

Local Economy-Based Mangrove Ecotourism Sustainability Strategy

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Abstract: Ecotourism is one way to make the natural environment a tourist destination. Ecotourism is the concept of nature tourism trips that have a vision and mission of conservation and love for the planet. This can happen because the financial benefits obtained from tourist travel costs are also used for nature conservation needs and improving the welfare of local residents, so that it gets great attention from local governments to increase regional independence. The goal of ecotourism is to preserve local culture and not violate human rights and demographic movements. Ecotourism's potential lies in the concept of environmental development that involves maintaining and conserving nature. Mangroves have the potential to be used as ecotourism. The mangrove forest area in Lembung Village, Galis District, Pamekasan, Madura is one of the interesting locations how the concept of Ecotourism can be combined with local economic development and conservation issues. The purpose of this research is to collect information about the description of ecotourism practices in the mangrove forest area in Lembung Village and the strategic concept of sustainability of local economy-based ecotourism management. Ecotourism and sustainable tourism development can be optimally achieved through cooperation between academics, government, entrepreneurs, and the community formulated.

1 INTRODUCTION

The strategic role of the tourism sector in national development can be seen in the National Medium-Term Development Plan (RPJMN) 2015-2019 which sets 5 (five) focus development programs for the next 5 (five) years, namely Infrastructure, Maritime, Energy, Food and Tourism (IMEPP). Of the five sectors, tourism is designated as a leading sector. The Ministry of Tourism also seeks to make a significant contribution to the Indonesian economy. This is evidenced by the achievements of the tourism sector and the performance achievements of the Ministry of Tourism in 2019 obtained foreign exchange of IDR 280 Trillion, which previously in 2018 the country's foreign exchange earnings amounted to IDR 229.50 Trillion, (Kemenparekraf, 2019).

Liap, et al (2019) state, one of the sectors that can be a mainstay in national and regional development is natural resource tourism consisting of forests, mountain rivers and coastal and ocean areas which are a mainstay that plays an important role in driving economic growth and national or regional business.

Currently, ecotourism is one of the options for introducing a natural preserved environment, as well as a tourist-visit area. The potential of ecotourism lies in the concept of environmental development, which is based on maintaining and conserving nature. Mangroves have the potential to be used as ecotourism. This is because the condition of mangroves is very unique and the model of the area developed as a tourist facility still pays attention to the authenticity of the forest and the organisms that live in it. An area that is unique and distinctive will have a higher worth and become a special attraction for someone. This is used as a guideline for the development of tourist areas (Dzulkarnain, 2016).

Damanik and Weber (Damanik and Weber, 2006) state that, the basic idea of sustainable development is preservation of natural and cultural resources. These ideas then led to the concept of sustainable tourism. The concept of sustainable tourism. This means the development of resources (attractions, accessibility, amenities) for tourism that aim to provide optimal profits for stakeholders and optimal satisfaction value for tourists in the long term.

The concept of ecotourism is actually not new in the world of development, this concept has been introduced relatively long ago, especially since the emergence of various problems in the tourism industry sector, such as environmental damage, tourist behavior that threatens ecosystems and the sustainability of natural-social existence. This concept also offers Experiential richness which will invite tourists to be more responsible for the preservation of environmental resources by limiting the consumptive use of society such as reducing the use of fossil energy in tourist trips replaced by the use of sustainable energy, inviting tourists to be more familiar with the impact of the accumulation of tourist waste, and consuming organic-based food which is much healthier for health (Pollitt et al., 2021).

In a sense, genealogically the idea of ecotourism emerged as a response to many parties to various natural-social damages that arose due to the activities of the tourism industry that did not heed the natural ecosystem. Ecotourism is a shortened form of the word ecotourism, to be precise. In turn, the concept of ecotourism has developed along with the development of the tourism industry itself (Damanik and Weber, 2006). According to (Tanaya, 2014) ecotourism is a contemporary concept that emerged as a sustainable form of natural resource-based tourism. The main principle of ecotourism activities lies in experience and learning about nature, which is managed by minimizing impact, non-consumptive, and most important of all is self-orientation that emphasizes locality values (Dzulkarnain, 2016).

The purpose of ecotourism in its management (Pollitt et al., 2021), for some regions such as Madura, the idea of strengthening a sustainable economy through ecotourism with local wisdom is a quite logical consideration, even very strategic value. This is based on the magnitude of Madura's social natural potential which has a variety of rich local wisdom, both in the form of socio-cultural, social religion, and natural exoticism that is beautifully stored in it (Leonandri and Rosmadi, 2018).

Sustainable Tourism is tourism that is growing very rapidly, including the increase in the flow of accommodation capacity, local population and the environment, where tourism development and new investments in the tourism sector should not have a bad impact and can be integrated with the environment, if we maximize positive impacts and minimize negative impacts (Ahmad Rangkuti., 2017). This concept also leads to every tourism activity that takes place in a tourism destination by not damaging the environment and being able to

control negative impacts on the environment through the use of natural resources and encouraging companies engaged in the tourism sector to achieve a high standard of environmental utilization, create new environmental standards and make the latest environmental innovations (Prabawa, 2017).

Lembung Village, Galis District, Pamekasan, Madura is home to a mangrove forest area. The mangrove forest area was inaugurated in 2019. Besides that, the area is used as a source of land income for local residents by fishing for oysters. The majority of people in the area are looking for oysters and are using the technique of cutting down the mangrove trunk to make it easier to take oysters attached to the mangrove trunk. This technique can potentially jeopardize the structure of the mangrove community because the population of mangroves is reduced due to deforestation, which is part of the process of taking oysters. This cannot be ignored because it will cause bad impact on the ecotourism environment itself. Ecotourism's principles, which include preserving environmental characteristics, providing education, engaging local communities, and improving the economy of local communities, must be reaffirmed. A good and responsible ecotourism management concept is necessary for this reason. So, the importance of policy management in maintaining the mangrove ecotourism area is for the sustainability of the ecosystem in the area as a coastal protector, habitat for various types of biota, and nursery ground for many types of marine fish and serves to protect the coastline from abrasion or erosion.

Ecotourism cannot be compared to other types of tourism. Ecotourism requires specific management in order to achieve sustainability goals in economic, social, and cultural aspects. The focus of ecotourism management is on how to maintain and protect irreplaceable resources so that they can be utilized for present and future generations. In ecotourism management, it is very important to integrate environmental and cultural (socio-cultural) components. To be sustainable, resource management must be done wisely and take into account ecological and economic values.

Muttaqin, et. al (Muttaqin et al., 2011) revealed that the development of mangrove ecotourism areas in an area has its own challenges, this is because the perception of the community around ecotourism does not support these activities, while ecotourism is tourism which includes the concept of development, research and education. In addition, it has the aim of preserving the lives and welfare of local residents. To protect mangrove forest areas, policies that

utilize existing potential are needed. Thus, new jobs will be available with income resources from mangrove ecotourism.

A comprehensive study is required, particularly one that addresses the ecosystem attachment of a particular tourist attraction. With the above review, research on "Sustainable Ecotourism Management of Mangrove Ecotourism in Lembung Pamekasan" is important to answer the relationship between existing resources at the study site and sustainable tourism management.

Sustainable tourism development is essentially related to efforts to ensure that natural, social, and cultural resources utilized for tourism development in this generation can be enjoyed by future generations. Tourism development must be based on sustainability criteria, which means that development can be ecologically supported in the long term. One of the objectives of mangrove ecotourism is to enhance the quality of life of the local community. Using these conditions, this study aims to identify the economic strength of the local economy in the ecotourism area in Pamekasan Regency. Develop strategies that can encourage the development of local economies based on ecotourism potential in Pamekasan Regency.

2 RESEARCH METHODOLOGY

This research uses a qualitative approach, because it leads to a detailed and in-depth description of the portrait of conditions that actually occur in the field. This research will observe and examine the Sustainability Strategy of Mangrove Ecotourism Based on Local Economy.

The population that is the source of data from this research is the forest farmer group and the parties involved in ecotourism management. Sample withdrawal will be carried out using snowball sampling technique (Sugiono, 2017).

Data Analysis

Data analysis in this study was carried out three times, namely:

1. Analysis before the field
This analysis was carried out by researchers before entering the field. This analysis was carried out by reviewing data from previous research and literature studies.
2. Analysis during the field
At this stage this uses the Miles and Huberman model. Where data analysis is carried out interactively and continuously until completion.

3. Analysis after the field

After the data is obtained, summarized, presented and summarized. Furthermore, researchers will test the credibility of the data or trust in the research data by triangulation and discussion with friends.

2.1 Framing the Question

In the case of this research, there are two parts or two research questions:

QR1: How is the strength of the local economy in the ecotourism area in Pamekasan Regency?

QR2: How is the mangrove ecotourism sustainability strategy that can encourage the development of ecotourism potential based on the local economy in Pamekasan Regency?

2.2 Identifying Relevant Work and Literatures

To get as much as possible researchers distributed questionnaires to ecotourism managers and the surrounding community researchers also conducted observations and semi-structured interviews, this semi-structured interview was chosen so that respondents were more open in conveying their answers. convey the answer.

3 RESULT AND DISCUSSION

3.1 Overview of Mangrove Forest Research Objects in Lembung Village

Lembung Village is geographically located in Galis Sub-district, Pamekasan Regency. Lembung Village itself, has a population of 1,353 people with details of 674 men and 679 women. The village consists of four hamlets, namely Lembung Tengah Hamlet (the average community works as farmers or manages rice fields and salt farmers), Lembung Utara Hamlet (the community works as farmers). Two other hamlets, namely Bangkal Hamlet and Bengkaleng Hamlet, are also working as fishermen, but they also work as mangrove forest conservationists and coffee users (BPS, 2015). Data from the Pamekasan Forestry and Plantation Service in 2020 describes the area of mangrove forests as 1,174 hectares, with details of 714.53 hectares of good condition, 42

hectares of moderate condition and 418 hectares of damaged condition.

The center for mangrove planting in Lembung Village, Galis District, Pamekasan is located in Bangkal Hamlet. There is plot 61A, which has an area of 3.8 hectares of mangrove forest. with a length of +/- 4 kilometers and an estimated 30,000 mangrove trees planted on the land. Meanwhile, in Bungkaleng Hamlet there is Plot 61B with an area of 25.0 Hectares and there are 260,000 mangrove trees already planted at that location. Mangroves in the Lembung Mangrove Ecotourism area are 4 types, namely *Rhizophora Mucronata*, *Rhizophora Apiculata*, *Rhizophora Stylosa*, and *Avicennia Marina*. Different types of mangroves have distinct functions and fruit uses. (Lugina et al., 2019) also explained that mangrove trees including their fruits) have economic value and high potential to be developed.

Kusmana (Kusmana, 1995) states that the function of mangrove forests is divided into three, namely: (1) physical function, can protect the environment from the influence of oceanography (tides, currents, hurricanes, and waves), control abrasion and prevent the intrusion of sea water to land; (2) biological function, is closely related to fisheries, namely as a nursery ground, feeding ground, and spawning ground for several species of fish and shrimp, and is a major supplier of nutrients on the coast, especially seagrass areas and coral reefs; (3) economic function, as a source of first-class wood, pulp, paper materials, chips, and charcoal.

The Forest Farmers Group (KTH) "SABUK HIJAU", which was formed in 2009 in Lembung Village, Galis Subdistrict, Pamekasan Regency, aims to maintain sustainability and small and medium business units that are a support for the economic stability of the community and no less important as a means for the community to live independently and try themselves with their creativity and abilities in the field of production for their survival and can mingle and further strengthen the bond of brotherhood. KTH Sabuk Hijau has 22 members who conserve, utilize, develop, and supervise <unk> 290,000 mangrove trees on an area of 46.00 ha.

3.2 Development Strategy

The concept of managing mangrove tourism development in Lembung Village, Galis District, Pamekasan Regency is currently still centralized in the Forest Farmers Group 'Green Belt'. Meanwhile, the Madura Forest Management Unit (KPH), as the

landowner, only monitors and supervises the mangrove forest located at that location. Furthermore, in planning the development of mangrove tourism in Lembung Village, Galis District, Pamekasan Regency, the concept of management is needed to realize the established managerial practices in its management.

The conception of management is designed based on the existing conditions of management and the needs of all parties, who play a role in the development of tourism in Lembung Village, Galis District, Pamekasan Regency. The problem that hinders the natural tourism management plan can be resolved immediately. Mangrove tourism management is needed to identify the necessary elements for the development of mangrove tourism as a whole. The participation of several parties in promoting tourism. mangrove nature is very necessary. Especially the participation of the community around the location. (13) explained that developing forest tourism requires cooperation between the community and the government. The level of participation is significantly affected by mentoring activities from extension workers (from the government) to the community and farmer groups.

In the local economy-based ecotourism development strategy, some identification is needed as a basis for reference, so that this development can be properly targeted. The results of research based on SWOT analysis are divided into 3, first, local economy-based mangrove ecotourism sustainability strategy, both internal factor strategies and external factor strategies.

In order to measure the potential of a tourist attraction according to (Christopher, 2008), there are four components that must be owned by a tourist attraction, including attractions, amenities, accessibility, and infrastructure.

Lembung Mangrove Ecotourism was built with the theme of educational tourism, where tourists can visit this place while learning how to breed, plant and cultivate various kinds of flora and fauna that exist. Ecotourism visitors are more prevalent among the general public, students, and students. Where can the general public visit mangrove ecotourism to enjoy the natural panorama available, while student visitors and students can focus more on education and research?

Attraction components in mangrove forests located in Lembung Village, Galis District, Pamekasan Regency include wooden trails, viewing posts, mangrove galleries, and people's boats. The owned attraction components can be developed and

adjusted to fit the development of the Lembung Village ecotourism area in Galis District.

The manager of a tourist site must have amenities, namely facilities, infrastructure, and accommodation, as this is a component that increases tourism capacity. The results of the study explain that the identification of amenity is quite lacking as evidenced by the facilities and infrastructure available so far are tracking, gazebos, toilets, photo spots, canteens and parking lots. Therefore, the manager will continue to carry out several discussions to improve facilities and infrastructure to improve the satisfaction of visitors who come to this ecotourism site. So that a targeted development strategy is needed, and the participation of the surrounding community and outsiders is needed to build supporting facilities. According to (Mufid et al., 2019). Facilities are an important part of ecotourism development. Ecotourism destinations must have environmental interests in mind and offer benefits to visitors. Facilities should be built as needed while maintaining the principles of nature.

In tourism, ease of access is the most important thing. In terms of tourism, any form of transportation is important for access. Conversely, transferability, the ease of moving from one place to another, has to do with this access. Tourists will not visit an area that is not accessible, such as airports, ports, and roads. If an area has tourism potential, then adequate accessibility must be available.

Lembung Village mangrove ecotourism has accessibility that includes access to the mangrove area in Lembung Village. This accessibility includes all types of transportation, both land, sea and air. However, intra-structure access to tourist sites, both inside and outside roads, still needs to be developed.

Mangrove Ecotourism Ansilari Lembung Village Galis District Pamekasan Regency

Ansilari are facilities that support tourism activities, and they prioritize the availability of public facilities and amenities that aid tourism activities, including banks, ATMs, telecommunications, hospitals, and other. On the other hand, ansilari also includes the presence of various organizations that assist and encourage tourism growth and relevant destination marketing. This is in line with (Nguyen et al., 2020) that tourism support activities start from mapping mangrove potential, The direction of mangrove development will be determined by the initial identification of mapping, so a clear classification is needed for each mapping. Because the location of Lembung Village mangrove ecotourism is close and

still far from the city center, the facilities that support it are lacking. Mangrove managers should improve these facilities.

Table 1: SWOT Analysis of Internal and External Factor Strategies.

Strengths	Weaknesses
Has rich and unique mangrove species	Access to ecotourism sites is still not comfortable to pass
Has beautiful natural beauty	Tracking in mangrove ecotourism lembung is a lot of damage.
Supporting mangrove forest conservation	Facilities and infrastructure available are still incomplete (toilets, prayer rooms, canteens etc.).
The main educational attraction in Pamekasan Regency	The parking lot is still less spacious and uncomfortable
Has processed products from various types of mangroves.	There is no product stand for processed mangrove species.
Having resources that are beginning to realize the importance of mangrove forest conservation.	
There is cooperation with various parties.	
Opportunities	Threats
Increase the economic income of the community around ecotourism through the development of mangrove processed products.	Competition from similar tourism.
Increase employment opportunities or businesses of the surrounding community (selling goods and services).	Illegal logging and reclamation of mangrove forests.
Policy support and training from the Government.	Garbage that is disposed of carelessly and garbage that is sent
Can contribute to increasing income for the village.	Destruction done by visitors.
Ecotourism ecotourism empowerment program from the government.	Conflicts between visitors and the surrounding community

Source: data processed by researchers

One way to achieve success in the development of an area is to involve the local community in the activities. This is necessary because they are the ones who will directly get the impact of these activities. In addition, the involvement of local communities is needed to foster a sense of belonging to the existing tourist attraction so that its utilization is directly felt by them, especially to increase income. The development and management of tourism objects will have a positive impact on sustainability and ecosystem preservation if the community is involved.

4 CONCLUSION

Lembung Mangrove Ecotourism has an impact on changes in the ecological, socio-cultural, and economic elements of the surrounding community, with both positive and negative impacts. Managers, awareness of the surrounding community, and tourists have an impact on environmental preservation. SWOT analysis for Lembung Mangrove Ecotourism Development for Socio-Economic Strengthening of Lembung Village Community supports an aggressive strategy because developing ecotourism and improving the socio-economy of the surrounding community must optimize strengths by using available opportunities. Good institutions are necessary to effectively develop the socio-economic side in the development of business units, for instance. Based on the findings of the research results, there are several recommendations that can be given, namely the need for follow-up discussion on the strategies of the results of the SWOT analysis offered. SWOT analysis offered. To develop ecotourism in Madura, it is necessary to conduct a discussion forum to formulate steps to be taken. mangrove ecotourism development. In addition, assistance is needed from the government, especially the tourism office of academics, and the private sector.

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