

Community Perceptions on the Development of Indah Beach Marine Ecotourism Activities in Tanjung Aru Village, Sebatik Timur District, Nunukan Regency, North Kalimantan Province

Persepsi Masyarakat terhadap Pengembangan Ekowisata Bahari Pantai Indah di Desa Tanjung Aru, Kecamatan Sebatik Timur, Kabupaten Nunukan, Provinsi Kalimantan Utara

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Abstract

Received
31 August 2024

Accepted
26 October 2024

Understanding community perceptions can help to minimize resistance and, on the other side, can maximize community participation in marine ecotourism management. High community support is the key to successful development of marine ecotourism activities. The purpose of this study was to determine the public's perception of the development of marine ecotourism activities at Indah Beach, Tanjung Aru Village, based on the indicators of the Ministry of Tourism. Primary data was taken in August 2023; research and data collection methods used case studies and purposive sampling techniques with a sample size of 30 respondents. The data were analyzed using descriptive statistical methods and a Likert measurement scale. The results showed that people's perceptions of the development of marine ecotourism activities at Pantai Indah based on five ecotourism principles with a score of 79.76, which is in the range of 51.31 - 80.60 with the criteria "Moderate," which means that in general the community Agrees with what is being done by the management of Pantai Indah towards the development of marine ecotourism activities in Tanjung Aru Village. The community considers that the capacity in the Indah Beach environment has been considered and managed following acceptable limits in nature and socio-culture, has adequate public facilities, and has homestays for lodging with feasibility standards following tourist sites.

Keywords: Marine Ecotourism, Community Perception, Development

Abstrak

Memahami persepsi masyarakat dapat membantu meminimalisir resistensi dan memaksimalkan partisipasi masyarakat dalam pengelolaan ekowisata bahari. Dukungan masyarakat yang tinggi merupakan kunci keberhasilan pengembangan kegiatan ekowisata bahari. Tujuan penelitian ini adalah untuk mengetahui persepsi masyarakat terhadap pengembangan kegiatan ekowisata bahari di Pantai Indah Desa Tanjung Aru berdasarkan indikator Kementerian Pariwisata. Data primer diambil pada bulan Agustus 2023, metode penelitian dan pengambilan data menggunakan studi kasus, pengambilan sampel menggunakan teknik *purposive sampling* dengan jumlah sampel sebanyak 30 responden. Data penelitian dianalisis dengan metode statistik deskriptif menggunakan skala pengukuran *skala likert*. Hasil penelitian menunjukkan bahwa persepsi masyarakat terhadap pengembangan kegiatan ekowisata bahari di Pantai Indah berdasarkan 5 prinsip ekowisata dengan skor 79,76 yang berada

pada kisaran 51,31 – 80,60 dengan kriteria “Sedang” yang artinya secara umum masyarakat Setuju dengan apa yang sedang dilakukan pihak pengelola Pantai Indah terhadap pengembangan kegiatan ekowisata bahari di Desa Tanjung Aru. Masyarakat menganggap jika kapasitas daya tampung di lingkungan Pantai Indah sudah di perhatikan dan dikelola sesuai dengan batas-batas yang dapat diterima dengan baik dari segi alam maupun sosial budaya, mempunyai fasilitas-fasilitas umum yang cukup memadai dan memiliki *homestay* untuk penginapan dengan standar kelayakan yang sesuai dengan lokasi wisata.

Kata kunci: Ekowisata Bahari, Persepsi Masyarakat, Pengembangan

1. Introduction

Nunukan Regency has an area of 14,247.50 Km² and Nunukan Regency is divided into 21 sub-districts including South Krayan, Central Krayan, Krayan, East Krayan, West Krayan, Lumbis Ogong, Lumbis Pansiangan, Lumbis Hulu, Lumbis, Sembakung Atulai, Sembakung, Sebuku, Tulin Onsoi, Sei Menggaris, Nunukan, South Nunukan, West Sebatik, Sebatik, East Sebatik, Central Sebatik, and North Sebatik ([Badan Pusat Statistik Kabupaten Nunukan, 2020](#)).

Sebatik Timur District has an area of 39.17 km² consisting of 4 villages, including Sungai Nyamuk Village, Tanjung Aru Village, Bukit Aru Indah Village, and Tanjung Harapan Village. Tanjung Aru Village is one of the villages that has a well-known beach attraction, namely the Indah Beach. As a tourist attraction, Indah Beach also provides complete facilities for visitors whose purpose is to attract tourists to visit Indah Beach.

Ecotourism activities are a form of tourism managed with a conservation approach, in addition to conserving or preserving ecotourism as a sustainable development tool that provides long-term social, environmental, and economic benefits and is an appropriate priority in the country's economic development ([Masyudi & Murianto, 2018](#)). Ecotourism is an effort for the government and the private sector to promote an area or region as a tourist destination, which will expand employment and improve the economy of residents because ecotourism will encourage strategic business units, including vehicle parking, souvenir businesses, toilets, and restaurants that will increase the income of the local community ([Ariani & Hayati, 2020](#)).

[Imanuddin et al. \(2019\)](#) State that beaches are attractive to tourists because of their variable atmosphere and form, based on aspects of integrated management, conservation, and exploration. Ecotourism development is expected to enable sustainable ecosystem management ([Fandeli & Mukhlison, 2000](#)). Beach tourism has advantages, including the Indah Beach located in Tanjung Aru Village. This beach has an area of 2,914 m² ([Kementerian Pariwisata dan Ekonomi Kreatif Indonesia, 2020](#)). This beach is never empty of visitors or tourists from various regions or outside the country, such as Tawau Malaysia, Nunukan, Tarakan, and other areas.

Indah Beach is managed by the village government, which involves the local community in its management. Community involvement in planning the determination of tourist attractions, as well as marine tourism sector development plans such as the installation of paving in the Indah beach area, the provision of sea games, and coastal greening activities, namely planting mangrove trees that can prevent coastal abrasion. Following the condition of the area and the natural beauty in Tanjung Aru Village, Indah Beach has an excellent opportunity to develop and improve the socio-economy of the community. The natural charm has the potential to increase the attractiveness of local and foreign tourists spending time on weekends, which has the opportunity to increase the number of tourist visits to Indah Beach.

The availability of facilities and infrastructure at Indah Beach includes parking areas, meeting halls, bathrooms, prayer rooms, photo spots, gazebos, stalls, and children's play areas to attract tourists to visit this beach because facilities such as home stays visitors from outside the region do not need to rent lodging far away. In addition, the available stalls provide a wide selection of food and drinks for visitors. The people who open the stalls come from residents around Indah Beach, so the existence of this beach tourism can improve the economy of the surrounding community. Although there are many facilities, community involvement in the development of marine ecotourism activities at Indah Beach is still not optimal because the perception of the entire community about culture and natural beauty that has the potential and selling value to increase economic levels with the concept of marine ecotourism.

To develop a beautiful beach tourist attraction, it is necessary to get consideration from various stakeholders related to the planning and development of marine ecotourism activities on the beautiful beach of Tanjung Aru Village, so we need to see their perceptions. Perception is a psychological process by which a person understands the information received through his five senses: sight, hearing, smell, and feeling; this process involves receiving, organizing, and interpreting sensory information from the surrounding environment. People's perception of the same thing varies depending on their background, experience, and psychological state.

2. Material and Method

2.1. Time and Place

This research was conducted from May 2023 to January 2024. The research location was the Pantai Indah area of Sebatik Timur sub-district, Nunukan Regency.

2.2. Methods

This research uses the case study method. Case studies investigate certain events or phenomena, such as life history subjects, and obtain comprehensive information (Walgito, 2010). This study's sample was determined using a purposive sampling method, which uses specific criteria based on the researcher's objectives. In determining the sample, Sugiyono (2019) suggested that the appropriate sample size for research is between 30 and 500.

2.3. Data Analysis

The analysis method uses descriptive quantitative with frequency distribution and is supported by qualitative analysis. Public perception is measured using the Likert Scale method. The Likert scale measures respondents' opinions and perceptions about the subject determined by the researcher.

Alternative answers using a Likert scale, namely by giving a score to each answer. The alternative questions are as follows:

Table 1. Scoring determination

No	Answer Scoring	Score Value
1	Strongly Agree (SS)	5
2	Agree (S)	4
3	Moderately Agree (CS)	3
4	Disagree (TS)	2
5	Strongly Disagree (STS)	1

The formula below is used to determine the number of interval classes (Sugiyono, 2019):

$$C = \frac{X_n - X_i}{k}$$

Description:

C = Class Interval

X_i = Minimum Score

X_n = Maximum Score

K = Number of Classes

Table 2. Class Interval based on indicators of community perceptions of the development of marine ecotourism activities

No	Perception Indicator	Interval Class	Level	Criteria
1.	Economic, Social and Environmental Sustainability	3,00 – 7,00	Low	Disagree
		7,01 – 11,00	Medium	Agree
		11,01 – 15,00	High	Strongly Agree
2.	Development of Local Community Institutions and Partnerships	5,00 – 11,70	Low	Disagree
		11,71 – 18,40	Medium	Agree
		18,41 – 25,00	High	Strongly Agree
3.	Community-Based Economy	4,00 – 9,30	Low	Disagree
		9,31 – 14,60	Medium	Agree
		14,61 – 19,90	High	Strongly Agree
4.	Education and Nature Tourism Principles	3,00 – 7,00	Low	Disagree
		7,01 – 11,00	Medium	Agree
		11,01 – 15,00	High	Strongly Agree
5.	Development of Ecotourism Site Plan and Management Framework	7,00 – 16,30	Low	Disagree
		16,31 – 25,60	Medium	Agree
		25,61 – 35,00	High	Strongly Agree

3. Result and Discussion

3.1. General Description of Indah Beach

Pantai Indah is a tourist attraction located on Jalan Labora Muna RT 03 Tanjung Aru Village, East Sebatik District, Nunukan Regency, North Kalimantan. This beach tourism was built in 2020 through the Regional Socio-Economic Infrastructure Development program. At first, this Indah beach was just an ordinary beach with nipa trees. However, thanks to the support of the sub-district, district, provincial, and central governments, the 2020 and 2021 Regional Socio-Economic Infrastructure Development (PISEW) program from the Ministry of Public Works and Public Housing (PUPR) has turned it into a tourist spot (Pemerintah Desa Tanjung Aru, 2023).

Indah Beach is equipped with a gazebo as a rest area for visiting tourists and a multipurpose building that can be used to carry out various activities. Pantai Indah also has booths and stalls available. Indah Beach Tourism sets the entrance ticket fee for each visitor to a nominal amount of IDR.2,000 per person, while children under ten

years old are not charged an entrance fee. The visiting time of the Indah beach tour is from 08.00 - 23.00 WITA daily.

3.2. Respondent Characteristic

The characteristics of respondents based on age are dominated by respondents aged 23-30, as many as 15 people or with a percentage of 50%; gender is dominated by women, namely 16 people with a total percentage of 53.33%; ethnicity is dominated by Bugis tribe respondents, namely 25 people or with a percentage of 83.33%, the level of education is dominated by respondents who have a Diploma / Bachelor's degree as many as 15 people with a total percentage of 50%, the number of dependents is dominated by respondents who have 4-6 dependents, namely 16 people with a total percentage of 53%, the type of work is dominated by respondents who work as self-employed, namely 14 people or with a percentage of 46.67% and income is dominated by respondents with an income of IDR. 500,000. 500 000-.2,000,000/month or with a percentage of 60%.

3.3. Analysis of Community Perceptions of the Development of Marine Ecotourism

Ecotourism is a tourist trip that focuses on environmental sustainability, the community's welfare around Indah Beach, and developments that can impact economic, social, and ecological aspects. Community-based marine ecotourism can provide economic and social benefits for local communities and preserve the natural environment (Suparma, 2018; Arimawan & Suwendra, 2022). Based on the results of interviews with people involved in the development of ecotourism activities at Pantai Indah, their perceptions of the sustainability of ecotourism in terms of economic, social, and environmental aspects can be seen in Table 3.

Table 3. The level of community perception of the sustainability of ecotourism from economic, social, and environmental aspects

No	Interval Class	Level	Score Value	Criteria
1	3,00 – 7,00	Low		
2	7,01 – 11,00	Medium	10,53	Agreed
3	11,01 – 15,00	High		

Table 3 shows that people's perceptions of the sustainability of ecotourism from the economic, social, and environmental aspects are in the range of 7.01 - 11.00, with a score of 10.53 with the criteria "Moderate." This can be seen in ecotourism, which is managed by following acceptable economic, natural, and socio-cultural limits. Based on the economic aspect, it has been well handled by the manager of Indah Beach. This tour will have a sustainable economic impact on the community. From the social aspect, management in collaboration with the community institution, in this case, is the BUMDES management, which encourages cooperation with other parties or related agencies such as the Tourism Office. From the environmental aspect, it can be seen from the development and management of Indah Beach, which does not damage the environment. The capacity of the Indah Beach environment has been considered by limiting the number of tickets sold to a maximum of 300 visitors/day. According to Sari et al. (2021), this aims to make the activities carried out by visitors or tourists easier to supervise and to avoid unwanted things. The above is done to make it easier to monitor the activities of visitors or tourists and prevent undesirable things from happening. In addition, the electricity source at Indah Beach already comes from PLN, and the water source is from a borehole well whose flowing process is assisted by a tool in the form of a sanyo machine, so it can be concluded that this method is not included in environmentally friendly technology.

According to Erwianto et al. (2020), the level of sustainability of ecotourism management based on economic, social, and environmental aspects is high. This can be seen from the capacity of the beach environment, which is evidenced by the number of tickets sold that have been limited in number. This is with the aim that activities carried out by visitors, or tourists are more accessible to supervise and to avoid unwanted things. Based on the results of interviews with the management community of Pantai Indah, the value of community perceptions of the development of community institutions and partnerships of Pantai Indah can be seen in Table 4.

Table 4. Criteria for the level of community perception of the development of local community institutions and partnerships

No	Interval Class	Level	Score Value	Criteria
1	5,00 – 11,70	Low		
2	11,71 – 18,40	Medium	18,30	Agreed
3	18,41 – 25,00	High		

Table 4 shows community perceptions of the development of local community institutions and partnerships with a score of 18.30, in the range of 11.71 - 18.40, with the criteria "Moderate." This can be seen from the beach management has not cooperated with the tourism office to market and promote ecotourism, as well as a fair share in terms of income from ecotourism services for people who participate in the management of Pantai Indah, because currently, the development and management is managed by the Village-Owned Enterprises (BUMDES) board and also involves the local community for the provision of supporting services and tourist facilities. Erwianto et al. (2020) consider that if the level of sustainability of ecotourism management based on aspects of

developing local community institutions and partnerships can be seen by beach managers working with community institutions and tourism offices, ecotourism products can be recognized and well received among outside communities and will make it easier to market and promote ecotourism products.

To improve the economy of the Pantai Indah area, increasing active and creative community economic participation is essential to ensure that ecotourism not only provides economic benefits to local communities but also preserves and promotes the cultural, environmental, and social heritage of the communities around Indah Beach. Based on the results of interviews with the management community of Pantai Indah, the value of community perceptions of the community-based economy can be seen in Tables 5, 6, and 7.

Table 5. Level of community perception of the Community-based economy

No	Interval Class	Level	Score Value	Criteria
1	4,00 – 9,30	Low		
2	9,31 – 14,60	Medium	13,60	Agreed
3	14,61 – 19,90	High		

Table 6. Level of community perception of the community-based economy

No	Interval Class	Level	Score Value	Criteria
1	3,00 – 7,00	Low		
2	7,01 – 11,00	Medium	12,63	Totally Agreed
3	11,01 – 15,00	High		

Table 7. Level of community perception of the site plan and framework

No	Interval Class	Level	Score Value	Criteria
1	7,00 – 16,30	Low		
2	16,31 – 25,60	Medium	24,70	Agreed
3	25,61 – 35,00	High		

Table 7 shows people's perceptions of the development and implementation of site plans and ecotourism site management frameworks with a score of 24.70 with "Moderate" criteria. It can be seen that ecotourism activities at Pantai Indah have paid attention to the number of visitor capacity and limited visiting time, supporting facilities that are built do not damage the environment, public facilities are adequate, and there are already available landfills along the beach area. According to [Erwianto et al. \(2020\)](#), the level of sustainability of ecotourism management based on the principle aspects of the development and application of this site plan can be seen if the supporting facilities built around the beach environment are not destructive because the manager has considered that as much as possible does not damage if a building is erected to support the running of ecotourism activities properly.

Based on the results of interviews with the management community of Indah Beach on the Principles of Community-Based Marine Ecotourism. The recapitulation of the results can be seen in Table 8.

Table 8. Recapitulation of people's perceptions of marine ecotourism activities at Indah Beach

No	Perception Indicator	Interval Class	Level	Score Value	Criteria
1.	Economic, Social and Environmental Sustainability	3,00 – 7,00	Low	10,53	Agreed
		7,01 – 11,00	Medium		
		11,01 – 15,00	High		
2.	Development of Local Community Institutions and Partnerships	5,00 – 11,70	Low	18,30	Agreed
		11,71 – 18,40	Medium		
		18,41 – 25,00	High		
3.	Community-Based Economy	4,00 – 9,30	Low	13,60	Agreed
		9,31 – 14,60	Medium		
		14,61 – 19,90	High		
4.	Education and Nature Tourism Principles	3,00 – 7,00	Low	12,63	Agreed
		7,01 – 11,00	Medium		
		11,01 – 15,00	High		
5.	Development of Ecotourism Site Plan and Management Framework	7,00 – 16,30	Low	24,70	Agreed
		16,31 – 25,60	Medium		
		25,61 – 35,00	High		
	Cumulative Score of Community Perceptions of Ecotourism Development	22,00 – 51,30	Low	79,76	Agreed
		51,31 – 80,60	Medium		
		80,61 – 110,00	High		

Based on Table 8, it can be seen that people's perceptions of the development of marine ecotourism activities at Pantai Indah based on five ecotourism principles with a score of 79.76 which is in the range of 51.31 - 80.60 with the criteria "Moderate," meaning that the community agrees with what is being done by the management of Indah Beach towards the development of ecotourism activities, the community considers that if the capacity of

capacity in the environment of Indah Beach has been considered and managed following acceptable limits both in terms of nature and socio-culture. Sufficient public facilities and a homestay for lodging with feasibility standards following the tourist location. Perceptions of the sustainability of positive ecotourism development can also be seen from the facilities provided by Indah Beach, which continue to be developed with a note to minimize the impact of natural damage around Indah Beach. With the development of marine ecotourism, the beach can change people's views on various matters, such as protecting the surrounding nature. Indirectly, developing marine ecotourism at Indah Beach can improve the area's economy around Indah Beach, and multiple opportunities can be developed.

The research respondents considered that the capacity in the Panrita Lopi Beach environment had been considered and managed according to acceptable limits regarding nature and socio-culture. The research on "Community Perceptions of the Development of Marine Ecotourism Activities on Mutiara Indah Beach, Muara Badak District, Kutai Kartanegara Regency" by Sari et al. (2021), the results showed that, in general, the community has a positive perception of the sustainability of the management of marine ecotourism on Mutiara Indah Beach, Tanjung Limau Village by 91.02%

4. Conclusions

Community perceptions of the development of marine ecotourism activities at Indah Beach based on five ecotourism principles with a score of 79.76, which is in the range of 51.31 - 80.60 with the criteria "Moderate," meaning that the community agrees with what is being done by the management of Indah Beach towards the development of ecotourism activities, the community considers that the capacity of capacity in the environment of Indah Beach has been considered and managed following acceptable limits both in terms of nature and socio-culture. It has sufficient public facilities and a homestay for lodging, with feasibility standards that follow tourist sites. Perceptions of the sustainability of positive ecotourism development can also be seen from the facilities provided by Indah Beach, which continue to be developed with a note to minimize the impact of natural damage.

5. Suggestion

There is a need to cooperate with the local Tourism Office and Community Institutions such as POKDARWIS and Youth Organizations for the development of the Indah Beach area and the participation of the surrounding community in the implementation process to preserve the Indah Beach area. Also, there needs to be a waste management system, such as recycling, to reduce pollution due to waste. Waste management can also increase knowledge, hone creativity, and increase ecotourism income at Indah Beach.

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