

STUDY OF SETTLEMENTARY AREA ARRANGEMENT AND FISHERY ACTIVITIES IN SEBERANG BELAWAN FISHERMAN VILLAGE AS PART OF TOURISM

Yustina Rizki Hasibuan

Universitas Pembangunan Panca Budi

Received : 25 July 2025

Revised : 01 August 2025

Accepted : 10 August 2025

Published : 28 August 2025

DOI : <https://doi.org/10.59733/besti.v3i3.127>

Publish Link : <https://bestijournal.org/index.php/go>

Abstract

This study aims to examine the arrangement of residential areas and fisheries activities in Seberang Belawan Fishermen's Village, as part of sustainable tourism development. This area has great potential in the fisheries and tourism sectors, but has not been properly regulated, so integrated arrangement is needed. The method used in this study is a descriptive approach with qualitative analysis, which involves field studies, interviews with the community, and secondary data collection related to policies and existing conditions of the area. The results of the study indicate that the current condition of the area faces various challenges, including limited infrastructure, suboptimal natural resource management, and a lack of integration between fisheries and tourism activities. Area planning based on the principles of sustainability is needed to integrate these two sectors. The recommended area planning model includes clear zoning between fisheries, residential, and tourism areas, development of environmentally friendly infrastructure, community empowerment through training and education, and participatory natural resource management. With appropriate planning, it is hoped that Seberang Belawan Fishermen's Village can optimize its fisheries and tourism potential in a sustainable manner, which in turn can improve the welfare of local communities and maintain environmental sustainability. This research provides recommendations for more structured and sustainable regional development, by involving all parties in the management and decision-making process.

Keywords : *Area Planning, Fisheries, Sustainable Tourism, Seberang Belawan Fishing Village, Natural Resource Management, Community Empowerment.*

INTRODUCTION

Seberang Belawan Fishermen's Village, located in Paluh Kurau Village, Hamparan Perak District, Deli Serdang Regency, North Sumatra Province, is a coastal area inhabited by a traditional fishing community. As an area with significant potential in the fisheries sector, this village is an integral part of the local economy, with the majority of the community dependent on marine resources. However, with the rapid development of the tourism sector, especially coastal nature-based ecotourism, this area faces challenges in spatial planning and sustainable management of fisheries activities. Fishermen's settlements and fisheries activities often overlap with the tourism sector, which can have both positive and negative impacts on the environment and local communities. Intensive fishing activities have the potential to damage coastal ecosystems, while the development of tourism can cause significant social and economic changes. Therefore, a study is needed to organize residential areas and fisheries activities in Seberang Belawan Fishermen's Village as part of sustainable tourism development.

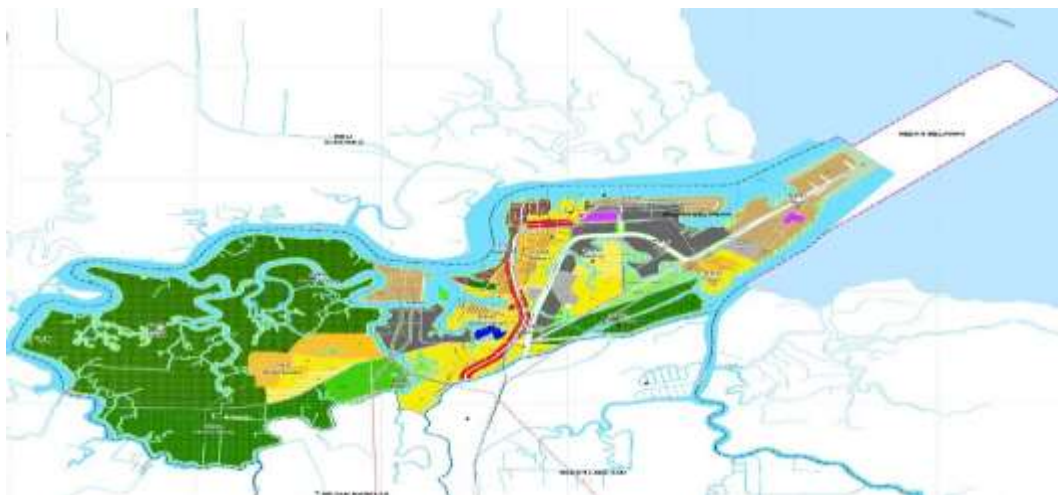


Figure 1.1 Area Planning Seberang Fisherman's Village

Seberang Belawan Fishermen's Village is a coastal area with extraordinary potential, both in terms of fishery resources and unique local cultural attractions. Located in the administrative area of Paluh Kurau Village, Hamparan Perak District, Deli Serdang Regency, this area is inhabited by a community that predominantly relies on the traditional fisheries sector for its livelihood. Activities such as fishing, cultivation, and processing of seafood have been the backbone of the local economy for years. However, this area still faces various complex problems, particularly related to the suboptimal arrangement of settlements. Residential settlements tend to be dense, unplanned, and lack adequate basic infrastructure, such as sanitation systems, neighborhood roads, drainage, and proper waste disposal. This has resulted in an unhealthy environment and hampered efforts to improve the community's quality of life. On the other hand, the fisheries that characterize this region have not been managed in a modern and efficient manner. Many fishermen still use traditional fishing gear, without adequate fishing port facilities or fish auction facilities. Furthermore, the lack of integration between fisheries activities and marine tourism potential has left the economic opportunities in the tourism sector untapped. Yet, Seberang Belawan Fishermen's Village has significant potential to be developed as a community-based tourism destination, boasting a rich culture, authentic coastal life, and captivating natural scenery. Unfortunately, without integrated and sustainable regional planning, this potential could be eroded by environmental damage, limited infrastructure, and low regional competitiveness.

This phenomenon has created an urgent need to conduct a comprehensive study on the arrangement of residential areas and fisheries activities, so that they can be integrated within an inclusive and sustainable tourism development framework. This study is expected to address the challenges of spatial planning, community empowerment, and local economic development based on regional potential. Effective arrangement of residential areas and fisheries activities will support environmental sustainability, improve the welfare of fishing communities, and encourage the growth of an environmentally friendly tourism sector. This study aims to explore the potential and challenges in structuring this area and formulate a spatial planning strategy that can integrate fisheries activities with the tourism sector. However, despite its significant potential, this area faces serious challenges in spatial planning. Dense and unplanned fishing settlements, along with often unmanaged fishing activities, pose risks to the sustainability of the coastal environment and the productivity of the fisheries sector itself. Furthermore, with the growing development of the tourism sector, particularly ecotourism based on the natural beauty of coastal areas and fishing culture, there is a tendency for overlap between fishing activities, settlements, and tourism development. If not managed properly, this can lead to environmental degradation, social conflict, and imbalances in spatial use. On the other hand, tourism development also offers opportunities to improve the welfare of local communities, introduce fishing culture to tourists, and promote sustainable natural resource management. However, achieving this requires effective regional planning that integrates fishing activities with the tourism sector without compromising environmental sustainability or the social well-being of local communities.

STUDY OF SETTLEMENTARY AREA ARRANGEMENT AND FISHERY ACTIVITIES IN SEBERANG BELAWAN FISHERMAN VILLAGE AS PART OF TOURISM

Yustina Rizki Hasibuan

In this context, the arrangement of residential areas and fishing activities in Seberang Belawan Fishermen's Village as part of sustainable tourism development is crucial. Spatial planning that not only accommodates the needs of the fishing community and tourism development, but also maintains environmental sustainability, can be the key to success in creating synergy between the three sectors. Therefore, an in-depth study is needed regarding the conditions of residential areas, fishing activities, and tourism development in Seberang Belawan Fishermen's Village, to formulate a regional planning model that can support social, economic, and environmental sustainability. However, these conditions face various challenges that affect social, economic, and environmental sustainability. The problematic phenomena that occur in Seberang Fishermen's Village are as follows: Overlapping Spatial Use between Fisheries and Tourism Activities. Coastal areas that should be used for fishing activities are often hampered by rapid tourism development, such as the construction of tourism infrastructure, the development of port facilities, and settlements that develop without clear spatial planning. This causes an imbalance in the use of space that leads to coastal environmental damage, disruption of marine ecosystems, and a reduction in the space needed for fishing activities.

The existing infrastructure in Seberang Belawan Fishermen's Village is inadequate to support both sectors. Limited port facilities capable of accommodating both fishing and tourist boats, along with limited transportation access, hinder the simultaneous development of both sectors. Furthermore, the lack of adequate facilities for managing waste and effluent generated by fishing and tourism activities contributes to worsening environmental conditions. Although the tourism sector offers the potential for increased income, fishing communities often do not directly benefit from this development. Inequality in the distribution of profits between local communities and tourism entrepreneurs can create social tensions. Furthermore, the lack of involvement of fishing communities in tourism management can hinder synergy between fishing and tourism activities and reduce the economic benefits that should be shared



Figure 1.2 Seberang Fisherman's Village area

One of the biggest problems facing Seberang Belawan Fishermen's Village is the lack of spatial planning that integrates the fisheries, housing, and tourism sectors. Without clear and structured planning, spatial utilization has the potential to lead to inter-sectoral conflicts, damage to coastal ecosystems, and the inability to support the long-term sustainability of these sectors. Unclear spatial allocation can also hinder the area's development as an environmentally friendly tourist destination. Tourism development in Seberang Belawan Fishermen's Village also has social and cultural impacts. Fishing communities that have traditionally lived traditional lives may face changes in lifestyle and cultural values. These social changes can create tensions within communities, especially if there are no mechanisms to involve them in decision-making regarding tourism development. Furthermore, the shift in economic orientation from the fisheries sector to tourism can impact their social structure and daily lives. Despite its potential as a tourism destination based on nature and fishing culture, the tourism potential in Seberang Belawan Fisherman's Village has not been optimally utilized. Inadequate infrastructure, lack of promotion, and the absence of integrated management prevent this potential from being maximized to support the local economy. Tourism development based on environmental sustainability and local community empowerment remains very limited. This phenomenon demonstrates that creating synergy between the fisheries and tourism sectors requires a holistic and

Publish by **Radja Publika**



STUDY OF SETTLEMENTARY AREA ARRANGEMENT AND FISHERY ACTIVITIES IN SEBANG BELAWAN FISHERMAN VILLAGE AS PART OF TOURISM

Yustina Rizki Hasibuan

integrated approach to spatial planning. The government, community, and relevant parties need to collaborate to address these issues through sustainable policies, infrastructure improvements, and environmentally friendly and efficient management. Seberang Belawan Fishermen's Village boasts a wealth of unique and diverse tourism potential, making it a strategic area for development as a community-based tourism destination on the coast of North Sumatra. This area not only holds unique natural charm but also an authentic socio-cultural life, which, if properly managed, could become a leading tourist attraction. One of its main potentials is marine tourism and mangrove ecotourism. Seberang Belawan Fishermen's Village is surrounded by a vast mangrove forest area, which serves as a natural habitat for various species of coastal flora and fauna. This mangrove forest can be developed into trekking trails, environmental education tours, and even birdwatching tours. Furthermore, tourists can explore the river and estuary by traditional boat while enjoying the beauty of the coastal ecosystem.

Culturally, this area offers a rich cultural heritage and a strong sense of traditional coastal life. The simple lifestyle of the fishing community, dependent on the sea, holds compelling traditional values that are worth exploring. Activities such as net-making, boat repair, fish auctions, and cooking traditional seafood dishes can be incorporated into experiential tourism packages, attracting both local and international tourists. Another potential attraction is fresh seafood-based culinary tourism. A variety of seafood, such as crab, shrimp, fresh fish, and other catches, are key ingredients in the Fisherman's Village cuisine. This culinary tourism can be developed through the concept of floating restaurants, coastal food courts, or annual seafood festivals, which will attract tourists and boost the local economy. This village can also be developed as a marine conservation and educational tourism concept, where tourists not only enjoy the natural beauty but also learn about the importance of preserving marine ecosystems, environmentally friendly fisheries cultivation techniques, and traditional and modern seafood processing. Equally important, the potential for local religious and cultural tourism also exists. In some areas, local communities still maintain traditional sea rituals or sea almsgiving as a form of gratitude for their catch. If well-organized, these activities can become engaging cultural attractions. With this diverse potential, Seberang Belawan Fishermen's Village has great potential to become a coastal tourist destination that not only entertains but also educates, strengthening local identity. However, this potential still faces challenges in terms of spatial planning, infrastructure, promotion, and public awareness of the importance of sustainable tourism. Therefore, integrated planning is needed between the local government, local communities, and the private sector so that this Fishermen's Village can truly become an icon of marine tourism in Deli Serdang and North Sumatra in general.

LITERATURE REVIEW

Area Planning

Regional planning is a process of managing the use of space to achieve a balance between development needs and environmental preservation. In the context of coastal areas such as Seberang Belawan Fisherman's Village, regional planning is crucial for optimizing the function of existing space, such as for residential activities, fishing, and tourism development. According to Mulyana (2019), coastal planning requires an integrative approach, given that coastal areas have ecological characteristics that are vulnerable to changes caused by human activity. Regional planning must consider sustainable social, economic, and environmental aspects.

Utilization of Coastal Space

Coastal space utilization refers to the use of space along the coastline for various activities, such as fishing, settlements, industry, and tourism. This utilization requires policies that consider the principle of sustainability, given the crucial role of coastlines as buffers for ecosystems and natural resources. According to Widiastuti and Suharyanto (2019), one of the challenges in coastal space utilization is the conflict between the fisheries and tourism sectors. Fishing activities, often conducted traditionally, can conflict with tourism development, which requires open space and a well-maintained ecosystem. Therefore, good coastal spatial planning must accommodate both sectors to ensure their sustainable functioning.

Coastal Natural Resource Management

Coastal natural resource management is related to efforts to maintain the sustainability of coastal ecosystems, which are vital for human life and other living things. In this regard, traditional fishing activities carried out by fishing communities must be carried out with conservation principles in mind to ensure the sustainability of natural resources. According to Suyanto (2019), sound coastal natural resource management includes regulations on the use of space for economic and social activities, as well as environmental conservation. Therefore, community involvement in participatory management is required, as well as integration between government policies and local stakeholders.

Sustainable Tourism in Coastal Areas

Sustainable tourism is a form of tourism sector development that takes into account social, economic, and environmental sustainability. In coastal areas, the development of nature-based tourism, such as ecotourism, can provide new sources of income for fishing communities, but must be carried out carefully to avoid damaging the ecosystem. According to Inskeep (2019), the basic principle of sustainable tourism is to ensure that tourism activities do not damage the natural ecosystem and provide economic benefits to the local community. In the context of Seberang Fisherman's Village, tourism based on fishing culture and the natural beauty of the coast can provide an economic alternative for the community, but requires careful planning to avoid disrupting existing fishing activities.

Coastal Area Management Model for Tourism Development

A coastal area management model for sustainable tourism development must integrate the management of fisheries, settlements, and tourism sector development. One model that can be implemented is the "Zoning" model, which divides coastal space into several areas with clear designations, such as residential areas, fisheries, conservation, and tourism. According to Tabrani (2019), implementing zoning in coastal areas will minimize conflicts between existing sectors and provide legal certainty regarding the use of space. This zoning must also accommodate the socio-cultural aspects of the local community and encourage active community participation in area management and supervision.

Community Involvement in Spatial Planning

Local community involvement in coastal spatial planning is crucial to ensure that implemented policies align with their needs and aspirations. The fishing community in Seberang Belawan Fisherman's Village possesses rich local knowledge regarding coastal conditions and social dynamics that should be utilized in spatial planning and management. According to Sutaryo (2019), community participation in spatial planning not only enhances a sense of ownership but also ensures the sustainability of implemented programs. It also helps improve community capacity to protect the environment and manage their natural resources more effectively.

Theoretical Framework for Coastal Area Management as Part of Tourism

The theoretical framework for coastal area planning as part of tourism prioritizes sustainability principles that integrate three main aspects: social, economic, and environmental. Area planning that combines the fisheries and tourism sectors must consider efficient natural resource utilization, local cultural preservation, and improving community welfare.

METHOD APPROACH

The research approach used in this study is a qualitative approach with the aim of exploring in depth the phenomena occurring in the Seberang Belawan Fisherman's Village, in the context of residential area planning and fishing activities as part of tourism development. Qualitative research was chosen because it can provide a more comprehensive understanding of the social, economic, and environmental dynamics occurring in the coastal area. According to Creswell (2019), qualitative research aims to understand the meaning of human experiences and social phenomena in the context of everyday life, as well as to explore the various factors that influence a problem. In this case, this approach allows researchers to understand the perceptions of local communities, related actors, and the influence of spatial planning on the social and economic life of the fishing community. Data Collection Techniques In this study, the data collection techniques used include: In-depth interviews were conducted with key informants consisting of fishing communities, tourism entrepreneurs, local government, and local community leaders. These interviews aimed to gain an understanding of the views, experiences, and roles of each relevant party in regional planning and management of the fisheries and tourism sectors. According to Kvale (2019), in-depth interviews allow researchers to dig for more detailed and in-depth information regarding the perceptions and experiences of research subjects. According to Marshall and Rossman (2019), documentation studies can be an important secondary data source to enrich researchers' understanding of the research context.

Data collected through interviews, observations, and documentation will be analyzed using qualitative data analysis techniques. According to Miles and Huberman (2019), qualitative data analysis includes three main stages: Data Collection, Data Reduction, Data Presentation, and Conclusion Drawing. To ensure the validity and reliability of the data in this study, researchers will use triangulation techniques. Triangulation is a technique for checking data validity by comparing results from various data sources or different data collection techniques. According to Denzin (2019), triangulation can increase the credibility of research findings because it allows researchers to ensure that research results are based on strong evidence from various different perspectives.

DISCUSSION

What tourism potential does Seberang Belawan Fishermen's Village have in the maritime, cultural and culinary fields? Seberang Belawan Fishermen's Village is in the administrative area of Paluh Kurau Village, Hamparan Perak District, Deli Serdang Regency.

Seberang Belawan Fishermen's Village, administratively located in Paluh Kurau Village, Hamparan Perak District, Deli Serdang Regency, is a coastal area with diverse tourism potential that can be developed sustainably. This potential is divided into several main aspects: marine tourism, culture, and culinary tourism—each of which has its own unique appeal for both local and international tourists.

1. Potential for Marine Tourism and Ecotourism

This area is surrounded by pristine stretches of sea, rivers, and mangrove forests. This offers significant opportunities for marine tourism development, such as:

- a) Explore the river and sea using traditional boats, which allows tourists to enjoy coastal panoramas and see fishing activities directly.
- b) Mangrove ecotourism, where tourists can explore the mangrove forest with tracking paths and wooden bridges, while learning about the ecological function of mangroves as coastal protectors and habitats for marine species.
- c) Observation of coastal wildlife, such as water birds, mangrove crabs, and other species makes this area suitable for educational and conservation tourism.

By utilizing the potential of its marine nature, the Fisherman's Village can be developed as an environmental and conservation-based tourism destination that emphasizes the harmony between tourism activities and nature conservation.

2. Cultural and Social Tourism Potential of Fishermen's Life

The people of Seberang Belawan Fishing Village live within a strong and distinctive coastal culture. Daily activities, such as fishing, mending nets, building boats, and even the sea alms ceremony, reflect traditions passed down through generations and possessing high cultural value. This potential can be developed into:

- a) Cultural and educational tourism about the lives of fishermen, where tourists can participate in the daily activities of local residents, learn to catch fish traditionally, and learn more about the culture of coastal communities.
- b) Local cultural attractions, such as traditional coastal Malay music performances, folk games, and traditional rituals, can be made into regular agendas or annual events to attract visitors.
- c) Community-based homestays (community-based tourism) allow tourists to stay with local residents and experience firsthand the life of a fishing community.

The uniqueness of this local culture is an authentic attraction and cannot be found anywhere else, making cultural tourism in fishing villages very potential for development.

3. Potential for Seafood Culinary Tourism

As an area reliant on the fisheries sector, Seberang Belawan Fishermen's Village boasts abundant seafood, including fresh fish, shrimp, squid, and crab. This has become the basis for the development of coastal culinary tourism, including:

- a) Floating restaurants or seafood stalls that serve fresh seafood dishes typical of the village, such as snapper curry, cuttlefish sambal, or grilled seafood.
- b) Center for processed seafood such as fish crackers, shrimp paste, fish floss, and other dried seafood that can be made into typical regional souvenirs.
- c) A seafood culinary festival held periodically to attract tourists and introduce a wider variety of coastal specialties.

This culinary potential not only offers deliciousness, but also a cultural experience in every dish, because it contains local recipes that have been passed down from generation to generation.

The tourism potential of Seberang Belawan Fishing Village is rich and diverse. It includes:

- 1) The beauty and uniqueness of marine tourism and ecotourism,
- 2) The wealth of traditional values through cultural tourism and the lives of fishermen, as well as
- 3) The authenticity and deliciousness of seafood culinary tourism.

What is the existing condition of the infrastructure and supporting facilities for tourism development in the Seberang Belawan Fishermen's Village area, which is part of the administrative area of Paluh Kurau Village, Hamparan Perak District, Deli Serdang Regency?

Seberang Belawan Fishermen's Village, located within the administrative area of Paluh Kurau Village, Hamparan Perak District, Deli Serdang Regency, has significant tourism potential. However, this potential has not been fully developed due to various limitations in infrastructure and supporting tourism facilities. Current conditions indicate that the area is still in the early stages of developing a community- and environment-based tourism destination. In general, accessibility to the Fishermen's Village area remains a major obstacle. To reach the village, visitors must cross the river using traditional boats or small boats, as there is no direct connecting bridge from the mainland. This reliance on water transportation limits the mobility of residents and tourists, especially during extreme weather conditions or high tides. This is a critical concern in the context of tourism development, which demands easy and convenient access.

In terms of basic infrastructure, such as neighborhood roads, drainage channels, and lighting, the village remains inadequate. Many of the footpaths are made of wood or planks and are not permanent, making them prone to damage and posing a safety hazard, especially during rain or high tide. Street lighting at night is also very limited, making the area unsafe and uncomfortable for tourists. Supporting tourism facilities such as small ports, tourist piers, tourist information centers, rest areas (gazebos), food stalls, and public toilets are still lacking or inadequate. Local communities have not been fully involved in destination management training, and there is no community-based tourism institution officially managing this potential. Tourist accommodations, such as homestays, are also underdeveloped, leaving visiting tourists without comfortable and suitable accommodations. Similarly, the provision of clean water and sanitation remains a problem in most homes, including those that could potentially be used as tourist accommodations. In terms of communication infrastructure and digitalization, internet access and telecommunications signals remain weak, even though digital connectivity is crucial for promoting and providing modern tourism services. This situation indicates that despite the high tourist appeal of Seberang Belawan Fishermen's Village, the area still requires comprehensive infrastructure improvements, including transportation, public facilities, and other supporting systems, to make it a viable and competitive destination.

Seberang Belawan Fishermen's Village faces various infrastructure challenges, such as:

- 1) Limited direct transportation access (only by water),
- 2) Lack of local roads and public facilities to support tourism,
- 3) Lack of accommodation facilities and tourist information,
- 4) Low availability of hygiene and sanitation facilities,
- 5) Suboptimal support for technology and digital promotion.

What strategies can be implemented to integrate marine, cultural and culinary tourism potential into integrated and sustainable tourism packages?

Seberang Belawan Fisherman's Village, located in the administrative area of Paluh Kurau Village, Hamparan Perak District, Deli Serdang Regency, boasts diverse and complementary tourism potential, including marine tourism, coastal cultural tourism, and seafood culinary tourism. When managed and developed in an integrated manner, these three potentials will create a unique and highly competitive thematic tourism package. Therefore, a planned, collaborative, and sustainability-oriented development strategy is required.

1. Strengthening the Area's Identity as a Coastal Tourism Village

The first step is to establish the area's branding as the "Coastal Tourism Village of Seberang Belawan Fishermen's Village," embracing the authentic life of fishermen in harmony with nature. This identity needs to be strengthened through integrated promotions that emphasize the unique combination of marine tourism (mangroves and the sea), cultural tourism (fishermen's traditions and lifestyle), and coastal seafood cuisine.

2. Development of Integrated Thematic Tour Packages

The second strategy is to design experience-based tourism packages that combine the three main potentials:

- a) Morning: Explore the river and mangrove forests using a traditional boat, while observing coastal flora and fauna and learning about the mangrove ecosystem.
- b) Afternoon: Join fishermen's activities such as pulling nets, fishing, or repairing boats while listening to stories about sea traditions.
- c) Afternoon: Take a class on cooking local seafood, then enjoy the results with local residents.
- d) Evening: Cultural attractions or traditional fishermen's arts performances (if available), or stay at a local homestay.

STUDY OF SETTLEMENTARY AREA ARRANGEMENT AND FISHERY ACTIVITIES IN SEBANG BELAWAN FISHERMAN VILLAGE AS PART OF TOURISM

Yustina Rizki Hasibuan

- e) This tour package is designed to provide a comprehensive and meaningful experience, and involves local communities as the main actors.
3. Local Community Empowerment
Communities must be part of every stage of development. Through training and mentoring, residents are encouraged to:
 - a) Providing homestays and tourist services (local guides, tour boats, food stalls),
 - b) Forming tourism awareness groups (pokdarwis) to manage attractions and maintain environmental sustainability,
 - c) Developing local culinary and craft products as part of the creative tourism economy.
4. Infrastructure and Accessibility Improvement
Tourism integration can only be successful if supported by adequate access and facilities. Therefore:
 - a) There is a need to improve water transportation facilities and build a suitable tourist pier,
 - b) It is necessary to provide public toilets, rest areas, information boards, and mangrove trekking paths.
 - c) Digitalization of tourism promotion through social media, tourism village websites, and collaboration with online tourism platforms.
5. Implementation of Sustainable Tourism Principles
All of the above strategies must be implemented while maintaining environmental sustainability, social balance, and economic sustainability. This means:
 - a) Visitors are invited to care about the environment, such as participating in planting mangroves or cleaning the beach,
 - b) Limiting the number of daily visitors to avoid over capacity,
 - c) Community-based tourism management so that the economic benefits are directly felt by local communities.

What is the current condition of the arrangement of residential areas and fishing activities in Seberang Belawan Fishermen's Village?

Seberang Belawan Fisherman's Village, located on the north coast of Sumatra, North Sumatra Province, is an area with significant potential in the fisheries and tourism sectors. The community largely relies on fishing for their livelihoods, both through fishing and aquaculture. Furthermore, the beautiful coastline and the traditional lifestyle of fishermen offer potential for the development of cultural and nature-based tourism. However, the planning of residential areas and fisheries activities in this area still faces several challenges that require attention to achieve social, economic, and environmental sustainability.



Figure 4.1 Condition of Settlement in Seberang Fisherman's Village

Settlement Conditions

The settlements in Seberang Belawan Fishermen's Village are dominated by traditional houses constructed from simple materials, most of which are located along the coast. These houses are generally constructed with

STUDY OF SETTLEMENTARY AREA ARRANGEMENT AND FISHERY ACTIVITIES IN SEBANG BELAWAN FISHERMAN VILLAGE AS PART OF TOURISM

Yustina Rizki Hasibuan

structures that are easily damaged by extreme natural conditions, such as strong winds, tidal waves, and tidal flooding. Because the settlement is located in a coastal area, many houses are built on stilts (panglong) to avoid flooding, although many are still at risk of damage. Infrastructure in Seberang Fishermen's Village is also very limited. Road access to the village is still inadequate, and most public infrastructure, such as electricity and clean water, is not evenly distributed. Most homes still rely on private wells or seawater for daily activities, although the quality is often poor. Health and education facilities are also limited, and residents must travel considerable distances to access these services.

Fishery Activities

Fishing activities in the Seberang Belawan Fishing Village are the community's primary livelihood. Most fishermen in this village still use traditional boats with simple fishing gear, such as nets or fishing rods. However, some fishermen have begun using more modern equipment, such as motorboats and more efficient fishing gear. However, their catch is limited and highly dependent on the season and weather, making their incomes unstable. In addition to fishing, aquaculture is also growing in several parts of the region. Some fishermen have begun developing fish farming businesses, particularly freshwater and saltwater fish, to diversify their income. However, the management of this aquaculture remains hampered by limited technology, skilled human resources, and access to wider markets. The main problem faced in the fisheries sector is the destruction of coastal ecosystems due to environmentally unfriendly fishing practices, such as the use of fish bombs or nets that damage coral reefs. Furthermore, increasing development in coastal areas also puts pressure on the ecosystems that support fishing activities. Volatile fish prices and dependence on weather are also frequent problems for fishermen.

Spatial Planning and Conflicts of Use

Spatial planning in Seberang Belawan Fishermen's Village remains poorly organized, leading to conflicts over land use between the residential, fisheries, and tourism sectors. Many homes and fishing activities are located very close to areas with potential for tourism development, such as beaches and natural tourist spots. The unclear spatial allocation in this area leads to environmental pollution and coastal ecosystem damage, as there is no clear zoning between fisheries, residential, and tourism areas. For example, fish farming activities often take place in areas that should be protected as nature conservation areas, while residential houses are sometimes built near active fishing areas, disrupting fishermen's activities. On the other hand, the potential for tourism development based on the natural beauty and fishing culture is also beginning to attract attention. The coastal area around Seberang Fishermen's Village boasts extraordinary natural attractions, such as beautiful beaches and unique fishing traditions. However, poorly planned tourism development can increase pressure on natural resources, such as damage to coral reefs and beaches due to the construction of environmentally unfriendly tourism infrastructure.

Management and Development Planning

In recent years, the local government and relevant parties have made efforts to organize residential areas and fisheries activities in Kampung Nelayan Seberang using a more integrated approach. One proposal is the implementation of a zoning model to divide the area into residential, fisheries, and tourism areas, as well as protected conservation areas. With clear zoning, it is hoped that each sector can function optimally without interfering with each other. Another effort is to increase the capacity of fishing communities to manage fisheries sustainably, such as by providing training in the use of environmentally friendly fishing gear and more efficient fish farming techniques. The government is also working to improve basic infrastructure, such as roads, electricity, and health facilities, to support an improved quality of life for fishing communities. Furthermore, the tourism sector also needs to be developed carefully. Developing tourism based on fishing culture and ecotourism can provide alternative sources of income for the community, but must be done with attention to environmental sustainability and the sustainability of coastal ecosystems.

Challenges in Regional Planning

Despite efforts to organize the area, the main challenge is the lack of active community participation in the planning and management processes of the area. A lack of understanding of the importance of sustainability and conservation leads some communities to continue engaging in environmentally damaging practices. Furthermore, legal uncertainty regarding land ownership and land use rights in coastal areas exacerbates the spatial planning situation. Limited funding and resources also hinder efforts to improve infrastructure and develop the fisheries and tourism sectors. Weak oversight and law enforcement also allow for violations of existing regulations, such as the practice of fishing in environmentally unfriendly ways.

Publish by **Radja Publika**



What are the factors that influence the arrangement of residential areas and fishing activities in Seberang Fisherman's Village?

The arrangement of residential areas and fishing activities in Seberang Belawan Fishermen's Village is influenced by various interrelated factors, including social, economic, environmental, and government policies. These factors play a crucial role in determining how the area develops and how fishing and residential activities are managed to support community life and the sustainability of natural resources.



Figure 4.3 Arrangement of the Seberang Fisherman's Village Area

The following are factors that influence the arrangement of residential areas and fishing activities in Seberang Fisherman's Village:

1. Social Factors

Land Ownership and Settlement Traditions One social factor influencing the layout of residential areas is the land ownership system. Many houses in Seberang Belawan Fishermen's Village are built on land acquired through inheritance or informal means. This creates uncertainty regarding land ownership status, which in turn affects area management. Communities with practical settlement traditions (for example, building houses close to fisheries resources) do not always pay attention to more structured spatial planning aspects, such as zoning for fisheries, settlements, and tourism. **Community Participation in Planning** Active participation by fishing communities in the planning and structuring of areas is often limited. A lack of understanding of the importance of sustainable spatial planning often leads to suboptimal spatial utilization, such as the construction of buildings in areas that should be conservation zones or areas important for fishing activities. This factor is also related to the level of education and community awareness of the importance of better spatial management.

2. Economic Factors

Dependence on the Fisheries Sector The Seberang Belawan Fishing Village community is heavily dependent on the fisheries sector as its primary source of income. Therefore, fishing activities dominate the use of space in the area. Area planning that does not consider the sustainability of the fisheries sector can risk reducing catches and damaging coastal ecosystems. For example, the use of fishing gear that damages coral reefs or pollution caused by poorly managed fishery waste. **Income and the Local Economy** Sustainable fishing activities can increase community income. However, dependence on unstable fisheries products, such as fluctuating fish prices, can impact community welfare. Planning that does not consider income diversity and other economic opportunities, such as tourism, can limit the economic diversification needed to improve the community's quality of life. Therefore, the fisheries sector needs to be managed more efficiently, by

introducing more modern cultivation techniques, and providing other economic alternatives for the community, such as developing ecotourism.

3. Environmental Factors

Coastal Ecosystem Damage One of the environmental factors that most influences the planning of the area in Seberang Belawan Fishermen's Village is the damage to the coastal ecosystem, such as the decline in the quality of coral reefs, mangroves, and other ecosystems that support marine life. Unsustainable fishing activities, such as the use of fishing bombs or nets that damage coral reefs, threaten the sustainability of natural resources on which the community depends for their livelihoods. Furthermore, uncontrolled development of the area can destroy natural habitats, exacerbate coastal erosion, and increase the risk of natural disasters such as floods and tsunamis. **Natural Disasters and Climate Change** Seberang Fishermen's Village is located in a coastal area that is vulnerable to natural disasters, such as tidal waves, tidal flooding, and strong winds. Increasingly pronounced climate change, with rising sea levels, is also having a significant impact on this area. Settlements built on stilts or in areas prone to tidal flooding require careful spatial planning to avoid greater losses in the future. This requires planning that takes into account disaster mitigation and the resilience of coastal areas to the impacts of climate change. **Natural Resource Quality: Planning** that prioritizes environmental sustainability will help maintain the quality of natural resources, which directly impacts the survival of fishing communities. Therefore, the sustainability of coral reefs, mangroves, and marine resources must be a primary consideration in every decision regarding area planning and management.

4. Government Policy and Regulation Factors

Zoning and Spatial Planning Regulations One important factor influencing the spatial planning of the Seberang Belawan Fishermen's Village is the policies and regulations implemented by the local government. The absence of clear regulations on zoning for residential, fisheries, and tourism areas can lead to overlapping spatial uses and ecosystem destruction. For example, fishing activities occurring near areas with potential for tourism development can damage tourist attractions, such as polluted beaches or damaged coral reefs. Therefore, clear zoning regulations are essential to divide areas with appropriate objectives. **Natural Resource Management Policies** The planning of residential areas and fisheries activities is also influenced by natural resource management policies implemented by the government. These policies can include prohibitions on the use of environmentally damaging fishing gear, incentives for sustainable fisheries, or nature conservation programs. If these policies are not implemented properly, the impact can be detrimental to coastal ecosystems and hinder the growth of the fisheries sector. **Government Support for Tourism Development** Government policies that support the development of sustainable tourism in Seberang Fishermen's Village can also influence the planning of this area. If tourism can be developed while preserving local nature and culture, it can provide alternative income for communities and improve their quality of life. However, unplanned tourism development can increase pressure on ecosystems and disrupt local social life.

5. Infrastructure and Accessibility Factors

Road Access and Transportation Limited road access to Seberang Belawan Fishermen's Village is a factor influencing the area's planning. Inadequate road access can hamper economic development, both in the fisheries and tourism sectors. Good transportation infrastructure is crucial for improving connectivity and facilitating the distribution of fisheries products to wider markets, as well as supporting tourist arrivals. **Other Supporting Infrastructure** In addition to roads, the need for other supporting infrastructure, such as the provision of clean water, electricity, and health facilities, also affects the quality of area planning. The lack of these facilities can hinder improvements in the community's quality of life and reduce the potential for development in other sectors, including tourism.

What is the regional planning model that can integrate fishing activities with sustainable tourism development in Seberang Belawan Fishermen's Village?

Seberang Belawan Fishermen's Village has significant potential for developing two important sectors: fisheries and tourism. These two sectors not only serve as primary sources of income for the local community but also support each other in achieving sustainable development goals. Therefore, regional planning that integrates fisheries activities with sustainable tourism development is crucial to maintaining a balance between natural resource utilization and environmental preservation. A good regional planning model must consider ecological, social, economic, and cultural aspects. Regional development should be directed toward efficient space utilization, providing space for sustainable fisheries activities while opening up opportunities for environmentally friendly tourism that empowers local communities. The following is a regional planning model that can integrate these two activities:

STUDY OF SETTLEMENTARY AREA ARRANGEMENT AND FISHERY ACTIVITIES IN SEBANG BELAWAN FISHERMAN VILLAGE AS PART OF TOURISM

Yustina Rizki Hasibuan

Integrated Spatial Utilization Zoning

It is crucial to implement a clear and structured zoning system in land use planning, distinguishing between areas for residential, fisheries, and tourism, as well as protected areas for environmental conservation. This zoning should be based on scientific studies of the environmental carrying capacity and potential of each sector.

1. **Fisheries Zones:** Areas designated for fishing activities, both capture and aquaculture, must be managed in an environmentally friendly manner. Spatial planning for fisheries includes locating fishing areas that do not damage the ecosystem and selecting aquaculture sites that do not pollute the environment. Furthermore, fisheries activities based on environmentally friendly technology and sustainable cultivation methods should be encouraged.
2. **Tourism Zones:** For tourism development, areas with natural beauty, such as beaches, coral reefs, or mangrove habitats, need to be carefully selected as tourist destinations. These areas should be equipped with supporting facilities such as homestays, tourist information centers, walking paths, and environmentally friendly recreation areas. The development of tourism facilities must adhere to the principles of green tourism, which minimizes negative impacts on the environment and supports ecosystem sustainability.
3. **Conservation Zones:** As part of a sustainable land use model, coastal and marine conservation areas must be protected from destructive activities. For example, mangroves and coral reefs must be protected from destruction by unsustainable fishing activities or uncontrolled tourism development. These zones can also include areas designated for the conservation of rare or endangered marine species.

Infrastructure Development that Supports Sustainability

Infrastructure development in Seberang Belawan Fishermen's Village must be planned in an integrated manner, considering the area's potential to combine the fisheries and tourism sectors. Good infrastructure can support both sectors, thus achieving social, economic, and environmental sustainability.

1. **Fisheries Infrastructure:** Providing supporting facilities for the fisheries sector, such as modern fishing ports, fishery processing facilities, and hygienic storage areas, will significantly support sustainable fishing activities. Port development must consider its impact on the environment and maintain the balance of coastal ecosystems.
2. **Tourism Infrastructure:** For the tourism sector, developing environmentally friendly facilities is crucial. Building homestays using eco-friendly materials, along with pedestrian paths and tourist centers that are environmentally friendly, will provide a more immersive tourism experience for visitors. The development of these facilities must take into account the carrying capacity of the area to prevent overtourism, which can damage the environment.
3. **Transportation and Accessibility:** Improving accessibility to Kampung Nelayan Seberang, both by land and sea, will facilitate the distribution of fishery products and facilitate tourist visits. Developing efficient and environmentally friendly transportation routes, such as renewable energy-based transportation or electric vehicles, can reduce environmental impacts.

Community Empowerment and Participatory Natural Resource Management

One important aspect of sustainable regional planning is empowering local communities. The fishing community in Kampung Nelayan Seberang must be actively involved in the planning and management of the area. This can be achieved through various means:

1. **Training and Education:** Community training on sustainable fishing practices, environmentally friendly cultivation techniques, and ecotourism management skills is essential. By providing the right knowledge, communities can become directly involved in efforts to maintain the sustainability of these two sectors.
2. **Conservation Education:** Communities need to be educated about the importance of conserving coastal ecosystems, such as mangroves and coral reefs, and how to manage natural resources sustainably. For example, fishermen can be trained to avoid using destructive fishing gear or overfishing, while tourism operators can also be educated about the importance of preserving nature.
3. **Partnership Model for Tourism:** Empowering communities through the development of community-based tourism can be a good model. Communities can be involved in managing homestays, providing tourism services, and developing sustainable tour packages. The benefits of tourism will be directly felt by the community, and they will have an incentive to protect the surrounding environment.

Sustainable Natural Resource Management

Natural resource management, particularly coastal ecosystems, is a key aspect of this regional planning model. One approach that can be implemented is an ecosystem-based management system, which focuses on protecting and restoring coastal ecosystems that support fisheries and tourism activities.

STUDY OF SETTLEMENTARY AREA ARRANGEMENT AND FISHERY ACTIVITIES IN SEBANG BELAWAN FISHERMAN VILLAGE AS PART OF TOURISM

Yustina Rizki Hasibuan

1. Coastal Ecosystem Restoration: Coastal ecosystem restoration efforts, such as mangrove replanting and coral reef rehabilitation, will improve environmental quality while also enhancing habitat for various marine species. These restoration programs can involve fishing communities as part of collaborative conservation efforts.
2. Monitoring and Oversight: To ensure that fisheries and tourism activities remain sustainable, an effective oversight system is required. Regular monitoring of coastal ecosystem conditions and evaluation of the impacts of tourism activities must be conducted to ensure that implemented policies do not harm the environment.

Promoting Sustainable Tourism and Economic Diversification

Cultural and nature-based tourism must be promoted with sustainability principles, namely preserving nature and supporting local culture. Seberang Fisherman's Village has the potential to attract tourists interested in cultural tourism, ecotourism, and adventure tourism.

1. Creating Sustainable Tourism Packages: Tour packages that integrate traditional fishing activities, such as tours of fishing villages or visits to fish farming areas, can attract tourists who want to learn about the lives of fishermen. Nature tourism, such as snorkeling or diving on coral reefs, can also be a major draw.
2. Improving Tourism Supporting Infrastructure: In addition to tourist facilities, it is important to provide supporting facilities such as tourist information centers, art galleries, and public spaces that can introduce the lives of fishermen to visitors, while supporting the marketing of local products, such as fisheries or handicrafts.

The regional planning model that integrates fisheries activities with sustainable tourism development in Kampung Nelayan Seberang must be based on the principles of ecological, social, and economic sustainability. Clear spatial zoning, environmentally friendly infrastructure development, local community empowerment, and ecosystem-based natural resource management are essential steps to ensure the harmonious development of both sectors. With careful planning and active community participation, Kampung Nelayan Seberang has the potential to become a successful area integrating fisheries and sustainable tourism.

CONCLUSION

Based on the study conducted in this research, it can be concluded that the planning of residential areas and fishing activities in Seberang Belawan Fishermen's Village, as part of tourism, requires an integrated, sustainable approach that takes into account social, economic, and environmental aspects. Proper planning of the area can not only support sustainable fishing activities but also open up opportunities for tourism development that can improve the welfare of the local community. Currently, Seberang Belawan Fishermen's Village holds significant potential in both fisheries and tourism, but challenges remain in its management, which has not yet been fully integrated. Limited infrastructure and suboptimal spatial planning are major obstacles to achieving balance between the two sectors. Nevertheless, the natural beauty and strong fishing culture remain key attractions for tourism. The main factors influencing the development of the Seberang Belawan Fishermen's Village are the social and economic conditions of the community, limited infrastructure, and the potential for environmental damage from unsustainable fishing activities. Furthermore, external factors such as government policies and the development of the tourism sector also influence the development of this area.

To achieve sustainability goals, a regional planning model that integrates fisheries activities with tourism development must be based on the principles of ecological, social, and economic sustainability. Clear zoning, environmentally friendly infrastructure development, community empowerment, and participatory natural resource management are steps that must be taken to ensure the harmonious development of both sectors. Regional planning that considers environmental conservation aspects, such as mangrove and coral reef maintenance, and environmentally friendly fisheries management, will strengthen the tourism sector and support local economic sustainability. The development of the Seberang Belawan Fishermen's Village should prioritize sustainable development by involving the local community in every stage of planning and management. Infrastructure development that supports both sectors, as well as the promotion of tourism based on ecotourism and local culture, should be encouraged. Furthermore, coastal ecosystem management and preservation must be prioritized to ensure the long-term sustainability of both sectors.

REFERENCES

- Angrosino, M. (2019). *Doing Ethnographic and Observational Research*. Sage Publications.
- A Sugiarto, RK Ramadania (2023). Economic and Spatial Regional Integration and Its Impacts on Regional Development in North Tapanuli Regency. *International Journal of Social Science, Education, Communication and Economics (SINOMICS JOURNAL)*.
- A Sugiarto, SPR Manalu, E Pakpahan (2023). Pengaruh Jumlah Kunjungan Wisatawan Dan Pajak Restoran Terhadap Pertumbuhan Ekonomi Kabupaten Tapanuli Utara Dengan PAD Sebagai Variabel Intervening. *Jesya (Jurnal Ekonomi Dan Ekonomi Syariah)* 6 (1), 221-232.
- A Sugiarto, RK Ramadania (2023). Manajemen Lahan Bantaran Sungai Deli Untuk Pembangunan Kota Yang Berkelanjutan Berdasar Peraturan Daerah (RTRW/RDTR)(Studi Kasus: Bantaran Sungai Deli, Kecamatan Medan Maimun). *Jesya (Jurnal Ekonomi Dan Ekonomi Syariah)* 7 (1), 618-626.
- C Nuraini, B Alamsyah, PS Novalinda, A Sugiarto (2023). Planning with 'Three-World Structures': A Comparative Study of Settlement in Mountain Villages. *Journal of Regional and City Planning* 34 (1), 55-82.
- Creswell, J. W. (2019). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (4th ed.). Sage Publications.
- Denzin, N. K. (2019). *The Research Act: A Theoretical Introduction to Sociological Methods*. Aldine Transaction.
- Inskeep, E. (2019). *Sustainable Tourism Development: Guide for Local Planners*. UNESCO.
- Kvale, S. (2019). *Doing Interviews*. Sage Publications.
- Marshall, C., & Rossman, G. B. (2019). *Designing Qualitative Research* (6th ed.). Sage Publications.
- Miles, M. B., & Huberman, A. M. (2019). *Qualitative Data Analysis: A Methods Sourcebook* (3rd ed.). Sage Publications.
- Mulyana, S. (2019). *Perencanaan dan Penataan Ruang Kawasan Pesisir*. Jakarta: Penerbit Universitas Indonesia.
- Sugiyono, S. (2019). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta.
- Sutaryo, H. (2019). *Keterlibatan Masyarakat dalam Penataan Ruang*. Surabaya: Pustaka Bangsa.
- Suyanto, P. (2019). *Pengelolaan Sumber Daya Alam Pesisir untuk Pembangunan Berkelanjutan*. Yogyakarta: Pustaka Pelajar.
- Tabrani, A. (2019). *Zonasi Kawasan Pesisir: Pendekatan dan Implementasi*. Jakarta: Penerbit Alfabeta.
- Widiastuti, A., & Suharyanto, S. (2019). *Konflik Penggunaan Ruang Pesisir: Antara Perikanan dan Pariwisata*. *Jurnal Perencanaan Pesisir*, 15(2), 45-58.