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Exploring Community Perceptions of Post-Mining Coastal Ecotourism: A Qualitative Study on Sustainable Tourism Development in Bangka Belitung

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Abstract: The Bangka Belitung region, historically recognized as the largest tin producer in Southeast Asia, now faces significant challenges in the utilization of post-mining land. One strategic approach that has emerged is the transformation of former mining areas into ecotourism destinations rooted in sustainability and community participation. This study aims to explore local community perceptions regarding the development of post-mining coastal ecotourism in Bangka Belitung. Employing a descriptive qualitative approach, data were collected through open-ended questionnaires completed by 180 local respondents. Thematic analysis was conducted using open coding, axial coding, and meaning triangulation. The study identified five key themes: (1) positive perceptions of the tourism potential of mining pits (kolong) and coastal areas; (2) concerns regarding environmental conditions and safety; (3) community expectations for involvement in tourism management; (4) local interpretations of sustainability; and (5) implementation barriers such as limited infrastructure and inadequate promotion. These findings underscore the importance of participatory and collaborative approaches in the development of post-mining tourism. Practical implications include community-based policy recommendations, environmental education strategies, and capacity-building efforts to support the creation of a fair and sustainable ecotourism model.

Keywords: Coastal Ecotourism, Local Communities, Post-mining Tourism, Sustainability, Bangka Belitung, Qualitative Approach

INTRODUCTION

Bangka Belitung is one of Indonesia's regions historically recognized as the largest tin-producing area in Southeast Asia. For decades, open-pit mining activities have significantly contributed to the local economy. However, these extractive practices have left enduring ecological and social impacts, including land degradation, sedimentation, topographic alteration, and the loss of ecological functions in coastal zones (Sutrisno et al., 2024). Today, these post-mining areas face serious challenges related to environmental degradation and limited sustainable land utilization.

In recent years, there has been growing discourse around repurposing post-mining land as sites for ecotourism development. This concept is seen not only as a solution for environmental rehabilitation but also as a potential avenue for generating alternative livelihoods for local communities. Ecotourism goes beyond nature-based tourism; it encompasses environmental education, conservation, and community empowerment (Bonang et al., 2022). Former mining sites particularly *kolong* (artificial mining lakes), secondary forests, and reclaimed coastal areas are perceived to have unique and educational tourism potential if developed with a sustainability-oriented approach (Hudayana & Nugroho, 2023).

The development of tourism in Bangka Belitung's post-mining areas is supported by distinctive geospatial characteristics and emerging local initiatives aimed at transforming degraded landscapes into public or recreational spaces. Unfortunately, many of these initiatives remain top down in nature, often led by government bodies or private investors, with limited inclusive engagement of local communities. Such exclusion poses a risk to the long-term sustainability of these programs by creating a disconnect between spatial potential and community involvement (Rahmayani & Febrianti, 2021).

One of the critical issues in post-mining tourism development is community participation. The success of ecotourism programs largely depends on the degree to which local communities are engaged as active stakeholders in planning, management, and benefit-sharing processes (Yuliana et al., 2023). However, levels of community participation remain low due to limited awareness of ecotourism principles, skepticism about tangible benefits, and the absence of meaningful two way communication between policymakers and residents (Siregar et al., 2022). In many cases, communities are treated merely as objects rather than subjects of development.

Another challenge lies in the community's understanding of sustainability. In tourism, sustainability is multidimensional, encompassing environmental, economic, and social aspects. While communities may support tourism initiatives that offer direct economic gains, they may not fully grasp or endorse the conservation of ecological systems or cultural heritage (Yuliana et al., 2023). Therefore, it is crucial to understand how local residents interpret sustainability, in order to develop context sensitive strategies that align with community values and expectations.

Although studies on post-mining tourism in Indonesia are expanding, most are technically or quantitatively oriented. Many focus on environmental carrying capacity, geospatial analysis, or the economic impacts of land use conversion from mining to tourism (Santosa & Wahyuni, 2022; Darmawan, 2021). There remains a significant gap in research that deeply explores local community perceptions, expectations, and concerns particularly in the context of Bangka Belitung. Yet, community perception serves as a vital early indicator of the potential success or failure of any community-based development program (Hudayana & Nugroho, 2023). Literature also highlights that the success of ecotourism development is closely linked to the quality of local participation, collaborative governance, and transparent benefit distribution mechanisms (Bonang et al., 2022). Without a comprehensive understanding of how communities perceive tourism initiatives, development interventions risk facing social resistance or long-term failure (Siregar et al., 2022).

In response to these issues, this study aims to explore community perceptions regarding the development of coastal ecotourism in post-mining areas of Bangka Belitung. The primary focus is to understand how local communities assess the tourism potential of former mining sites, what their hopes and concerns are, and to what extent they are willing to participate in sustainable tourism planning and management. A qualitative approach was adopted, using thematic analysis of openended questionnaires collected from 180 respondents living near post-mining locations.

By centering on community narratives and lived experiences, this study seeks to contribute to the development of a more equitable, participatory, and contextually grounded model of community-based ecotourism in post-mining regions. The findings are also intended to inform policymakers, environmental NGOs, and tourism stakeholders in designing programs rooted in trust and aligned with community aspirations.

METHOD

This study adopts a descriptive qualitative approach aimed at exploring community perceptions regarding the development of ecotourism in post-mining coastal areas of Bangka Belitung. The qualitative method was chosen because it enables the researcher to deeply investigate the views, values, expectations, and concerns of local communities regarding the transformation of former mining lands into sustainability-based tourism destinations (Creswell & Poth, 2018). The focus of this approach lies not in data generalization, but in achieving a contextual and reflective understanding of the social realities experienced by the local population.

Primary data were collected using open-ended questionnaires distributed to residents of Bangka Belitung who are knowledgeable about and interested in post-mining tourism. This research identified five major themes through thematic analysis of data from 180 respondents with relevant knowledge and experience related to post-mining tourism. Respondents were drawn from various backgrounds, including community leaders, local entrepreneurs, tourism activists, and residents living near *kolong* (mining lakes) or other former mining areas deemed potentially suitable for ecotourism development. The questionnaires contained open-ended questions designed to elicit respondents' perceptions, expectations, perceived obstacles, and forms of participation in post-mining tourism development. This method allowed participants to express their views freely, without being constrained by predefined answer choices. Respondents represented a diversity of ages, occupations, educational levels, and geographic proximity to the mining sites. This survey emphasized the richness of narrative content rather than the quantity of responses (Braun & Clarke, 2006).

The sampling method employed was purposive sampling, a form of non-probability sampling. Respondents were deliberately selected based on three key criteria: (1) residing near post-mining areas, (2) having direct or indirect involvement with tourism or mining activities, and (3) willingness to provide open and meaningful responses. Purposive sampling is appropriate in qualitative research as it allows researchers to obtain in depth information from individuals considered representative within a specific social context (Palinkas et al., 2015). While not statistically representative, this method is valid for exploratory studies aimed at understanding complex social phenomena.

Data were analyzed using thematic analysis following the framework developed by Braun and Clarke (2006). The process involved three main stages: First, *open coding* in which all narratives were carefully read and openly coded to identify key words, important phrases, and dominant issues. Each unit of meaning was given a descriptive and basic label (Miles et al., 2014). Second, *axial coding* during which initial codes were grouped into broader thematic categories based on interrelated themes. These were then organized into five major themes: perceived tourism potential, environmental concerns, expectations for participation, understanding of sustainability, and implementation barriers. Third, *triangulation of meaning* to improve validity. This involved inter researcher discussions and cross checking of themes. Each theme was evaluated against the original narratives and linked to findings from previous literature (Siregar et al., 2022; Kusuma et al., 2023).

Data validation was conducted through internal *member checking*, whereby interpretations were compared with the original narrative records to ensure the meanings were not distorted. Discussions between researchers (inter rater reliability) were also carried out to

minimize interpretative bias. This technique is widely used in qualitative research to ensure the credibility and dependability of findings (Nowell et al., 2017).

This study adhered to fundamental ethical principles of social research. All respondents were provided with clear information regarding the purpose of the study, their rights to withdraw at any time, and the confidentiality of their identities. Informed consent was obtained voluntarily before respondents completed the questionnaire. All data were stored anonymously and used solely for academic purposes. Ethical standards were also maintained in the reporting process, with narrative quotes anonymized (e.g., “Respondent 37”) and no information presented that could identify individuals or specific groups (Adriana et al., 2022).

The descriptive qualitative approach applied in this research allows for a deeper exploration of community perceptions in the context of transforming post-mining regions into ecotourism zones. The combination of open-ended data collection, systematic thematic analysis, and interpretive validation ensures that the study is relevant for informing participatory policy development in post-mining regions such as Bangka Belitung.

RESULT AND DISCUSSION

This study identified five main themes through thematic analysis of data from 180 respondents in Bangka Belitung who possess knowledge and experience related to post-mining tourism. Respondents were selected from diverse backgrounds, including community leaders, local business owners, community-based tourism activists, and residents living near *kolong* (former mining pits) or areas with potential for ecotourism development. The findings are presented across the following five core themes:

1. Positive Community Perceptions of Ecotourism Potential

The majority of respondents expressed highly positive views on the tourism potential of post-mining lands. Former mining pits, reclaimed zones, and previously degraded coastal areas are increasingly perceived as ecological and aesthetic assets capable of attracting tourists if properly managed. “I believe this *kolong* could become a fishing or water recreation spot if it is well maintained. Especially if it includes educational elements great for school tourism.” (Respondent 27).

“We have former mining lakes that are just as beautiful as other destinations. Unfortunately, they haven't been managed seriously yet.” (Respondent 74). These perceptions align with the findings of Hudayana and Nugroho (2023), who emphasized that ex-mining sites in Bangka Island hold significant ecological and aesthetic value, especially when viewed from the perspective of local communities familiar with the landscape. Such positive perceptions indicate a strong potential for community receptiveness, which the literature identifies as a critical precondition for the success of community-based tourism initiatives (Darmawan, 2021).

2. Environmental Concerns

Although the idea of ecotourism is generally welcomed, many respondents expressed concerns about the environmental safety of post-mining sites. Certain locations are still considered hazardous due to unstable land conditions, acidic water in the *kolong*, and insufficient vegetation. “If the water in the *kolong* is still murky and deep, it could be dangerous for children. It needs to be made safe before being opened to the public.” (Respondent 11).

“The soil is slippery and prone to landslides, especially during the rainy season. The government should conduct reclamation first.” (Respondent 59). These findings are consistent with Santosa and Wahyuni (2022), who noted that many ex-mining sites in Central Bangka retain high levels of ecological toxicity and require technical restoration before being repurposed. From a sustainability perspective, such concerns indicate that tourism development

must be synchronized with comprehensive ecosystem recovery (eco-restoration), rather than relying solely on aesthetic landscaping (Lestari et al., 2021).

3. Expectations for Participation in Management

Respondents generally expressed a strong desire to be actively involved in the planning, management, and utilization of post-mining tourism sites. They emphasized the importance of receiving tangible benefits and not merely serving as passive observers. “It would be better if local residents were hired as guides or site managers. Outsiders shouldn't be the only ones profiting.” (Respondent 83).

“I would love to open a food stall if this place is really turned into a tourist destination. But we need training first.” (Respondent 32). Active community participation is a core principle of Community-Based Tourism (CBT), which has been shown to enhance residents' sense of ownership and accountability (Putra et al., 2020). Rahmayani and Febrianti (2021) also stressed that community involvement in decision-making processes significantly affects the sustainability of ecotourism projects. Respondents' interest in engaging in activities such as homestays, culinary services, and environmental education presents an opportunity to expand local tourism value chains (Adriana et al., 2022).

4. Understanding of Sustainability Concepts

Community knowledge of sustainability varies, but most respondents recognize the importance of balancing economic benefits with environmental preservation. Interestingly, many also cited social aspects such as safety, comfort, and social cohesion as components of sustainability. “The most important thing is that the environment isn't damaged, and we can still make a living from it. That's sustainable tourism.” (Respondent 104).

“If it's beautiful but causes conflict in the village, then it's not sustainable. It should involve local residents and respect local customs.” (Respondent 16). This local understanding of sustainability as a multidimensional concept encompassing ecological, social, and economic dimensions indicates social readiness for ecotourism development (Kusuma et al., 2023). Community literacy on sustainability is a foundational element in preventing conflict and ensuring the long-term viability of tourism programs (Fennell, 2020).

5. Implementation Barriers: Accessibility, Infrastructure, and Promotion

Many respondents noted that post-mining tourism sites remain difficult to access, lack basic infrastructure, and are poorly promoted. These challenges represent key constraints for developers and local governments. “The location is great, but the road is damaged and there are no signs. Outsiders would have a hard time finding it.” (Respondent 90).

“There's a beautiful kolong already, but there are no toilets or food stalls. Visitors only come once and don't return.” (Respondent 48). Literature identifies weak basic infrastructure as a primary obstacle to the development of community-based ecotourism (Putri et al., 2021). In addition, the lack of digital promotion strategies and minimal youth involvement in destination branding are considered serious limitations (Suryana & Wulandari, 2022). To address these challenges, integrated efforts are needed spatial planning, community training, and cross-sector collaboration involving local youth, digital marketers, and village authorities (Adriana et al., 2022).

Thematic Discussion and Implications

The five themes outlined above suggest that communities in Bangka Belitung living near post-mining areas possess significant social potential and readiness to engage in ecotourism development. However, structural challenges such as environmental degradation, limited access, and inadequate formal engagement must be addressed through responsive and

collaborative policy approaches. These findings reinforce Darmawan's (2021) argument that transforming post-mining landscapes into ecotourism destinations cannot be achieved through top-down strategies, but must emerge from grassroots-led tourism planning.

The participatory and narrative based approach used in this study offers a promising model for fostering dialogue among communities, government agencies, and the private sector. In the context of long-term sustainability, these insights can serve as the foundation for designing a community ecotourism roadmap in post-mining regions, prioritizing: (1) ecosystem restoration, (2) ecotourism education, (3) local management training, and (4) digital promotion strategies driven by community narratives.

CONCLUSION

This study aims to explore community perceptions regarding the development of ecotourism in post-mining coastal areas of Bangka Belitung. Based on thematic analysis of 180 respondents, five key themes were identified, reflecting the social dynamics, aspirations, and concerns of local communities in relation to the transformation of former mining lands into sustainable tourism destinations. First, communities expressed a positive perception of the tourism potential in post-mining areas. They recognized that *kolong* (mining lakes), reclaimed beaches, and secondary forests possess ecological and aesthetic value worthy of development. This indicates a level of social readiness to embrace land-use innovations through ecotourism initiatives (Hudayana & Nugroho, 2023). Second, concerns were raised regarding safety and ecological feasibility.

Murky water, unstable terrain, and lack of vegetation led communities to conclude that ecological reclamation processes remain suboptimal (Santosa & Wahyuni, 2022). Third, residents emphasized their desire to be actively involved in the planning and management of tourism development. They wish to become direct beneficiaries of the project, both economically and socially, in accordance with the principles of community-based tourism (Darmawan, 2021; Adriana et al., 2022). Fourth, the community demonstrated a diverse yet contextually grounded understanding of sustainability. While there is an awareness of the importance of environmental conservation, respondents also emphasized the need for equitable economic benefits and social inclusion (Kusuma et al., 2023). Fifth, respondents identified several implementation challenges, ranging from limited infrastructure and accessibility to insufficient tourism promotion (Putri et al., 2021). These findings suggest that although enthusiasm for ecotourism is high, structural barriers must be addressed through multisectoral collaboration.

The results of this study present several practical implications for stakeholders. First, local governments should design policies that go beyond physical infrastructure development and prioritize systematic community empowerment. Involving local residents from the outset strengthens the social legitimacy of tourism projects. Second, tourism practitioners and local investors are encouraged to develop cooperative or community based partnership models that ensure fair distribution of economic benefits and foster active civic engagement. Third, NGOs and academics have a critical role in providing guidance on environmental education, hospitality training, and managerial capacity building, thereby enhancing community preparedness to manage ecotourism destinations in a sustainable manner (Fennell, 2020; Siregar et al., 2022).

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