

THE IMPACT OF TOURISM DEVELOPMENT ON ENVIRONMENTAL SUSTAINABILITY IN THE BUKIT LAWANG ECOTOURISM AREA

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Abstract:

This study aims to examine the impact of tourism development on the physical environmental conditions in Desa Perkebunan Bukit Lawang, Bahorok Subdistrict, Langkat Regency, with a focus on changes occurring in tourist attractions, facilities, and infrastructure. A qualitative method was employed, with data collected through direct observation and unstructured interviews. The study relied on primary data gathered from fieldwork, supplemented by secondary data from various sources. Informants were selected using purposive sampling, targeting community members who have knowledge of and are directly affected by tourism development. The results of the study indicate that tourism provides economic benefits and enhances environmental awareness among local communities; however, it also poses challenges such as pressure on environmental carrying capacity, changes in wildlife behavior, and uncontrolled development. The implications of this research highlight the importance of sustainable tourism management through collaboration among local communities, government authorities, and non-governmental organizations in order to preserve the integrity of this conservation area.

Keywords: Tourism, Environmental Conditions, Development Impact, Bukit Lawang

INTRODUCTION

According to Prayogo & Febrianita (2018: 1), tourism is the journey of an individual or group of people from one place to another for a specific period of time, for recreation and entertainment purposes. Tourism has grown rapidly in various regions in Indonesia, including the Bukit Lawang ecotourism area in Bahorok District, Langkat Regency, which is renowned for its orangutan conservation and tropical rainforest. However, the rapid growth of the tourism sector can lead to significant changes in the physical environment, particularly related to tourist attractions, facilities, and supporting infrastructure. Bukit Lawang, as an ecotourism destination, faces significant challenges in supporting the sustainability of the physical environment for tourists.

The focus of this research is to explore changes occurring in the natural environment in Bukit Lawang, including aspects such as the destruction of natural habitats like forests and rivers, as well as changes in infrastructure and facilities that can affect natural conditions. The main issue addressed is how tourism development affects these three aspects and their impact on the sustainability of the natural ecosystem in the area.

Several studies have shown that increased tourism activity can lead to environmental degradation, land use changes, and pressure on local infrastructure (Misran et al., 2015; Sari & Nugraha, 2018; Hutabarat, 2020). The urgency of this research lies in the need for a deeper understanding of the extent to which tourism development affects the natural environment, public facilities, and infrastructure at the local level. The research focuses on identifying changes resulting



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from tourism and community perceptions of these conditions. The main issue raised is how tourism affects the quality of the physical environment and ecosystem balance in Bukit Lawang.

METHODS

According to Sugiyono (2020:9), qualitative research methods are used to examine natural conditions. The researcher serves as the key instrument. Data collection techniques are triangulated (combined), data analysis is inductive, and qualitative research results emphasize meaning over generalization.

The collected data, after analysis, is then described for easy understanding. This study aims to provide an overview and data obtained directly from observations regarding the general picture of Bukit Lawang Plantation Village, community activities, tourists, and the environment of Bukit Lawang Plantation Village.

In general, there are four types of data collection techniques: observation, interviews, documentation, and a combination or triangulation (observation, interviews, and documentation). The informants in this study used purposive sampling, including: POKDARWIS (Tourism Awareness Group), BUMDES (Village-Owned Enterprises), HPI (Indonesian Tour Guide Association), the community, and local and international tourists.

RESULT AND DISCUSSION

Bukit Lawang is a natural tourism area located in the Bahorok District, Langkat Regency, North Sumatra. This area directly borders Gunung Leuser National Park (TNGL), one of the most important tropical rainforest conservation areas in Indonesia. Since the early 1970s, Bukit Lawang has been widely known as a rehabilitation center for the Sumatran orangutan, a rare species now listed as critically endangered by the IUCN (Union for Conservation of Nature and Natural Resources). With its rich biodiversity, Bukit Lawang is a magnet for domestic and international tourists seeking to observe wildlife in their natural habitat. The presence of ecotourism has gradually but significantly transformed the area, impacting the environment, society, and economy of the surrounding community.

Ecologically, the development of ecotourism has positively contributed to the preservation of tropical forests and protected species. The presence of tourists interested in nature conservation encourages the community and government to protect the forest ecosystem from further damage. Tourism activities focused on observing animals such as orangutans, birds, and other primates make the forest a key asset that must be preserved. Local communities and non-governmental organizations conduct various educational activities to raise awareness of the importance of maintaining ecosystem balance. Furthermore, the development of environmentally-based tourism infrastructure, such as eco-friendly accommodations and sustainable trekking programs, helps reduce the ecological footprint of tourism activities.

Economically, tourism has become a primary source of income for the Bukit Lawang community. Before the development of the tourism sector, most residents relied on subsistence farming and other often environmentally unfriendly activities, such as illegal logging and wildlife hunting. However, with the increasing number of tourists, many residents have shifted their professions to become tour guides, homestay owners, transportation providers, and food and souvenir sellers. These changes have not only improved the community's standard of living but also encouraged them to care more about preserving the natural environment, which is their primary



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source of livelihood. This collective awareness is evident in residents' active participation in activities such as tree planting, river cleanups, and environmental education.

However, the development of ecotourism does not always have a positive impact. The increasing number of tourists, especially during the holiday season, puts pressure on the environment's carrying capacity. The Bohorok River, a major route for tourist activity, often experiences increased waste volume, bank erosion, and declining water quality. On the other hand, uncontrolled development of tourist facilities, including the establishment of small huts along the river without clear regulations, can damage the aesthetics and potentially disrupt the local ecosystem. Uncontrolled tourist facilities threaten natural vegetation and disrupt wildlife crossing routes. Some buildings are even located too close to the forest, which should be strictly protected. Close interaction between tourists and wildlife, especially orangutans, is also a serious concern as it can alter the animals' natural behavior.

Tourists' attitudes and behaviors in preserving the environment in Bukit Lawang are demonstrated through a number of rules and educational materials provided before the trekking activity begins. Tourists, both domestic and international, are reminded not to litter along the trekking route and are instructed to use the trash bins provided. Direct interaction with wildlife, particularly orangutans, is also limited. Visitors are only permitted to observe with the guidance of experienced guides to preserve the animals and their habitat. Furthermore, tourists are prohibited from feeding wildlife to avoid disturbing or altering their natural behavior.

Despite regulations prohibiting direct interaction with orangutans and other wildlife, violations still frequently occur. Some tourists, especially those without official guides, still attempt to feed the animals or approach them to take photographs. It is not only dangerous for the animals but also reflects weak supervision and a lack of consistent education. In this context, the role of local tour guides is vital, as they act as a bridge between tourists and nature. Experienced guides not only guide tourists during the trek but also explain the rules and the importance of maintaining a safe distance from wildlife. Regular training provided by the guide community and conservation institutions is the main provision for maintaining the quality of educational and sustainable tourism.

Local communities play a central role in maintaining the balance between conservation and tourism. In addition to being key players in ecotourism, they also form working groups focused on waste management, water conservation, and forest restoration. Some residents even utilize waste and used materials to create high-value handicrafts. These activities not only reflect creativity but also demonstrate the potential for implementing a circular economy approach in rural areas. With support from non-governmental organizations, such as environmentally friendly skills training programs and mentoring for Micro, Small, and Medium Enterprises (MSMEs), the community has become increasingly confident in managing tourism potential independently and responsibly (Heykal et al., 2024).

The involvement of NGOs (Non-Governmental Organizations) and local communities in ecotourism development in Bukit Lawang serves as a good example of cross-sector collaboration. Organizations such as the Indonesian Tour Guides Association (HPI) actively conduct certification training for tour guides to ensure they have a sufficient understanding of ecotourism and conservation principles. Furthermore, several foreign and local NGOs (Non-Governmental Organizations) have played a role in establishing waste banks, conducting reforestation programs, and conducting environmental campaigns in elementary schools. These activities not only have an impact on the environment but also shape a young generation that has ecological awareness from an early age.



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In terms of policy, the local government has established several regulations to govern tourism development and activities, such as zoning conservation and tourism areas, restrictions on riverbank development, and a ban on feeding wildlife. However, the implementation of these policies still faces challenges on the ground. Lack of oversight, limited resources, and weak coordination between agencies are major obstacles to achieving truly sustainable management. Therefore, synergy between the government, communities, businesses, and NGOs (Non-Governmental Organizations) is essential to strengthen a holistic tourism governance system that is adaptive to environmental and social changes.

The challenges ahead in developing Bukit Lawang ecotourism cannot be ignored. The high dependence on foreign tourists makes the local economy vulnerable to global fluctuations, such as pandemics or economic crises. Therefore, diversifying tourism products is crucial, including the development of cultural tourism, organic farming, and community-based environmental education. Furthermore, strengthening human resource capacity, especially among the younger generation, is a crucial investment to ensure long-term sustainability. With the right strategy and shared commitment, Bukit Lawang can become not only a model for sustainable ecotourism management in Indonesia, but also a conservation area that truly lives with and for its people.

CONCLUSION

Bukit Lawang, part of the Gunung Leuser National Park, is an ecotourism area that not only offers natural beauty but also serves as a conservation center for endangered species such as the Sumatran orangutan. The development of tourism in this area has had a positive impact on environmental preservation, public education, and on boosting the local economy. The community has begun to implement sustainability principles, such as waste management, crafts made from recycled materials, and active involvement in conservation activities like tree planting and waste management with NGOs (Non-Governmental Organizations) and environmental communities. Educating tourists about ethical tourism practices also helps preserve the natural habitat of wildlife.

However, on the other hand, rapid tourism growth also has negative impacts, such as uncontrolled development of facilities, disturbances to wildlife behavior, and pressure on environmental carrying capacity. Therefore, more stringent policies and a sustainable management system are needed to ensure ecotourism remains aligned with conservation. Collaboration between the community, government, tour guides, and NGOs (Non-Governmental Organizations) is a crucial foundation for maintaining a balance between tourism use and environmental preservation, making Bukit Lawang an example of responsible and sustainable ecotourism practices in Indonesia.

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