

Tourism Impacts on *Macrocephalon maleo* Habitat: A Qualitative Study in Taima Village, Bualemo District

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ABSTRACT

Background: This study examines the impact of Bohokan Beach tourism on the habitat of the Maleo bird (*Macrocephalon maleo*) in Taima Village, Bualemo District, Banggai Regency. **Objectives:** The aim is to understand how tourism activities influence both conservation efforts and habitat conditions of the Maleo bird. **Methods:** A qualitative approach was employed, involving field observations, in-depth interviews, and focus group discussions with local stakeholders, tourists, and conservation personnel. **Results:** The findings indicate that Bohokan Beach tourism holds potential to foster conservation awareness among both locals and visitors. It also encourages active community participation in ecotourism initiatives. However, increased tourism poses ecological risks, including habitat degradation and disturbances to the Maleo bird's nesting behavior. **Conclusion:** The study underscores the need for sustainable tourism management and strict conservation policies to protect the Maleo bird's natural habitat. Without proper planning, infrastructure development may threaten the survival of this endangered species. The insights from this research are expected to guide policymakers and tourism managers in formulating environmentally responsible tourism strategies.

KEYWORDS: Bohokan beach; Ecotourism impact; Habitat conservation; *Macrocephalon maleo*; Taima village

1. INTRODUCTION

Indonesia's natural attractions are a significant source of national pride due to their diverse beauty and cultural uniqueness. Each region offers distinct tourism potential, drawing both domestic and international visitors. In response, the government, local communities, and private sectors have made concerted efforts to develop and manage nature-based tourism. However, the sustainability of these efforts depends heavily on proper infrastructure, accessibility, and environmental management (Abriani, 2018).

Tourism Village development, in particular, requires a robust yet flexible management structure that involves local leaders and communities. Such an institution should prioritize community welfare over profit and ensure inclusive participation across planning, implementation, and monitoring processes. When local communities are actively engaged in tourism initiatives, they develop a strong sense of ownership, which enhances both the quality of tourism and conservation outcomes (Abriani, 2018).

Tourism, as defined by Wahyulina et al., involves voluntary and temporary travel aimed at enjoying specific attractions, while tourists are individuals who

engage in these activities. Surur further traces the term “tourism” to its Sanskrit origins: pari, wis, and ata (journey), symbolizing a complete journey from home to another destination (Faraby & Rahman, 2024).

Among Indonesia’s endemic species affected by tourism is the Maleo bird (*Macrocephalon maleo*), a critically endangered bird native to Sulawesi and designated as the provincial mascot of Central Sulawesi. This species is known for its unique reproductive behavior, which involves incubating eggs in geothermally heated sandy soils (Latif et al., 2022; Kahirunnisa & Bempah, 2024). The Maleo bird is protected under various regulations, including Government Regulation No. 7 of 1999 and CITES Appendix I. Conservation authorities, including IUCN, have listed the bird as “Critically Endangered,” highlighting the urgency of its protection (Putra et al., 2023). Despite its legal protection, the Maleo population continues to face threats, including habitat destruction and poaching. Research has emphasized the need for intensified conservation strategies to ensure the species’ survival (Yusuf et al., 2024).

Bohokan Beach, located in Taima Village, Bualemo District, Banggai Regency, is a popular natural tourism destination. Its scenic features, including pristine seas, rock formations, and biodiversity, attract high volumes of visitors, especially on weekends and holidays. However, growing tourism pressure at Bohokan Beach may unintentionally disrupt the habitat of the Maleo bird, which is highly sensitive to human presence and environmental disturbances.

Given these dynamics, this study aims to investigate the impact of tourism activities at Bohokan Beach on the habitat of the *Macrocephalon maleo*. Specifically, it examines both the positive and negative effects of ecotourism and assesses the potential for community-based conservation. By identifying key interactions between tourism development and wildlife preservation, the research aims to inform sustainable tourism strategies that align with conservation goals.

2. MATERIALS AND METHODS

This study utilized a qualitative research design to investigate the impacts of Bohokan Beach tourism on the habitat of the Maleo bird (*Macrocephalon maleo*) in Taima Village, Bualemo District, Banggai Regency. The qualitative approach was selected to explore community experiences, ecological conditions, and conservation practices through the perspectives of local stakeholders.

Materials and Tools

Data were collected using a range of tools, including digital voice recorders and cameras to document Maleo bird activity and tourist interactions, printed maps to assist spatial observation of nesting sites, notebooks for field notes, and semi-structured interview guides.

Data Collection Techniques

The research employed three data collection methods:
Participatory Observation

Researchers conducted direct field observations over several weeks, focusing on tourist activity patterns, habitat conditions, and Maleo bird behavior. Observations were carried out at various times (morning, afternoon, weekends) to capture variations in human-wildlife interactions. Notably, researchers observed nesting areas and recorded instances of habitat disturbance, tourist behavior, and environmental changes.

In-depth Interviews

Semi-structured interviews were conducted with purposively selected participants, including community leaders, residents, tourism managers, and visitors. Selection criteria included direct involvement or knowledge of tourism activities or Maleo conservation. Interview questions explored participants' perceptions of conservation awareness, community engagement, habitat threats, and tourism infrastructure.

Focus Group Discussions (FGDs)

FGDs were held with local youth groups, conservation volunteers, and ecotourism actors to gather collective insights on tourism-related changes and to validate observations from interviews and field notes.

Ethical Considerations

All participants provided informed consent before participating in interviews and discussions. They were briefed on the research purpose, their right to withdraw, and how their information would be used. Ethical procedures followed standard protocols for community-based ecological research.

Data Analysis

A thematic analysis approach was employed. Transcripts from interviews and FGDs, along with field notes, were manually coded to identify recurring themes. Coding categories were developed inductively and organized around major impact areas: conservation benefits, economic participation, habitat degradation, and behavioral disturbances. Each theme was cross-referenced with observational data to strengthen interpretation.

3. RESULTS AND DISCUSSION

3.1 Ecotourism Dynamics at Bohokan Beach

Bohokan Beach, situated in Taima Village, Bualemo District, Banggai Regency, is an emerging ecotourism destination known for its scenic beauty, coral ecosystems, and proximity to the Maleo bird (*Macrocephalon maleo*) habitat. Field observations confirmed that the beach attracts large crowds during weekends and holidays, leading to intensified human activity in sensitive zones. Its geographical location within the Tomini Bay area, a key region for sustainable development, has positioned it as a local tourism priority.

This section integrates findings from participatory observation, interviews, and focus group discussions (FGDs), structured into two overarching themes: (1) positive contributions of tourism to conservation and community empowerment,

and (2) adverse impacts on the Maleo bird's habitat and behavior. Each theme is critically analyzed in light of existing literature.

a. Positive Contributions of Ecotourism

1. Rising Conservation Awareness

Interviews with community leaders and observations of public signage and educational tours revealed an increase in environmental awareness among locals and visitors. Environmental education initiatives, though informal, have helped communicate the importance of conserving *Macrocephalon maleo*, echoing previous findings by Yusuf et al. (2024), who emphasized the role of awareness-building in improving conservation outcomes.

Educational messaging delivered through guided tours, village events, and local storytelling has positioned the Maleo bird as an ecological symbol. This aligns with the ecotourism principles described by Kahirunnisa & Bempah (2024), where species-specific conservation becomes embedded in local tourism narratives.

2. Conservation-Oriented Revenue Streams

Tourism revenue was reported to indirectly support conservation efforts. While not formalized, local leaders noted that part of the income from tourist visits was used for habitat maintenance and informal patrols. This mirrors other studies (e.g., Latif et al., 2022) where tourism has created financial incentives for grassroots conservation.

3. Strengthened Community Involvement

Residents expressed pride in participating in ecotourism through roles such as guides, homestay hosts, and conservation volunteers. This active participation was noted during FGDs, where youth groups shared their involvement in beach clean-ups and nest site monitoring. Such empowerment supports the model of community-based conservation outlined by Putra et al. (2023), reinforcing local ownership and sustainability.

b. Ecological Risks and Habitat Pressures

1. Habitat Degradation and Waste Accumulation

Repeated observations revealed signs of ecological disturbance, especially near nesting zones. Trampling by tourists, littering, and the absence of physical barriers were common. Interviewees highlighted unregulated infrastructure development and lack of waste management as key concerns. These observations align with global patterns noted in ecotourism literature, where unmanaged visitor access often leads to habitat fragmentation (Yusuf et al., 2024). Garbage accumulation during peak tourism seasons was consistently mentioned by residents, which contributes to a decline in environmental quality and disrupts nesting grounds. The lack of designated pathways also leads to the random movement of visitors through ecologically sensitive areas.

2. Disruption of Maleo Bird Behavior

Field data and community reports suggest that increased human presence disrupts the Maleo bird's natural behaviors. Nesting and egg-laying activity

decreased in areas with high tourist traffic. Participants observed that Maleo birds avoided known nesting grounds during busy periods. These findings are consistent with earlier studies on behavioral shifts among ground-nesting bird species under human disturbance (Latif et al., 2022).

3. Poaching Risks Linked to Visibility

Ironically, while tourism raises awareness, it also increases the birds' visibility, thereby raising the risk of illegal poaching. FGDs with conservation volunteers revealed instances of egg theft and unauthorized collection, particularly during school holidays. This duality is often cited in ecotourism studies, where charismatic species become both conservation icons and targets of exploitation (Putra et al., 2023).

3.2 Synthesis and Implications

The integration of observational, interview, and group discussion data demonstrates that Bohokan Beach tourism presents both opportunities and threats to Maleo bird conservation. On one hand, tourism provides an avenue for community empowerment and environmental education; on the other, it brings ecological pressures that require immediate mitigation. The results affirm the need for: Zoning regulations to protect nesting areas; Formal allocation of tourism revenue to conservation programs; Capacity building for local ecotourism actors; and Strengthened monitoring and enforcement against poaching

By situating local findings within broader ecotourism and conservation frameworks, this study contributes to a growing body of research that advocates for inclusive, regulated, and science-informed tourism management in biodiversity hotspots.

4. CONCLUSION

Bohokan Beach possesses significant potential as a sustainable ecotourism destination. Its natural beauty and strategic location make it attractive to visitors, while also placing pressure on the fragile habitat of the critically endangered Maleo bird (*Macrocephalon maleo*). This study found that tourism in the area offers both opportunities for enhancing conservation awareness and economic participation, as well as risks such as habitat degradation, behavioral disruption, and illegal poaching. To balance development and biodiversity protection, future conservation strategies should prioritize the establishment of strict spatial zoning for nesting areas, structured visitor management plans, and formalized reinvestment of tourism revenue into habitat conservation. Empowering local communities through training in ecotourism, monitoring, and enforcement roles will also be essential. Ultimately, collaborative governance involving local stakeholders, conservationists, and tourism managers will be key to ensuring that Bohokan Beach evolves into a model for community-based conservation and ecotourism in Sulawesi.

5. CONFLICT OF INTEREST

The authors declare potential competing interests between economic development and ecological protection. While tourism infrastructure development is encouraged to increase regional income and improve livelihoods, it poses serious

risks to the fragile habitat of the Maleo bird and the surrounding ecosystem. There exists a complex tension between community aspirations for economic growth through tourism and the need to preserve traditional lifestyles and natural heritage. This research acknowledges these conflicting interests and advocates for a balanced, inclusive approach that safeguards both biodiversity and cultural identity through participatory ecotourism governance.

ACKNOWLEDGEMENTS

The authors would like to express their sincere gratitude to Prof. Dr. Sukirman Rahim, M.Si and Dr. Irwan Bempah, M.P. for their invaluable guidance and supervision throughout this research. Appreciation is also extended to all parties, including local community members, conservation volunteers, and tourism practitioners in Taima Village, who generously contributed their time, insights, and support in the completion of this article.

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