability, with long-term damage to mangrove ecosystems that could compromise their ecological function. Economically, unsustainable practices can lead to a decline in tourism attractiveness, affecting the livelihoods of communities that depend on ecotourism. Socially, a lack of equitable benefit sharing and community engagement can exacerbate inequalities and reduce local support for conservation initiatives (Lewenussa, 2023, 2023; Harahab et al., 2021; Sharpley, 2021; 2020).

To bridge the gap between current practices and the ideal framework for mangrove ecotourism management, innovative approaches are needed. This includes leveraging technology for environmental monitoring and education, increasing community involvement in ecotourism planning and management, and adopting best practices from successful case studies. Structured solution frameworks can involve multi-stakeholder collaboration, with a focus on capacity building for local communities, integration of traditional knowledge in conservation efforts, and development of sustainable tourism products (Massiseng et al., 2020; Jhonson et al., 2019; Harto et al., 2021; Gumede et al., 2022). An effective implementation strategy for these solutions requires a clear timeline, defined responsibilities for stakeholders, and mechanisms for monitoring and evaluation. By proactively addressing potential challenges such as resource limitations and stakeholder conflicts, it is possible to achieve positive outcomes for mangrove ecosystems, local communities, and the

overall quality of the ecotourism experience. Expected outcomes include increased ecosystem resilience, improved livelihoods for local populations, and high-quality educational tourism experiences that encourage conservation awareness and action among visitors (Fattah et al., 2020, 2020; Glikman et al., 2022; Kurkalova, 2015)

Mangrove ecotourism in Sekotong Tengah, West Lombok Regency is one form of utilizing mangrove ecology as a tourist attraction. Based on field studies and interviews with village heads and representatives of their Pokdarwis, it is clear that the management and utilization of ecotourism is not optimal. Mainly in terms of using ecotourism as a vehicle for education while traveling. In fact, mangrove ecotourism plays an important role in increasing public awareness and understanding of the unique mangrove ecosystem. This activity not only educates visitors about the importance of preserving mangrove ecosystems, but also encourages active participation in conservation efforts. Through direct interaction, visitors can understand the function of mangroves as natural fortresses that protect coastlines from erosion and provide habitat for biodiversity. Moreover, mangrove ecotourism supports sustainable economic development for local communities, providing opportunities for economic involvement through responsible tourism (Leonard, 2023; Nanang et al., 2023). Mangrove ecotourism is not just about tourist experiences, but about building connections between humans and nature, instilling appreciation for natural riches, and encouraging real action for environmental conservation. This opens up opportunities for current and future generations to learn, appreciate and contribute to the protection of valuable mangrove ecosystems (Rachmadiarazaq et al., 2023)

Development of the "Menu of Mangrove" as an alternative innovation in mangrove ecotourism in Sekotong, West Lombok, in developing its function as educational ecotourism about mangroves for tourists and local communities. "Menu of Mangrove" offers a creative solution to increase awareness and knowledge about the mangrove ecosystem among tourism awareness groups (Pokdarwis) and visitors. This concept changes the traditional perspective on ecotourism visits, from just a place to eat, drink and take photos, to a deeply educational experience. "Menu of Mangrove" is designed as a book whose visuals resemble the food menu that is usually served at ecotourism locations, but is filled with various "menus" of knowledge about mangroves, starting from biology, ecology, to the benefits of the mangrove ecosystem for the environment and surrounding communities. In addition, this menu is equipped with an assessment instrument that allows visitors to measure their knowledge before and after taking the educational tour. This approach not only enriches the visitor experience but also motivates Pokdarwis to get to know and protect the mangrove ecosystem, making Sekotong mangrove ecotourism a model of sustainable educational ecotourism. Through the "Menu of Mangrove", mangrove ecotourism in Sekotong is transformed into an interactive learning center that encourages active involvement from all parties in nature conservation. This research aims to increase awareness and knowledge about mangrove ecosystems among tourism awareness groups (Pokdarwis) and visitors and change the traditional perspective on ecotourism visits, from just a place to eat, drink and take photos, to an in-depth educational experience.

2. RESEARCH METHOD

This research uses a qualitative approach with a case study research design (Creswell, 2014). A qualitative approach was chosen because this research aims to understand and describe in depth how the "Menu of Mangrove" plays a role in increasing awareness and knowledge about the mangrove ecosystem among Pokdarwis and visitors, as well as changing traditional perspectives on ecotourism visits (Moleong, 2013).

This research was conducted at Sekotong Mangrove Ecotourism, West Lombok. This location was chosen because:

- a. It has developing mangrove ecotourism (Kusmana & Anwar, 2022).
- b. Having Pokdarwis who are active in managing mangrove ecotourism (Sulastri & Supartha, 2022).

c. Has the potential for developing educational ecotourism (Kurniawan, 2020).

Research data was obtained from observation, interviews, FGD (focus group discussion), and document analysis. Observation consists of participant observation and structured observation. Participant observation means that researchers are directly involved in Pokdarwis activities and visitors to observe in detail their interactions with the "Menu of Mangrove" (Sugiyono, 2017). Structured observation: Researchers used observation guidelines to record specific data related to the use of the "Menu of Mangrove" (Creswell, 2014). Meanwhile, interviews consist of structured interviews and in-depth interviews. The researcher used a structured interview using an interview guide to gather information about the knowledge and experiences of Pokdarwis and visitors regarding mangrove ecotourism and the "Menu of Mangrove" (Moleong, 2013). Meanwhile, in-depth interviews, researchers dug deeper into the experiences and perceptions of Pokdarwis and visitors regarding the "Menu of Mangrove" (Strauss & Corbin, 1990). Furthermore, data was obtained using FGD (focus group discussion), namely a focused discussion with Pokdarwis and visitors to dig deeper into their experiences using the "Menu of Mangrove". The FGD focused on the experiences and perceptions of Pokdarwis and visitors regarding the "Menu of Mangrove" in increasing knowledge and changing perspectives about ecotourism (Sulastrri & Supartha, 2022). Analysis of documents related to mangrove ecotourism, Pokdarwis, and "Menu of Mangrove". Documents analyzed included government regulations, research reports, and scientific publications related to mangrove ecotourism and the "Menu of Mangroves" (Kusmana & Anwar, 2022).

The research instrument consists of observation guidelines, namely for recording participant and structured observation data, interview guidelines, namely for gathering information about the knowledge and experience of Pokdarwis and visitors regarding mangrove ecotourism and the "Menu of Mangrove", FGD guidelines, namely for guiding focused discussions with Pokdarwis and visitors, while the document analysis sheet is for analyzing documents related to mangrove ecotourism, Pokdarwis, and the "Menu of Mangrove".

The data analysis techniques used are descriptive analysis and qualitative analysis. Descriptive analysis is to describe data obtained from observations, interviews, FGDs and document analysis. Qualitative analysis is to analyze data obtained from observations, interviews, FGDs, and document analysis in an in-depth and interpretive manner (Strauss & Corbin, 1990).

Observations and interviews were carried out repeatedly to ensure the data obtained was accurate and consistent (Sugiyono, 2017). The research results were discussed with experts and stakeholders to obtain input and suggestions (Creswell, 2014).

3. RESEARCH RESULTS AND DISCUSSION

3.1 Research result

Mangrove ecotourism in Sekotong, West Lombok, has great potential to be developed as educational ecotourism. However, there are still limitations in increasing visitor awareness and knowledge about mangroves. This research aims to develop a "Menu of Mangrove" as an alternative innovation in mangrove ecotourism in Sekotong, in order to increase its function as educational ecotourism.

Menu of Mangroves is designed as a book whose visuals resemble a food menu, but contains a "menu" of knowledge about mangroves. This menu includes information about biology, ecology, and the benefits of mangroves for the environment and society.

Research shows that the "Menu of Mangrove" has proven effective in increasing awareness and knowledge about the mangrove ecosystem among Pokdarwis and visitors. This can be seen from the increase in scores on the assessment instruments carried out before and after taking the educational tour. Visitors gain new knowledge about the types of mangroves, their benefits, and their important role in preserving coastal ecosystems.

This research also shows that the "Menu of Mangrove" is able to change the traditional perspective on mangrove ecotourism visits. Visitors no longer only see mangrove ecotourism as a place to eat, drink and take photos, but also as a place to learn and gain in-depth educational experiences. The existence of the "Menu of Mangrove" has also proven to motivate Pokdarwis to know more about and protect the mangrove ecosystem. This can be seen from the increasing participation of Pokdarwis in education and mangrove conservation activities in Sekotong.

3.2 Discussion

The success of "Menu of Mangrove" in increasing awareness and knowledge about the mangrove ecosystem can be attributed to several factors. First, the "Menu of Mangrove" is designed in an attractive and easy to understand way, so that it can attract the attention of visitors and Pokdarwis. Second, the "Menu of Mangroves" provides comprehensive information about mangroves, starting from biology, ecology, to their benefits for the environment and surrounding communities. Third, the "Menu of Mangrove" is equipped with an assessment instrument that allows visitors and Pokdarwis to measure their knowledge before and after taking the educational tour. This helps them to know to what extent they have understood the information provided.

The change in perspective towards mangrove ecotourism brought by the "Menu of Mangrove" is a positive thing. This shows that mangrove ecotourism can not only provide economic benefits for local communities, but can also be a means of education and environmental conservation.

Pokdarwis' motivation to get to know and protect the mangrove ecosystem is important for the sustainability of mangrove ecotourism in Sekotong. Pokdarwis has an important role in preserving mangroves and ensuring that mangrove ecotourism is carried out responsibly.

The transformation of Sekotong mangrove ecotourism into an interactive learning center that encourages active involvement of all parties in nature conservation is the right step. This shows that mangrove ecotourism can not only provide economic and educational benefits, but can also be a sustainable ecotourism model.

Menu of Mangrove is an innovation that has proven effective in increasing awareness and knowledge about the mangrove ecosystem among tourism awareness groups (Pokdarwis) and visitors. "Menu of Mangrove" is also able to change the traditional perspective on mangrove ecotourism visits and motivate Pokdarwis to know more about and protect the mangrove ecosystem. The transformation of Sekotong mangrove ecotourism into an interactive learning center that encourages active involvement of all parties in nature conservation is the right step to make mangrove ecotourism in Sekotong a model of sustainable educational ecotourism.

4. CONCLUSION

Menu of Mangrove is an innovation that has proven effective in increasing awareness and knowledge about the mangrove ecosystem among tourism awareness groups (Pokdarwis) and visitors. "Menu of Mangrove" is also able to change the traditional perspective on mangrove ecotourism visits and motivate Pokdarwis to know more about and protect the mangrove ecosystem. The transformation of Sekotong mangrove ecotourism into an interactive learning center that encourages active involvement of all parties in nature conservation is the right step to make mangrove ecotourism in Sekotong a model of sustainable educational ecotourism.

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