

## **SWOT ANALYSIS FOR SUSTAINABLE INTEGRATED ECOTOURISM DEVELOPMENT SEBRANG FISHING VILLAGE, BELAWAN 1 MEDAN**

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### **ABSTRACT**

This study aimed to analyze the potential for sustainable integrated ecotourism development in Sebrang Fishing Village, located in Belawan 1 Village, Medan City, North Sumatra Province, Indonesia. Drawing on the SWOT method, the research examined the socio-economic and environmental conditions of the village, as well as its cultural heritage, to identify opportunities and challenges for ecotourism development. The findings revealed various strengths, weaknesses, opportunities, and threats (SWOT) impacting the village's tourism potential. Strengths include unique coastal stilt houses and community cohesion, while weaknesses encompass dilapidated infrastructure and limited financial resources. Opportunities lie in leveraging cultural heritage and environmental assets, while threats include environmental degradation and socio-economic vulnerabilities. Based on the analysis, recommendations are proposed to enhance strengths, address weaknesses, capitalize on opportunities, and mitigate threats, facilitating the sustainable development of ecotourism in Sebrang Fishing Village.

**Keywords:** sustainable development; ecotourism; SWOT analysis

### **INTRODUCTION**

The natural wealth and cultural heritage of Indonesia are renewable natural resources that have great potential for national income. The tourism sector contributes to the increase in foreign exchange and economic development in Indonesia (Aribowo et al., 2018). The tourism sector's contribution to Indonesia nationally created a transaction value contribution of Rp. 634 trillion in 2017, experiencing an 8.4% increase compared to 2016 (Nesparnas 2017).

Indonesia, as one of the largest archipelagic countries with nearly 70-75% of its territory surrounded by the sea, relies on marine natural resources for livelihoods, encompassing nature, livelihoods, and local cultural wisdom (Kementerian Kelautan dan Perikanan Indonesia, 2002). "Back to Nature" is one of the tendencies in shifting tourism direction based on cultural arts to return to nature, a movement to enjoy the beauty of nature (ecotourism) and the community's life with all its local wisdom in living in harmony with its environment (Kriska et al., 2019). The concept of ecotourism highly emphasizes sustainable integration between nature and culture, referring to economic, environmental, and cultural aspects of local wisdom, which not only support ecological preservation but also provide economic and cultural benefits to the local communities (Harto et al., 2021).

Geographically, Indonesia, known as a maritime or sea country, naturally has coastal areas inhabited by fishing communities. Fishing communities are part of the local population whose livelihoods and lives are sustained by the sea, growing and developing between the marine and terrestrial regions, forming a system of survival consisting of social categories that shape social unity, with cultural values and symbols as references for their daily behavior (Kusnadi et al., 2004).

Sebrang Fishing Village, located in Belawan 1 Village, Belawan District, Medan City, North Sumatra Province, is a coastal area inhabited by fishing communities, with a total area of 26.25

square kilometers and a population density of 4,187 people per square kilometer (BPS Medan, 2002). Sebrang Fishing Village is a fishing village accessible within about an hour's journey from Medan City by both four-wheel and two-wheel vehicles, followed by a boat ride to the village. The village, situated at sea level, is geographically bordered by:

- 1) North: Paluh Kurau Village
- 2) South: Muara Belawan
- 3) East: Paluh Nonang
- 4) West: Paluh Lumbu.

Initially, Sebrang Fishing Village was an uninhabited area. However, over time, due to issues such as tidal fluctuations, sea winds, and the effectiveness of maritime work, fishermen who originally resided in ship decks or boats chose to settle in the area, which they considered safe for living amidst the ocean. This situation led to adaptation to their environmental conditions. One of the difficulties that emerged was the minimal access and increased estimated costs associated with reaching the area (Bapenas, 2002).

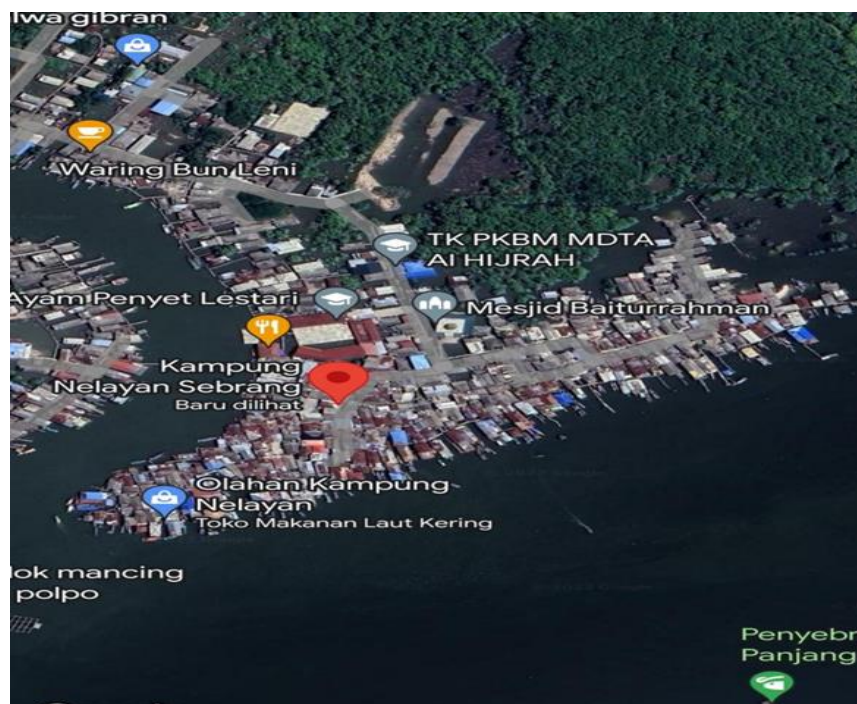


Figure 1 The Map of Sebrang Fishing Village

The aim of this research analysis was to assess the potential for sustainable integrated ecotourism development in Sebrang Fishing Village, located in Belawan 1 Village, Medan City, North Sumatra Province, Indonesia. The analysis will focus on understanding the current socio-economic and environmental conditions of the village, as well as its cultural heritage, in order to identify opportunities and challenges for ecotourism development.

### LITERATURE REVIEW

A tourism village is a place that captures the authentic feel of a village, including its social life, culture, unique surroundings, and economic activities. It's a place where visitors can experience the genuine atmosphere of village life, including its traditions, architecture, and community activities. These villages offer attractions like local foods, souvenirs, and accommodations to attract tourists (Putra & Nasution, 2018),

Ecotourism is a type of tourism that focuses on enjoying nature while also ensuring the preservation and sustainability of the environment. It aims to support the prosperity of local

communities. Ecotourism aligns closely with conservation principles, emphasizing the importance of protecting natural resources. Even during development, ecotourism strategies prioritize conservation efforts (Rahmat et al., 2020)

While Sustainable development involves harmonizing, integrating, and balancing environmental, economic, and social aspects of culture. It aims to ensure that growth and progress occur in a way that is environmentally friendly, economically viable, and socially equitable (Rahmat et al., 2020).

## METHODS

This research employed a qualitative approach with a descriptive method to generate descriptive data from literature studies, aiming to gain an in-depth understanding of the issues and their resolutions. The data are analyzed using the SWOT Analysis Method based on the logical relationship between Strengths and Opportunities, Weaknesses and Threats, as a comparison of internal and external factors. This process leads to the development of strategies for sustainable integrated ecotourism development.

## RESULTS AND DISCUSSION

The success of developing and enhancing an ecotourism area requires balanced and sustainable integration of environmental, economic, and socio-cultural aspects (Goeldner, C.R & Ritchie, J.R.B, 2004). This is also the reason behind the concept of sustainable tourism, which advocates for tourism governance that is ecologically supportive, economically viable, and socially fair to the community (Haryanto, J.T, 2014). Communities are considered as key players in a tourist area, where they are empowered as good hosts for tourists to increase awareness of utilizing existing potentials for economic welfare improvement, thereby fostering a sense of ownership and responsibility towards their environment sustainably. The factors necessary for communities to develop an ecotourism area include physical, financial, environmental, technological, human, and social capital (Green JP., 2010).

1. Physical Capital Consists of two groups: buildings and infrastructure. Buildings include residential houses, shops, and other facilities, while infrastructure includes roads, bridges, clean water facilities, telecommunication networks, and others.
2. Financial Capital Financial support available within a community that can be used to finance development processes within the area.
3. Technological Capital Availability of appropriate technology beneficial to the community.
4. Human Resources Capital Quality human resources that support community life, divided into several indicators such as education level, skills, health status, and the majority age of the population.
5. Environmental Capital Environmental potential that can be utilized to increase its economic value, as well as having high value in conservation efforts and ensuring quality of life, including potential disaster risks and access to natural resources.
6. Social Capital Norms or rules within the community that bind residents together, regarding behavioral patterns, trust elements, and networks among community groups.

The following is the descriptions of SWOT Analysis.

### 1. Strengths

Strengths in SWOT refer to internal initiatives that perform well, which can be compared to other initiatives or external competitive advantages. Understanding the strengths element can help understand aspects that have been successful and can then be reused as techniques that have previously succeeded as strengths.

No	Capitals	Strengths (S)
1	Physical	1) Stilt houses of coastal communities (Fishermen) situated

		<p>above the sea, are a characteristic feature of residential homes as well as places for daily activities of coastal communities.</p> <ol style="list-style-type: none"> <li>2) The road network constructed with nibung wood and arranged with planks that can only be used for two-wheeled vehicles and pedestrians.</li> <li>3) Telecommunication access with good communication network signals.</li> <li>4) Facilities include places of worship (mosque), elementary school (SDN 068009), kindergarten (TK), and rural health posts (Poskesdes).</li> </ol>
2	Financial	<ol style="list-style-type: none"> <li>1) Assistance programs from Bank Sumut for mangrove planting and shrimp cultivation activities managed by the Tunas Muda Group.</li> <li>2) Micro, Small, and Medium Enterprises (UMKM) managing marine products.</li> </ol>
3	Technology	<ol style="list-style-type: none"> <li>1) Technology for capturing marine products, including ship technology, small shrimp-catching boat production, and net-making.</li> </ol>
4	Human Resources	<ol style="list-style-type: none"> <li>1) Self-taught skills in capturing marine products.</li> <li>2) Strong and solid community system in managing the Tunas Muda Fishermen Group.</li> </ol>
5	Environmental	<ol style="list-style-type: none"> <li>1) Natural resources such as marine products and mangroves directly located above the sea.</li> </ol>
6	Social	<ol style="list-style-type: none"> <li>1) Network of fishermen groups related to the fisheries sector.</li> <li>2) Culture of mutual cooperation and interconnectedness in family relationships, as well as decision-making through deliberation.</li> <li>3) Established trust system between capital owners or ship owners in joint efforts with profit-sharing systems between capital owners and fishermen.</li> </ol>

## 2. Weaknesses

Weaknesses in SWOT refer to internal initiatives that perform poorly. Analyzing strengths before weaknesses to create a foundation for success and failure is a good idea, but identifying internal weaknesses provides a starting point to anticipate shortcomings in efforts to maintain and improve better quality.

No	Capitals	Weaknesses (W)
1	Physical	<ol style="list-style-type: none"> <li>1) Dilapidated housing with poor sanitation.</li> <li>2) Environmental road access constructed with simple construction relying on nibung wood and planks, slippery and many are broken.</li> <li>3) Difficulty in accessing clean water due to the area being above the water and brackish water, relying on rainwater and limited purchased clean water for consumption.</li> <li>4) Only one place of worship due to the majority of adherents to the same religion, school facilities only include kindergarten and elementary school, and there is no Inpatient Clinic with adequate health facilities.</li> <li>5) Difficulty in obtaining fuel for boat operations due to the unavailability of refueling stations.</li> </ol>
2	Financial	<ol style="list-style-type: none"> <li>1) Poor and impoverished community.</li> <li>2) Lack of banking facilities for financial activities, such as banks or cooperatives.</li> <li>3) Limited financial literacy for knowledge of savings and loan</li> </ol>

		financial systems for business capital and credit, still relying on conventional financial management systems.
3	Technology	2) Technology for capturing marine products, including ship technology, small shrimp-catching boat production, and net-making.
4	Human Resources	1) On average, education levels are low and dropout rates are high. 2) Limited experts and educated personnel to support human resources in the area, including education, health, and fisheries and tourism management administrative systems. 3) The average age is productive. 4) Lack of human resources managing the tourism system.
5	Environmental	1) The area is influenced by tidal potential and sea winds. 2) Increasing mud sedimentation at the estuary makes it difficult for boats to dock alongside fishermen's houses. 3) Access to the location can only be done through sea travel with fishermen's boats. 4) Poor environmental quality with lots of waste and poorly planned sanitation and disorderly arrangement. 5) Damaged aquatic environment due to waste resulting in decreased marine biota. 6) Unclear land status as it is built above the water, but still bound by rules not to expand into mangrove conservation areas.
6	Social	1) Cultural weakening due to weak education and invasion of external influences from information access. 2) Poverty and low education leading to social behavioral deviations.

### 3. Opportunities

Opportunities in SWOT arise from the strengths and weaknesses present, along with any external initiatives that will occupy a stronger competitive position. These can be anything from weaknesses that need to be anticipated, improved, or areas that were not identified in the first two phases of the analysis.

No	Capitals	Opportunities (O)
1	Physical	1) Unique coastal stilt houses architecturally can be rented out as temporary accommodations (homestays) with the characteristic of coastal stilt houses and all their local activities as value-added elements for tourism. 2) The condition of a small area accessible only by certain vehicles and prioritizing pedestrians also creates comfort and privacy in a tourist area. 3) Wireless communication network access can help access the activities of fishermen and their processed products. 4) Places of worship, schools for fishermen's children, and village health posts add to community service facilities. 5) Access to electricity from the national electricity company (PLN).
2	Financial	1) Economic support from sustainable cultivation activities with mangrove conservation and increased fishery processing activities.
3	Technology	1) Shipbuilding skills can be enhanced to become a shrimp-catching boat manufacturing industry and net-making products, as well as educational marine and fisheries tourism attractions.

4	Human Resources	1) Availability of generational fishermen with natural marine product capture systems. 2) When managed properly to create compliant and solid tourist participants.
5	Environmental	1) Mangrove tourism potential that can be developed sustainably and continuously. 2) Culinary tourism potential and fisheries products.
6	Social	1) Establishment of fisheries information and sea condition systems with fishermen's organizations. 2) Comfortable social environment conditions due to kinship systems. 3) High trust system supporting each other in socio-economic life between ship owners and marine product catchers.

#### 4. Threats

Threats in SWOT refer to areas that have the potential to cause problems. Threats differ from weaknesses because threats are external and generally beyond control. This can include anything from global pandemics to changes in the competitive landscape.

No	Capitals	Treats (T)
1	Physical	1) Collapsing houses due to lack of proper construction support, resulting from tidal fluctuations and sea wave impacts. 2) Poorly organized roads in the area, leading to unhealthy conditions and vulnerability to disease spread due to lack of access to clean water and knowledge about proper sanitation and healthy environmental practices.
2	Financial	1) Formation of certain societal layers that can intervene in the socioeconomic system of fishermen. 2) The fixed auction system will continue to be exploitative, causing fishermen to live in dire economic conditions.
3	Technology	1) Human resources will continue to decline in capabilities because they rely on traditional technology systems, so they will not be able to compete in terms of quality with time and cost.
4	Human Resources	1) Increase in crime rates due to poverty, low education, and isolated conditions. 2) Not relying on positive law because they exploit local resources that are not adequately monitored by the government.
5	Environmental	1) Degradation of the aquatic environment due to low knowledge and awareness of natural resource conservation. 2) Uncontrolled settlement development leading to damage to waterways and mangrove areas.
6	Social	1) Poor and overcrowded conditions will lead to an increase in criminal behavior.

Understanding the SWOT factors was expected to help formulate strategies for planning, managing, and developing sustainable Integrated Ecotourism in Sebrang Fishing Village, Belawan I, Medan. Considerations that needed to be made to enhance strengths, address

weaknesses, leverage opportunities, and face threats.

### CONCLUSION

Based on the analysis conducted using the SWOT method on aspects that need to be considered as assets for developing the potential of an integrated and sustainable tourism area in Sebrang Fishing Village, Belawan 1, Medan, the following conclusions can be drawn:

No	Capitals	SWOT
1	Physical	<ol style="list-style-type: none"> <li>1) Community and government support in efforts to increase revenue from tourism sectors and promote Integrated and Sustainable Ecotourism. Collaboration can be proposed for the development of infrastructure that is environmentally friendly and culturally oriented without compromising local vernacular character.</li> <li>2) Uniquely designed coastal stilt houses can be rented out as temporary accommodations (homestays) to attract tourists, provided they are well-constructed following proper construction standards, thereby adding uniqueness and value to attract visitors.</li> <li>3) Additional environmental support facilities such as healthcare, education, and adequate facilities for fishing and tourism activities should be added.</li> <li>4) Support for clean and adequate environmental infrastructure, including clean water, sanitation, and waste management towards an ecologically based zone.</li> </ol>
2	Financial	<ol style="list-style-type: none"> <li>1) Support from various stakeholders for financial management governance systems. The fishery cooperation system built with support from the Government, banking, and other related private sectors, following legal principles. This includes guidance on financing, fishing methods, processing, selling, and managing financial patterns more independently, aiming for resilience and independence in financial systems built collectively by fishermen groups.</li> </ol>
3	Technology	<ol style="list-style-type: none"> <li>1) Technology awareness should be introduced through education on the functions of technological equipment to support fishing activities, making them more efficient in terms of time and quality. Traditional techniques in shipbuilding can be supported by modern equipment to increase ship production and marine product yields.</li> </ol>
4	Human Resources	<ol style="list-style-type: none"> <li>1) The need for both formal and informal education improvement for school-age and productive age groups to enhance knowledge. Collaboration and integrated support from various stakeholders are essential to support fishermen communities with good fishery systems.</li> </ol>
5	Environmental	<ol style="list-style-type: none"> <li>1) Support from various parties to continue preserving the ecology as a source of life for coastal fishing communities. Government policies are required to provide regulations supporting good environmental sustainability, especially regarding coastal areas, such as mangrove preservation, settlement arrangements, and waste management.</li> </ol>
6	Social	<ol style="list-style-type: none"> <li>1) Social capital preservation mechanisms starting from fishermen households, communities, and society, such as uniting social solidarity and creating rules to improve the</li> </ol>

		<p>socio-economic life of coastal fishing communities.</p> <p>2) The maintenance of security and order within the kinship system and mutual cooperation needs to be enhanced as social environmental assets that create a comfortable atmosphere for tourists.</p>
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