



Sustainable Ecology: Problems and the Perspective of Ecosystems in Tangkahan

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ABSTRACT: Tourism is a priority sector. Ecotourism involves the community as one of the main actors and prioritizes resource sustainability. Ecological tourism is a subcategory of sustainable tourism or one of the market segments of natural environment-based tourism. The issue of sustainable development has become an important issue that needs to be disseminated in the midst of society and our country can compete and develop following the era of globalization. Ecotourism provides environmental, cultural and economic benefits to local communities. This article describes the management of sustainable ecotourism destinations for a region in Indonesia. Qualitative method is a descriptive method used in this study to provide an overview of the object under study. The results of the study show that the development of ecotourism in Tangkahan is through ecotourism stakeholders who are involved in ecotourism development which in turn has an impact on ecotourism development. Pandemic- era tourism must be able to be developed properly so that health protocols are still carried out but can still attract visitors. Prepare plans that are in accordance with human needs for tourism but are still aligned with protocols for the health of visitors, managers and the community.

Keywords: Sustainable, Ecotourism, Stakeholders



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INTRODUCTION

Tourism is a priority sector for development. Tourism is a rapidly growing economic sector and is one of the largest in the world today. International tourist arrivals were recorded at 648 million in the 2000s and increased to 907 million in 2007 and 922 million in 2008. Marine energy is a priority for Indonesias national development in the food industry sector and the Special Economic Zone as well as the tourism sector (Gao et al., 2021; Hamaguchi, 2021). In 1987 the World Commission on Environment and Development (WCED) stated that ecotourism is development that meets current needs without compromising the right to meet the needs of future generations (Mazilu, 2013; Pompurová et al., 2018). The issue of sustainable development has become an important

issue and must be socialized in society and our country to be able to compete and develop following the developments of the times in a globalized manner.

When tourism places a high priority on resource preservation and includes the community as one of its principal players, this is referred to as the sustainable tourism concept. This big umbrella of sustainable tourism then relates and oversees the big box of alternative tourism which then becomes ecotourism which focuses on ecosystem preservation and is based on local communities as the main actor, where tourism activities are responsible activities ([Lamers et al., 2014](#); [Wen et al., 2019](#)).

Tourism activities as an alternative to earn income for the community and foreign exchange. The development of Special Interest Tourism (SIT) such as Community Based Ecotourism (community-based ecotourism business) provides economic benefits and provides other benefits because of the psychological involvement of local communities and gives a great influence on self-confidence for the people involved in it as well as will provide a strong sense of responsibility. significant impact on the survival of life in the environment.

Ecotourism must bring multiple benefits, on the one hand, increasing economic income, on the other hand, contributing to the preservation of the alami environment and cultural traditions of the local population ([Lengieza et al., 2023](#); [Palmer & Chuamuangphan, 2018](#); [Tran & Walter, 2014](#)). Therefore, in carrying out ecotourism, it must pay attention to fundamental principles 1) conduct research and feasibility studies 2) always ensure that ecotourism that is carried out will never give rise to environmental degradation and destruction of local culture 3) Ecotourism activities must be able to respect and maintain the alami values of the local environment 4) Revenue from ecotourism must contribute to the preservation of the alami environment, the development of science and culture of the local population, as well as the tourism industry as a whole. Over time, there has been a change in views on the impact of tourism development in a country. Tourism is built on the basis of obtaining the maximum economic benefit and bringing in as many tourists as it is considered to have a negative impact on the environment at the destination, both alami and socio- cultural. For this reason, in the development of tourism, it is necessary to apply the concept of development that can minimize its negative impacts, namely through the concept of sustainable tourism. Discussions on sustainable ecotourism are discussed in various studies such as Sustainable tourism; Ecotourism status and framework; Integrating destination image and sustainable tourism. The significance of managing sustainable tourism destinations for a region in Indonesia is examined in this research.

The World Tourism Organization defines nature tourism as tourism that fully considers current and future economic social and environmental impacts and where the tourism industry meets the needs of the environment and society. Sustainable destinations must consider their economic impact on future generations. The sustainability of the tourism industry must meet the needs of tourists while protecting the environment and the communities visited by tourists. In Indonesian development era and history ([Lozano et al., 2018](#)) communities do not allow access unless they destroy the disturbed area or the social order is changed. The goal is to sustain the tourism industry. Tourism can be divided into three periods: the Dutch colonial period the Japanese colonial period and the post-independence period. Indonesias tourism industry has experienced ups and downs but is now booming again. In the year According to the Tourism Act No. 10 of 2009 tourism is a

tourism activity supported by various facilities and services provided by the community business government and local governments. Tourism on the other hand is a travel activity in which a person or group visits a place for leisure self-improvement or to study the diversity of a temporary tourist destination. Attractive value with a more cooperative tour model. Ecotourism was first introduced by Kenton Miller in 1978 ([Mihanyar et al., 2015](#)).

There are four primary pillars for tourism development as outlined in Minister of Tourism Regulation No. 14 of 2016 concerning Guidelines for Sustainable Tourism Destinations. The Global Sustainable Tourism Council developed this pillar's standards, which include: 1) Management of sustainable tourism locations; 2) Economic utilization for local communities; and 3) Cultural preservation for the community and visitors. 4) Protection of the environment. The four pillars above are also mentioned in the Indonesian Tourism Law. The performance of tourism development is not only measured and evaluated based on its contribution to economic growth, but also on its contribution to improving community welfare, reducing unemployment and poverty, preserving natural/environmental resources, developing culture, improving the nation's image and national identity so as to strengthen unity.

Ecotourism or Ecotourism, is a subgenre of sustainable tourism or one of the business niches for original environment-based tourism. The environment, local culture, and local economies all benefit from ecotourism such as observing birds or other unique biota with guides, local people, living with local residents or natural lodges (*ecolodges*) provided by community residents and contributing to the economy for local residents. Sustainability is applied to all types of operating, manufacturing and tourism project activities, including conventional and alternative ones. Ecotourism is to pay attention to the maintenance of the natural environment (*conservation*), not to change the authenticity of nature so that it disturbs the balance of nature.

The understanding of ecological tourism is to support or sustain the balance of the relationship between humans and their natural environment. Activity qualifications in ecotourism are always oriented towards ways of developing and maintaining sustainable natural integrity. The nature of the journey to seek and improve the quality of new life, social, economic, cultural, environmental, spiritual. The concept of *sustainable development* consists of ecological sustainability, social sustainability, and economic sustainability. Burn and Holdel in ([Nematpour & Faraji, 2019](#)) the concept of *sustainable development* was then adapted for the tourism sector as a model that integrates the physical environment, cultural environment and tourists.

The concept of ecotourism does not have a very long history. Its a relatively new idea. Built only in the last thirty years. The proposal to combine nature and conservation tourism was first proposed by Budowski in 1976. The term ecotourism itself was coined in the mid-1980s. Since the 1980s the concept and movement of the environment (localism) has been growing. Even as a public issue it receives more important attention from the tourism government and the private sector. Efforts to preserve and protect the environment before the 1970s are still lagging behind today.

METHOD

The descriptive qualitative method was employed in this study. Regarding data gathering, these methods include observation, interviews, and literature reviews. The collected data was then qualitatively examined, which included data gathering, data reduction, data presentation, and conclusion- or verification-drawing ([Moleong & J., 2014](#)). gathering of data in July–August 2022. Interviews with the Tangkahan Ecotourism Manager, the Tangkahan Resort's Executive Director, and Mount Leuser National Park Center officers took place.

RESULT AND DISCUSSION

The regional autonomy initiative, which got its start in 1999 when Indonesia started looking for improved government, is still developing. The goal of regional autonomy depends more and more on a bottom-up approach to regional and local development. Due to Indonesia's breadth and diversity, it is important to have both a global perspective and a local understanding of the country. Through interpretation and environmental education, the International Ecotourism Association (2015) is in charge of promoting tourism to natural regions that protect the environment and advance the wellbeing of nearby populations ([Suryanti & Indrayasa, 2021](#)). The concept of ecotourism tries to combine the three main elements of nature conservation local community power and environmental awareness. This applies not only to visitors but also to the local community. Benefits of ecotourism The benefits of ecotourism affect various aspects. These benefits include aspects of energy conservation and environmental education ([Agyeiwaah et al., 2017](#)). These absolute benefits are as follows:

Protection. According to a study conducted by researchers at Griffith University the relationship between ecotourism and endangered animals is very close if positive. Tourism has a positive relationship with conservation which means the provision of effective economic incentives to increase the conservation of cultural biodiversity and the protection of natural and cultural heritage in the country ([Ngo et al., 2018](#)).

Economics. Ecotourism that involves the local community means increasing the capacity and opportunities of the local community. The concept of ecotourism is an effective method to provide local communities around the world who struggle with poverty for sustainable development ([Boit & Doh, 2014](#)).

Environmental education. The inclusion of Environmental education refers to the idea that tourism-related activities should, through interpretation, enhance the visitor's experience and environmental consciousness. Activities foster a thorough grasp of and respect for the environment and local culture ([Maichum et al., 2016](#)).

Successful eco-based ecotourism is a business in Tangkahan Langkat Province North Sumatra. Thangka Khan is one of the famous and fascinating natural tourism attractions an eco-tourism developed by Gunung Leser National Park Office. Thats why it is also called Sumatra. This natural destination with iconic Sumatran elephants is perfect for a holiday with family or friends. ([Ninla](#)

[Elmawati Falabiba, 2019](#)). In addition to receiving away from the busyness and fatigue of city life, it also increases knowledge about nature and forests.



Figure 1: Exotic natural scenery of Tangkahan

The four main pillars of tourism development are outlined in Tourism Regulation No. 14 of 2016 on Guidelines for Sustainable Tourism Destinations. The Global Sustainable Tourism Council defined the standards that make up these pillars:

1. Managing sustainable tourist destinations (Sustainable management is the development of long-term strategies for tourism destinations and their implementation by monitoring and controlling economic socio-cultural environment health quality safety and beauty issues. needs to be imported. Evaluation systems should also be used.
2. Economic gains for nearby communities (socio-economic benefits) to lessen the negative effects of tourism It is possible to guarantee a mechanism being in place that aids smaller and larger businesses, local communities, and local government. Thus, the local goods in question are meals and drinks handicraft items, which may take the form of art exhibits, agricultural goods, etc.
3. Culture for the local community and visitors. Conservation education and transfer of knowledge as it will later become a tourist attraction. Furthermore the presence of local/traditional art forms in tourist destinations will help tourists to be respectful of and aware of the culture of each tourist destination.
4. Environmental Protection (Environment). This is done to lessen and stop environmental harm brought on by tourism-related activities.

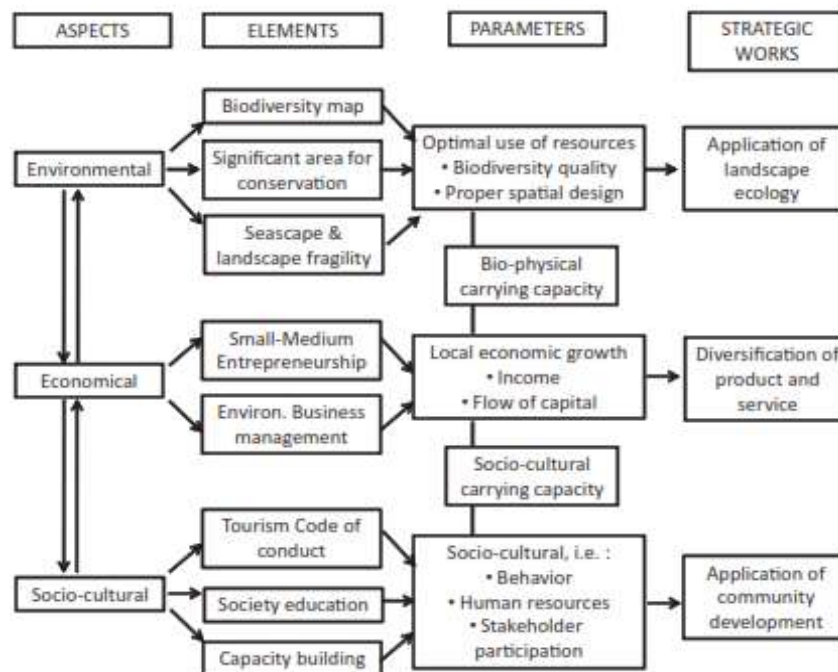


Figure 2: Conceptual framework towards sustainable tourism development

Ecotourism Typology

Cleverdon (1999) in (Mavragani et al., 2019) also provides a typology of tourists according to their level of interest in the environment. The tourist activities chosen by tourists also depend on the level of tourist interest in the environment. Loungers prefer relaxation and fun activities. Tourists are interested in special and limited activities such as diving, surfing. Eco-aware is more concerned with environmental issues and wants to see how this environmental commitment grows and develops. Meanwhile ecotourists are tourists who want to be actively involved in environmental protection.

Ecotourism Management

An environmentally conscious approach to managing tourism is known as ecotourism. Conservation is an effort to ensure that the usage of natural resources continues into the future whereas ecotourism is the management of the environment and local culture that assures sustainability and welfare. As stated in 'The International Union for Conservation of Nature and Natural Resources' definition from 1980, which said that conservation is an effort made by humans to benefit from the biosphere by attempting to produce significant and long-lasting outcomes for both the present and future generations. Natural areas are places that ecotourists are interested in visiting. National Parks can serve as conservation areas and serve as tourist attractions.

Ecotourism Development Guidelines

To meet the needs of tourists can be formulated through the elaboration of each component of ecotourism. According to (Wood, n.d.) ecotourism components (1) contribute to biodiversity conservation, (2) sustainable local community welfare, (3) include interpretation of learning experiences, (4) involve responsible actions from tourists and tourism business actors, (5) developing small-scale businesses, (6) using renewable resources, and (7) focus on community participation, ownership, and business opportunities, especially for rural communities. Along with the development of tourism itself, according to (Weaver, 2001) ecotourism, namely (1) focus on attractions in the natural environment or specific areas, (2) emphasize learning as a form of interaction between tourists and nature, and (3) must be sustainable.

The development of tourism seems to be the path of economic and social security of the country but if it is not handled carefully tourists will be attracted from one common place or another. In the future there will be pressure to develop tourism products in a sustainable way to help adapt and protect the local environment ([Adnyana 2020](#)). Supervisors ability to invite staff costs to cover conservation costs and benefits as well as increase community participation. Price is a very important identifier in a sea of similar products or services. Indonesia has natural panoramas and beautiful tourist spots no less than Bali especially Singapore or Malaysia ([Situmorang, 2008](#)).

([Li, 2013](#)) suggested that promoting ecotourism sustainability based on community, resources and economy could close the gap between theory and practice. Eco-labeling and eco-certification in tourism are part of a political process that can balance definitions, standards and perceptions of ecotourism certification schemes. With the development of electronic media, marketing and sales promotion are becoming more important. The Internet and television are important tools for tourism promotion because of their greater reach and faster delivery of messages ([Ndahimana et al., 2013](#)). Domestic and foreign joint advertising. Benefits of this co-funding include increased cost efficiency, more effective delivery of critical information on ecotourism potential and goals in the integrated region.

Cooperation between Governments

Integrated tourism development, especially ecotourism, can be done through a regional approach and an integrated tourism activity approach. A territorial approach can be implemented in the form of coordinating areas of tourism potential, especially ecotourism.

The North Sumatra (North Sumatra) provincial government continues to encourage tourist visits to tourist destinations in Tangkahan and Bukit Lawang. These two natural tourist destinations in Langkat Regency are considered to have great tourism potential if they continue to work on them. The North Sumatra provincial government plans to resolve some issues in both regions. One of them is the asphalt pavement of the pass from Bahorok to Tangkahan. The Deputy Governor of North Sumatra, who attended the Bukit Lawang Tourism Coordination Meeting held at Jungle Inn Bukit Lawang Bahorok Langkat on Friday 30 February, said the road from Bahorok to Thangkahan was to be closed on instructions. Said to help shorten the asphalt paymen). The plan announced by the Langkat regency was also attended by tourism officials from the Bukit Lawang region. (<https://medanheadlines.com/2020/10/31>) Intergovernmental cooperation can

also be done with the central government. The cooperation may be in the form of the construction of facilities related to tourism development funded by the central government or jointly borne by the regional government and the central government. In addition to synergizing in infrastructure development and promotion, the role of the central government in the development of ecotourism tourism in the regions can also be in the form of coaching in tourism management or management.

Communities Around the Gunung Leuser National Park

Community participation and involvement in ecotourism development is also very important. This commitment may take the form of participation in tourism management and environmental protection, with tourism targets in particular benefiting from not only the economic and social benefits derived from the construction of development facilities and infrastructure. The Natural Tourist Attraction (ODTWA) of Gunung Leuser National Park (TNGL) remains intact and construction of facilities and infrastructure is taking place within the occupied area. The problem arose when communities around the TNGL region, mainly tourism stakeholders providing tourism services such as accommodation, began looking for accommodation to build on the banks of the Bahorok, Batang Serangan and Buru rivers ([DJUFRI, 2015](#)).

The construction of condominiums and restaurants is out of control and many inns are being built on the banks of the river directly adjacent to his TNGL area. There are many buildings with tin roofs, and the feeling of nature has faded. There are still small numbers of people in the TNGL region who hunt and engage in illegal logging. Conflicts between Sumatran orangutans leaving the TNGL area and encroaching on community fields usually occur during durian season. Those who shot the orangutans blank are still often executed by the community, leaving the orangutans with gunshot wounds ([Butarbutar & Soemarno, 2013](#)).

([Wang & Hsu, 2010](#)) stated that the success of ecotourism depends on the quality of tourism service providers (including planners, developers, operators and managers). The need for partnerships between governments, the tourism industry, local communities, donors (donors), non-governmental organizations (NGOs) and tourists for ecotourism to be successful. Sustainable tourism requires thinking about human resources (HR), the environment and its conservation. The natural environment will remain for future generations, so we must not harm it. Indonesia's tourism competitiveness in the Asia-Pacific region is very low, ranking 12th out of 22 countries. In Southeast Asia, Indonesia's tourism competitiveness still lags behind Singapore, Malaysia and Thailand ([UNWTO, 2013](#)). Of course, this is inversely proportional to Indonesia's rich natural resource potential, making Indonesia one of the most biodiverse countries in the world. While many ecotourism destinations are stagnant and underdeveloped, competitors are innovating, which has proven to be the key to increasing the competitiveness and sustainability of the ecotourism industry ([Hakim et al., 2012](#)).

The challenge of developing the tourism industry, and ecotourism in particular, requires comprehensive solutions while respecting the principles of environmental protection. This is particularly important as Indonesia is a global biodiversity hotspot yet has a very high rate of damage and threats to biodiversity ([Mangkuprawira, 2016](#)).

Tourism Industry Players

Nearly every year, the TNGL Center provides assistance to local communities, including other villages, as well as those near nature tourism areas. In this case, it is about productive economic and business support to communities adjacent to natural tourism destinations, both already developed and yet to be developed. Support for highly productive companies was provided in the form of scouting devices and support based on FGD with each institution. now there are 7 institutions that have received assistance, namely the Tangkahan Tourism Institute, the Batu Rongring, Institute, the Batu Katak Tourism Institute, the Bukit Lawang HPI Cooperative, the Pancasila Ecotourism Institute, Ranger Kemiri Mountain in Gayo Lues ([Yuliana & Indarjo, 2018](#)). Tangkahan Tourism Institute, Batu Katak Tourism Institute, Batu Rongring, Institute, Pancasila Ecotourism Institute and Ranger Kemiri Mountain received assistance in the form of camping, trekking and caving equipment, this helped them in making camping, caving and trekking tour packages. The availability of complete and good equipment is an effort to ensure the safety of visitors ([Lubis et al., 2022](#)).

Donor Non-Governmental Organizations

Paneco is the foreign organization working to promote ecotourism in GLNP. He established the Paneco Foundation in 1996. Its past is tightly entwined with that of Regina Frey, its creator. He is originally from Switzerland and has been actively working to safeguard the Sumatran orangutan's habitat in Indonesia since 1973. She left the University of Zurich after finishing her biology coursework and went to Sumatra with another student. In the Gunung Leuser National Park in Bukit Lawang, the two women founded the first orangutan rehabilitation facility on behalf of WWF International, the Indonesian government, and the Frankfurt Zoological Society. Regina Frey continued to be actively involved in the projects she started or backed in Indonesia after she moved back to Switzerland. It became important to institutionalize his activity as a result of his increased interactions with official organizations and authorities. In 1996, Regina Frey, who was raised in Berquam Her Irchel, started the nonprofit Paneco Foundation. (<https://paneco.ch/en/history-of-the-foundation/>)

Thangkahan Tourism Institute (LPT) cooperates with TNGL Tourist Management Centre. Thangkahan Tourism Institute has a business entity called Community Tour Operator (CTO), which is licensed by the TNGL Center to provide nature tourism business services in the form of tourism information services with a five-year (2016-2021) license. I am getting Visitors can get information about Thangkahan at the visitor center.

Researcher

([Influence et al., 2005](#)) suggest that researchers begin research by asking how much interest is in their research and how existing structures and procedures will be able to encourage policy makers to implement the research recommendations. Activities that have been carried out to try and increase the number of visits and introduce GLNP to the wider community both nationally and internationally through exhibitions. National scale exhibitions that are routinely followed are the Indogreen Festival, National Park Festival and Nature Tourism Park, while the GLNP international scale exhibition with the Ministry of Environment and Forestry participated in an exhibition in Sydney, Australia in 2014. The routine agenda of the Directorate General of KSDE

is the National Nature Conservation Day (HKAN). Since the last 3 years, TNGL has also routinely participated. The exhibition often includes tourism actors, they offer tour packages at each location. Exhibition activities since the COVID-19 pandemic have only been held once in March 2020, namely the Exhibition in Bandung.

The management of visitors (tourists) in the National Park since August 2014 is guided by Decree No. 12 of 2014 regulating entry fees to nature reserves throughout Indonesia. Visitor Management assumes that there are still unregistered visitors. This is because the GLNP area is very open. There are no permanent fences or boundaries between the GLNP area and other use areas such as plantations and community-owned land, so guides have still not purchased tickets. Inside the visitor center.

New era ecotourism development

Pandemic-era tourism must be able to develop properly so that it can still attract visitors while health protocols remain respected. Prepare a plan that meets the human needs of tourism but is consistent with ([Han et al., 2022](#)) the visitor, manager and local health protocols. In the new era of ecotourism, it is important to consider and agree on the provision of system tools, system incentives, frameworks and policy support to ecotourism stakeholders, activity supporters and other stakeholders .

One within the tourism trends in the modern era is sustainable nature tourism and eco-friendly tourism. The tourism sector focuses on developing special eco-friendly products for domestic travelers. A video documentary has been produced describing the government's efforts to build destinations that practice the CHSE Protocol (Cleanliness, Health, Safety and Environment) to gain public trust. Stakeholders in the tourism industry (restaurants, hotels, shopping malls, tourist attractions, food stories 2) Simulating implementations of the CHSE protocol ([Fillah et al., 2022](#)). It is also documented as material for soft campaigns and tutorials. 3) Publicity and publication to domestic and foreign stakeholders and communities through channels. 4) Test objectives that are CHSE protocols: Limited gatherings (<https://www.okezone.com/tren/read/2020/1>).

CONCLUSION

Indonesia placed tourism in a position of strategic importance with a long-term outlook crucial to its development. The field is highly dynamic, but requires a shared long-term development vision that provides the foundation for coordinating the development agenda. Execution long-term strategy development requires a strong, consistent and tenacious collaboration to drive the direction of the plan, with regular monitoring and evaluation to respond to demand dynamics and unforeseen circumstances. leadership is required. By applying eco-friendly tourism development that adapts to uniqueness and local conditions, its success is based on sustainability that respects community identity, sustainable natural and ecological resources, and economic processes that ensure sustainable provision. It can be measured through possible sociocultural processes. advantage. In addition, monitoring and evaluation systems should be put in place to minimize the impact of tourism activities.

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