

The Sustainable Utilization Model of Coastal Natural Resources in Serdang Bedagai Regency, North Sumatra Province.

(The Case of Mangrove Nature Tourism in Sei Nagalawan Village, Perbaungan District, Serdang Bedagai Regency, North Sumatra Province)

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ABSTRACT

This study aims to describe and analyze tourist needs in order to increase tourist satisfaction visiting mangrove tourism in Sei Nagalawan Village, Perbaungan District, Serdang Bedagai Regency and to describe and analyze the strategies carried out by tourism managers in the context of developing mangrove tourism in Sei Nagalawan Village, Perbaungan District, Serdang Bedagai Regency. This research was conducted by survey by distributing questionnaires, in-depth interviews, and FGDs. The number of samples is 260 respondents. The results of the study with indicators of price, facilities, tourist visits still need to be improved in accordance with the expectations of tourists visiting the mangrove natural tourism area of Sei Nagalawan Village. The development of the Sei Nagalawan mangrove natural tourism area in the future is to increase facilities for children's play areas, make boat tours for tourists, and hold local cultural exhibitions. Furthermore, the long-term development plan for the Sei Nagalawan mangrove tourism object is to open up foreign tourists, add water transportation facilities and docks for sightseeing around the coast and to Berhala Island, build homestays for foreign tourists, create security and comfort as well as arrangements to attract foreign tourists, improve the ability to English speaking tour operators in order to serve foreign tourists.

Keywords: *sustainable, ecoturisme, ecosytem mangrove, Sei Nagalawan*

1. BACKGROUND

One of the efforts of the coastal resource management model in increasing local fishermen's income is by executing business diversification that is environmentally sound. Business diversification of coastal communities is not only focused on fishing businesses. This strategy should involve businesses outside the fishing sector that can provide added economic value. By diversifying, fishermen can grow their income when they do not go to sea. The increase in income from other sectors as a part of business diversification is expected to encourage the community to not destroy the coastal environment and indirectly help the recovery of coastal areas from previous exploitations [1].

Indonesia has quite a number of potential tourist attractions such as natural resources, biodiversity, and various cultural uniqueness that spread across many regions of the archipelago. This fact proves that Indonesia has the capacity to be developed as a model for ecotourism management. Ecotourism is a promising alternative in reducing the negative impacts that have occurred in the region. Ecotourism provides opportunities for profit-making for the organizers, government, and local communities through non-extractive and non-consumptive activities so as to improve the local economy. Implementation that emphasizes on ecotourism principles to realize a sustainable economy [2].

Furthermore, research conducted by [3] regarding the role of mangroves in the development of Malaysian tourism through increasing the income of local

communities and creating more job opportunities. This study aims to determine the willingness to pay (WTP) of coastal communities in Marudu Bay, Sabah, to develop their mangrove areas as ecotourism destinations. Most of the visiting tourists are willing to pay (WTP) to travel to mangrove forests because they believe that mangrove conservation promotes sustainable ecotourism and can increase people's income, so that their livelihoods will be better for future generations.

In Indonesia, research on the role of mangroves on tourism has been carried out in the context of green tourism. In this study, three ecotourism destinations were selected, namely the Morosari Mangrove Forest in the Demak Region, Tlogo Tuntang Tourism in Bawen Salatiga, and the Mangkunegoro 1 Botanical Forest Park in Mount Lawu in the Karanganyar Region. The results show that the Demak Mangrove Forest, Tlogo Resort Tuntang and the Botanical Gardens of Taman Hutan Raya have not become ecotourism and tourism businesses that are profitable and sustainable. There is a desire of local management to make tourism based on natural wealth or tourist destinations that preserve ecology. It is necessary to conserve flora and fauna on an ongoing basis, and manage the environment to attract visitors [4]

There is also a study that analyzes the plant species seen around the mangrove information center in the Ngurah Rai Mangrove Forest (Tahura Ngurah Rai), South Bali Province (Indonesia) [5]. Their potential as ecotourism attractions was then identified. The results showed that there were 42 species of plants identified around the mangrove pathway in this forest. Twelve species of mangroves in this ecosystem can be the main attraction for tourists doing tracking there. Information on protected species, potential use of plants for humans, such as for animal feed, medicine, use in ancient Balinese society, in the traditional life of Balinese society that has survived until now, the use of offerings in Hindu ceremonies can also be of interest to tourists. Some types of plants can cause problems for tourists who do trekking so it is necessary to take precautions, including those that can cause bleeding and disturbances in human breathing.

Research on the condition of mangroves and community perceptions of managing mangroves has been carried out on Harapan Island and Bira Island, which is part of the Thousand Islands which is visited by many tourists. This study identified 4 mangrove species on Harapan Island, namely *Rhizophorastylosa*, *Lumnitzera racemosa*, *Soneratia* sp, and *Brugueira* sp, while on Bira Island identified one species as *Rhizophora stylosa*. The diversity of mangroves in the two islands is low, the dominance index indicates the presence of dominating species. The perception aspect shows that public knowledge about mangrove conditions and community participation is in very good criteria, while knowledge about the role of mangroves and perceptions of mangrove sustainability for nature tourism shows a good interpretation. The value of the

suitability index of Harapan Island and Bira Island is 62%, indicating the potential as an ecotourism location [6]. Some of the studies above show that there are still few who focus on writing efforts to develop mangrove ecosystems as ecotourism objects.

Identification of the potentiality of Sei Nagalawan to convert its mangrove ecosystems as a natural attraction is necessary in the development of environmental ecotourism that supports environmental conservation (nature and culture) and conservation efforts, which involve and benefit the local community as well as become commercially profitable.

Research in the first year has found that the use of coastal resources by fishing communities is divided into three, namely the use of the coast and the sea with diversified fishing gear, the use of the sea coast as an arena for tourist attractions, and the use of the mangrove ecosystem as food and drink resources [7]. The ongoing research on the second year focuses on the utilization of natural and coastal resources with efforts to develop coastal tourism.

Based on the background, the problem statement from the research on the Study of Development of Tourism Areas of the East Coast of North Sumatra at the Mangrove Tourism Village of Sei Nagalawan can be broken down into two:

1. Determining factors affecting tourist satisfaction in Sei Nagalawan's mangrove tourism.
2. Strategies that need to be carried out in order to continuously develop mangrove tourism in Sei Nagalawan.

The research objectives of the Study of Development of Tourism on the East Coast of North Sumatra on Sei Nagalawan's mangrove tourism are as follows:

1. Describing and analyzing tourist needs in order to increase tourist satisfaction when visiting Sei Nagalawan's mangrove tourism.
2. Describing and analyzing the strategies carried out by the authorities responsible for developing mangrove tourism in Sei Nagalawan.

The benefits of research on the development of tourism on the East Coast of North Sumatra in the Mangrove Nature Tourism Area, Sei Nagalawan Village, Perbaungan District, Serdang Bedagai Regency, North Sumatran East Coast are as follows:

1. The government will be given input and consideration in the development of the Mangrove Nature Tourism Area in Sei Nagalawan Village in Serdang Bedagai Regency, East Coast of North Sumatra.
2. The study provides input on the management systems for the community managing coastal tourism villages such as the development of tourism facilities and infrastructure, and tourist satisfaction in the Mangrove Nature Tourism Area

of Sei Nagalawan Village in Serdang Bedagai Regency, East Coast of North Sumatra.

2. LITERATURE REVIEW

2.1 Coastal Area Condition

The coastal area possesses strategic points as it is a transitional area (*interface*) between land and marine ecosystems, and has very rich potential for natural resources and environmental services [8]. This wealth has its own attraction for various parties to take advantage of. The availability of coastal land is a potentiality that can be developed for fishery activities. Likewise, coastal waters can be developed for various aquaculture activities, especially marine aquaculture. Other potentiality in coastal areas include minerals, mining/excavation of materials, oil and gas, tourism, and sea transportation.

The existence of coastal areas is inseparable from the social system and ecological system found in coastal areas. The coastal socio-ecological system (SES) is home to more than 500 million people and one of the most productive and diverse ecosystems in the world. In recent years, coastal SES have experienced severe threats from population increase, resource exploitation, and global environmental change (eg climate change), which have devastating social impacts on coastal areas. Despite several global, national, and local initiatives, there is a growing consensus that coastal resources are depleting and increasing conflict in coastal areas. Recognizing the global call to understand socio-ecological interactions in order to apply development practices, this special issue features a series of (seven) articles that advance understanding of the sustainability of social and ecological interactions in coastal areas through theoretical SES approaches and related analytical methods. In this special edition editorial, we also argue that coastal areas need to be defined from an SES perspective, which has received less attention than ecological and social perspectives. We hope that this special issue will stimulate further debate and thought about how coastal SES can be managed sustainably by conceptualizing and understanding the complex dynamics (interactions, feedbacks) of coastal socio-ecological systems [9].

2.2 Coastal Resource Management

The management of natural resources is a human effort in changing ecosystems to attain maximum benefits by seeking sustainable production and ensuring the sustainability of these resources [10].

A good and responsible management of the fisheries sector especially capture fisheries is to understand the importance of the carrying capacity of fishery resources in Indonesian waters. The people of Indonesia have the

opportunity to utilize fish resources in the high seas though not to exceed the carrying capacity as the sustainability of fish resources will be threatened and production will go into decline. It is evident that some fish species have even been reported to have been difficult to find and even almost extinct from Indonesian waters [11].

Coastal ecosystems support enormous natural resources that are the main source of livelihood and income for a large proportion of the global population. With this increasing dependence coupled with ongoing damage (from both global climate change and human intervention), coastal resources face an unprecedented threat of damage that limits valuable ecosystem services that support all kinds of human well-being. Taking Saint Martin's Island as a case study, this paper investigates the potential vulnerability that persists as a negative force in managing available coastal resources in an integrated and sustainable manner. In addition, this paper suggests a community-oriented coastal resource management framework that incorporates all aspects of vulnerability [12].

Improving the welfare of fishing communities can be done through institutional strengthening of the fishermen's cooperatives as one of the breakthroughs in fulfilling capital needs is to increase overall income which ultimately breaks the poverty cycle.

The fishermen's decision to join a cooperative is a strategic decision and is relevant to strengthening bargaining power in the input and output markets as well as strengthening the power of cooperation in establishing partnerships with other external parties [13].

[14] Sustainable management of the coastal area must be carried out in a planned and integrated manner and able to provide the maximum benefit to all stakeholders, especially in coastal communities, and minimize impacts and conflicts that can potentially happen. Community-based management can be defined as a natural resource management, in a place where local communities are actively involved in the process. Coastal community development strategy can be done through two approaches, namely, structural and non-structural.

[15]. Findings also show that coastal and marine resources are currently experiencing considerable vulnerability. This is because many parties utilize the area without considering the conservation aspect, even though their use is destructive. Humans make use of coastal and marine resources in various ways without limits – taking marine resources, utilizing biological resources, and building environmental service businesses such as marine tourism.

The life of Indonesian fishermen is still tied to poverty. In general, fishing communities are much poorer than farming communities. This poverty is caused by several

factors. The internal factors are ones that are related to the internal condition of the fishermen's human resources and their work activities including:

- (1) limited number of quality human resources,
- (2) limited ability of obtaining business capital and technology,
- (3) working relationships (owner of fishing boats and labourers) in fishing organizations that are considered less profitable for the fishermen,
- (4) difficulty in diversifying fishing businesses,
- (5) high dependence on fishing occupations, and
- (6) improvident lifestyles that are less future-oriented.

External factors on the other hand, are factors related to conditions outside of their control – themselves and fishing activities [16] including:

- (1) fishery development policies that are more productivity-oriented to support national economic growth, partial and impartial to traditional fishermen,
- (2) fishery product marketing system that is more profitable for intermediary traders,
- (3) damage to coastal and marine ecosystems due to pollution from land areas, fishing practices with chemicals, destruction of coral reefs, and conversion of mangrove forests in coastal areas,
- (4) weak law enforcement against environmental destroyers,
- (5) limited post-catch processing technology,
- (6) limited job opportunities in the non-fishing sector available in fishing villages,
- (7) natural conditions and seasonal fluctuations that do not allow fishermen to go to sea throughout the year, and
- (8) geographic isolation of fishing villages that interfere with the mobility of goods, services, capital, and people.

3. RESEARCH METHODS

The location of the research is in the Mangrove Nature Tourism Area, Sei Nagalawan Village in Serdang Bedagai Regency, East Coast of North Sumatra. This research is a survey research that uses data collection methods by distributing questionnaires, in-depth interviews, and FGDs. Questionnaires were distributed to respondents as potential tourists and tourists who will and have visited the Mangrove Nature Tourism Area of Sei Nagalawan Village in Serdang Bedagai Regency, to obtain data on expectations and desired satisfaction when visiting the Mangrove Nature Tourism Area of Sei Nagalawan Village in Serdang Bedagai Regency.

2.3 Tourism Concept

The definition of tourism according to Freuler in [17] is a current phenomenon which is based on the need for health and change of scenery. As well as creating a conscious and growing awareness (love) of the beauty of nature and an increase in the association of various nations and classes of society. It is the result of the development of commerce, industry, trade, and the improvement of ease of transportation.

Meanwhile, according to Wahab in [17] in the notion of tourism is as follows:

" A proposeful human activity that serves as a link between people either within one same country or beyond the geographical limits or states. It involves the temporary displacement of people to another region, country or continent for satisfaction of varied needs other than exercising a remunerated function. For the concerned tourism is an industry who „product“ are consumed on the pot forming “invisible- export“. The benefit accuring there from can be withnessed in the economic, cultural and social life of its community."

Based on the above, it is stated that tourism is a human activity carried out consciously to obtain various kinds of satisfaction. Additionally, tourism is explained as an industry that comes out with products that are consumed at the destination. For tourist destinations, this is an invisible-exports. Another benefit is that it has a positive effect on the economy, culture, and social lives of the local communities.

Another definition according to Buchli in [17] is that tourism is any temporary change of a place by a person or several persons, with the aim of obtaining services intended for tourism by institutions related to the tourism industry.

Based on the above, it van be concluded that tourism activities are ones that fulfil the needs of tourists. It takes a tourism product that provides satisfaction based on a conscious assessment (preference) of the tourists.

The respondents hail from all over North Sumatra from various circles, both education level, and socio-economic status. The number of samples is collected from 260 respondents. The criteria of respondents being interviewed are those who are interested in visiting or who have visited mangrove nature tourism and also master the research problems that are enquired. Furthermore, in-depth interviews were conducted with managers of the Mangrove Nature Tourism in Sei Nagalawan Village, Perbaungan District, Serdang Bedagai Regency, regarding strategies and efforts to develop mangrove natural tourism area in Sei Nagalawan Village.

4. RESULTS AND DISCUSSION

4.1 Respondent Identity

The questionnaire on the interest of tourists visiting the Mangrove Forest Tourism in Sei Nagalawan Village was distributed to 260 respondents. Based on the results, it is known that the respondents' areas of origin are very diverse, ranging from Medan, North Sumatra Province such as Asahan, Balige, Batubara, Berastagi, Binjai, Deli Serdang, Dolok Sanggul, Galang, Humbang, Hasundutan, Kabanjahe, Kisaran, Labuhan Batu, South Labuhan Batu, North Labuhann Batu, Langkat, Lubuk Pakam, Mandailing Natal, Nias, West Nias, Padang Lawas, Pakpak Bharat, Rantau Prapat, Samosir, Serdang Bedagai, Sibolga, Sidamanik, Sidikalang, Simalungun and Tanjung Balai, Tanjung Morawa, North Tapanuli, Tebing Tinggi, to outside of North Sumatra Province such as Aceh, Central Aceh, Southeast Aceh, Duri, Jakarta, West Java, Agam, Purwokerto, West Sumatra, and Sumedang.

In general, the largest respondents were from Medan (43.1%) followed by North Sumatra Province without specific locations (7.7%), Deli Serdang (4.6%), Asahan, Binjai and Kisaran (3.1%). The data above shows that the majority of respondents were from North Sumatra Province, especially from Medan, Deli Serdang, Asahan, Binjai, and Lubuk Pakam.

The majority of respondents aged 17-26 years which were 68.8% while the ones aged 27-36 years were 13.8%, and the remaining group 37-46 years of age were 11.2%. In terms of productivity, there are a large number of respondents that are of productive age and has the opportunity to take part in nature tourism such as traveling to the mangrove village of Sei Nagalawan.

The portion of respondents are 56.9% female and 43.1% male. This data shows that the desire to travel comes from female more than the male. This data is different from the research conducted by [18] which stated that the perception of male tourists towards the city of Yogyakarta is safer than that of the female perception, which equates to traveling being safer for men. On the other hand, research conducted by [19] states that there was no relationship between gender and the safety components of tourists in Parangtritis Beach.

As for the respondents' occupation, 57.7% were students, both undergraduate and postgraduate students, 12.3% were Aparatur Sipil Negara (state civil servants), 11.9% were private employees, 7.3% were self-employed, 1.9% were housewives, and the remaining percentage worked in BUMN/BUMD, lecturers, honorers, OJOL, researchers, and retirees.

Based on the interview results, it is found that 63.5% of respondents earn between Rp. 1,000,000 – Rp 3,000,000 per month, 18.8% earn between Rp. 3,000,000 to Rp. 6,000,000 per month, 6.9% earn between Rp. 6,000,000 to Rp. 9,000,000 and the remaining 10.8% earn above Rp. 9,000,000. This data shows that most respondents come from the low-income group.

The types of tourist attractions that are frequently visited by the respondents are natural attractions (65.8%), culinary tourism (16.9%), shopping tourism (10.8%), game tourism (3.5%) and educational tourism (0.8%). This shows that the respondents still enjoy nature tourism the most when visiting tourist areas. The sites visited during the pandemic were within the city (67.3%), outside the city but within the province (21.2%), and between provinces (11.5%).

This data shows that during the pandemic, respondents refrained from making distant visits (interprovincial), preferring locations within the city and province. The data on the characteristics of respondents above are almost the same as the data on the characteristics of respondents who visited the Nyarai, Tapani Puti and Rumah Pohon in Lubuk Alung and Batang Anai sub-districts which were dominated by male students aged 17-25 coming from outside tourist sites [20].

4.2 Fee of Entrance Tickets to Sei Nagalawan Mangrove Nature Tourism Sites

Respondents were asked what they were willing to pay for a ticket price to enter the Sei Nagalawan mangrove tourism attraction. As many as 85% said they thought a ticket under Rp. 25,000 was reasonable. A total of 14.2% stated that Rp. 26,000 – Rp. 50,000 were justifiable, and the remaining 0.8% said they were willing to pay above Rp. 51,000 for the ticket entrance. The admission ticket to the Sei Nagalawan tourist site is not expensive. Several studies have shown that ticket prices have an effect on the number of tourist visits, such as the research conducted by [21] and [22]. Based on this, it is necessary for the Sei Nagalawan Mangrove Tourism manager to ensure that admission tickets are affordable.

Respondents were also asked about seasonal price variations which could be different on holidays or national holidays. As many as 53.8% agreed and strongly agreed that pricing should be different on said days. The remaining 46.2% stated that they disagreed or strongly disagreed that the prices should vary. This data shows that respondents do not quite agree that an increase in ticket pricing should be implemented on holidays / national holidays.

4.3 Location Dimension

A total of 52.7% of respondents slightly disagreed, disagreed, and strongly disagreed that Sei Nagalawan's mangrove tourism is well-known to the public. Only 47.3% agreed or strongly agreed that it is. This data shows that only some (less than 50%) of respondents agreed that Sei Nagalawan is known to the public. It is a necessary effort for the management of the tourist site to increase its visibility. There needs to be better promotion and organization of the tourist side going forward.

Furthermore, they were also asked about the importance of maintaining the natural authenticity of the Sei Nagalawan mangrove tourism as an attraction. As many as 98.9% respondents agree and strong strongly agreed that the authenticity be maintained. Only 1.1% slightly disagreed and strongly disagreed on the subject. This data shows that the respondents are very aware of the importance of maintaining the natural authenticity of the attraction and are highly aware that the existence of the attraction is due to its natural authenticity. They are also aware that the tourist site with its mangroves and beaches possess natural authenticity. Research conducted by [23] in Nira Nusa, Maurole District, Ende Regency, states that the potential and attractiveness of mangrove tourism attractions in Nira Nusa Village are the mangrove ecosystem, the view overlooking the Flores sea coast, and the many aspects of local culture. Several activities that could be done are sightseeing, photography, fishing, bird watching, and enjoying the sunset.

However, there also results from research stating that the potentiality of a mangrove site has not yet been optimized as according to [24] in the Idaman Mangrove Forest, Jeneponto District, South Sulawesi, where the potentiality has not been optimized by the surrounding community which meant it could not be considered as an optimal contributor as a source of economy. Constraints in the development of the Idaman Mangrove Forest as a tourist attraction are the absence of a community-based tourism development and management model on the attractiveness of the Idaman Mangrove Forest. As well as the low creativity and capacity of the community, and the limited facilities for supporting tourism.

As many as 97.7% of respondents agreed and strongly agreed on the importance of road access to the Sei Nagalawan tourist site. Only 2.3% stated slightly disagreed, disagreed, and strongly disagreed with the importance of road access to the site. This shows that respondents believe that road access is important in the management of Sei Nagalawan mangrove tourism area. A tourist site must be easily accessible for tourists to avoid travel fatigue after arriving at the location. Research conducted by [25] states that an online application system is even required as a means of

information on the location of tourist attractions in the South Cianjur area. A route information and road access information to tourist attractions are also equally vital. With such a system, it will make it more convenient for tourists to obtain information of attractions in the South Cianjur especially by utilizing existing technology namely the use of Android-based Augmented Reality Geolocation.

4.4 Facility Dimensions

According to most respondents (36.5%), the expected supporting facilities at Sei Nagalawan tourist site are places of worship, washrooms (35%), parking spaces (10%), children's play areas (8.1%), healthcare (7.3%), and souvenirs (3.1%). This data indicate that places of worship and washrooms are the highest in-demand facilities at the site. It is interesting to find that there are needs for children's play areas as well as healthcare facilities. The former is expected to be available as the mangrove area could pose a risk for visitors if an accident or injury might occur. The latter is needed as tourists would typically visit tourism areas with their families which means a need for their young ones to be entertained.

Furthermore, respondents were asked about the importance of security facilities at Sei Nagalawan. 93.9% stated that it was important and very important. Only 6.1% stated that it was slightly unimportant and very unimportant. This data shows that respondents find security facilities are very important at the Sei Nagalawan mangrove tourism attraction. This data is supported by a research conducted by [26] which states that a location has a positive and significant effect on tourists' decisions on choosing which tourist attractions to visit in Kota Padang. The services provided are quite satisfying for tourists and the location, facilities, and services altogether influence their decision-making process. Research conducted by [27] shows that overall visitors are not fully satisfied with the existing tourist facilities at Lasiana Beach. Based on the Cartesian diagram analysis, tourist facilities that are included as a top priority to be fixed and have low maintenance consist of shop physical condition, physical conditions of trash cans, availability of number of trash cans, and separation of types of organic and non-organic waste bins. These of which need to be improved in order to increase tourist satisfaction in the future.

In accordance with the aforementioned, research conducted by [28] highlights the perception of the tourist facilities in the Mandalika Special Economic Zone, Central Lombok Regency. The perception of Muslim tourists on halal facilities and infrastructure in the area is generally acceptable. The condition of hotels or other accommodations and places of worship in the Mandalika Special Economic Zone are quite good compared to the other facilities. The lack of other

facilities include rest areas, trash cans and public washrooms. However, even though there is an adequate number of places of worship, it is currently located quite far from the site. This can be remedied by moving it to a more reasonable distance. Based on the preferences of Muslim tourists for halal tourism, washrooms, trash cans, and places of worship are the most important facilities visiting the Mandalika Special Economic Zone.

4.5 Tourist Visit Dimensions

A large percentage of respondents (76.5%) stated that they were willing to visit the Sei Nagalawan mangrove tourist attraction. Only 23.5% stated “neutral” having not decided if they were willing to visit the site. This data shows that some respondents are willing to visit the site as it has a special attraction, namely the mangrove forest. This is in conformity with a research conducted by [29] on the Indonesian Safari Park which found that:

- (1) tourist attraction has a significant effect on tourist satisfaction,
- (2) tourist satisfaction does not have a significant effect on the intention of tourists to revisit the Indonesian Safari Park, and
- (3) tourist attraction has a direct significant influence towards tourists’ intention to revisit the Indonesian Safari Park.

Other studies also support the results of the research done on the Indonesian Safari Park. [30] states from their research that there is an influence between the image of the destination, motivation, experience, and food quality on revisit intention of tourists. In agreement with this, research by [31] in Badung Regency, Bali, shows that tourist attraction, service quality, and facilities have a positive and significant effect on tourist satisfaction. Tourist attraction and tourist satisfaction have a positive effect on the intention of returning tourists. The quality of service and facilities has a positive but not significant effect on the intention of returning tourists, and the variable of tourist satisfaction is a variable that mediates the effect of tourist attraction, service quality, and facilities towards the revisit intention of tourists.

Furthermore, respondents were also asked whether they were willing to invite family or friends to visit the Sei Nagalawan tourist site. 70% of the respondents agreed and strongly agree that they were willing to whereas 1.2% stated that they disagreed and strongly disagreed to do so. The remaining 28.8% stated that they were neutral, uncertain if they would be willing to invite their family and friends.

A total of 54.6% of respondents agreed and strongly agreed to spend money on tourism at Sei Nagalawan

and 3.5% of respondents disagreed and strongly disagreed to do so. The remaining 41.9% stated that they were neutral, uncertain if they would be willing to spend money on tours to the Sei Nagalawan tourist site. Respondents are willing to spend money on tourism but not necessarily on the Sei Nagalawan mangrove tourism. This implies that the tourist site has a big potential to become a strategic tourist destination in North Sumatra.

55.4% of respondents wanted to witness the natural beauty of Sei Nagalawan, 20.0% stated that they wanted to experience the calm atmosphere of the site, and 19.6% wanted to be educated about mangroves. The remaining 3.1% wanted lively entertainment at the tourist site and 1.9% wanted to visit due the safety factor of the tourist site. This data shows that aspects of environmental conservation and environmental have not become the main concern in the management of the Sei Nagalawan mangrove tourism as compared to entertainment, beauty, and safety. This proves that the general populace still perceive the Sei Nagalawan mangrove tourism as a place for entertainment, and for enjoying the beauty and calm atmosphere. The results of this study are different from the research conducted by [32] which states that the influence of the quality of cultural tourist attractions and the interest of domestic tourists visiting Kotagede is firstly the uniqueness of the architectural building and the Kotagede area, and secondly the accessibility of Kotagede as the main factors for domestic tourists visiting Kotagede.

4.6 Sei Nagalawan Mangrove Nature Tourism Area Development

The management of the Sei Nagalawan mangrove nature tourism began in 1991. Then, the area was still in the form of settlements, forests, and rice fields. In 1994, the mangrove beach area started to be managed by local residents. In 2004, the residents of Sei Nagalawan formed a group called Kayu Baimbai Fishermen’s Group to manage the mangrove forest and its beaches. In 2008. The Kayu Baimbai Fishermen Group was legally registered and obtained a permit to manage the mangrove forest and then changed its name to Muara Baimbai Fishermen Cooperative Group. In 2012, the mangrove forests opened for special tourist attractions then eventually opened to the public in 2013. This data is in accordance with the research conducted by [33], which states that the Prenjak Group plays a role in developing Eco Edu Tourism for Tugurejo Mangrove Sites. The Prenjak group gathered community support, built infrastructure, and managed land use. The role of the Prenjak youth in developing the tourism has implications for regional environmental resilience in Dusun Tapak including the availability of ecosystems, waste and pollution control, continuation of local socio-cultural systems, and increasing understanding of environmental concepts.

The plan to develop the Sei Nagalawan mangrove nature tourism area in the future is to increase the facilities for children's play areas, build new photo-worthy spots, execute boat tours, hold local cultural exhibitions, make water sports such as the Banana Boat available, and add the number of homestays. The long-term development plan for Sei Nagalawan for the next 5 years is to attract international tourists, add water transportation facilities and docks for sightseeing around the coast and to Berhala Island, increase security and comfort, build homestays for international tourists, create an appeal to increase attraction of international tourists as well as be competent in the English language to be able to serve international tourists well.

Carrying out hospitality training and social entrepreneurship training to local communities - to make processed foods from mangrove trees - to all members of the Muara Baimbai Fishermen Cooperative Group is an essential strategy in the management of tourism in Sei Nagalawan. On the security aspect, it is vital to hire guards around the beach. Social media promotion is also an important aspect. Moreover, cleanliness can be improved through the provision of trash cans at every corner of the beach and by putting up signs to encourage visitors to maintain cleanliness. On top of that, networking with tourism parties (advanced tourism agencies), building relationships with private parties and individual investors are also highly important. Not to forget, creating a unique identity of the site by naming each mangrove tree and building interesting photo-worthy spots.

The factors that influence the success of Sei Nagalawan mangrove tourism management are the existence of social capital in the form of togetherness, mutual cooperation, and implementing the 3S "Senyum, Salam, Sapa, dan Santun" (Smile, Greet, Say Greetings, and Good Manners). The data above is almost in accordance with the research conducted by [34] who shows that the internal factors that influence the development of mangrove tourism Kemujan Island are natural resources (ecological conditions of mangrove forests), human resources (labor, quality of human resources in handling tourists, knowledge of conservation tourism), and mangrove tourism infrastructure (mangrove tracking facilities). The external factors on the other hand are tourists, legal regulations, supporting infrastructure, socio-cultural, culinary, other tourist attractions related to mangrove tourism, security of the sites, and technological advances.

The highest priorities in development strategies for the mangrove tourism areas (mangrove tracking) are as follows:

- (1) Development of mangrove tourism promotion
- (2) Airport development and local souvenirs

- (3) Development of mangrove and non-mangrove tour packages
- (4) Energy infrastructure development
- (5) Culinary development
- (6) Human resource development
- (7) Infrastructure improvement (healthcare, transportation, and communication)
- (8) Development of mangrove conservation tourism
- (9) Mitigation
- (10) Banking development

Research conducted by [35] states that the condition of mangrove forests tourist attractions as a whole from a physical point of view still needs more emphasis and development, both from the respective government body as well as the management and local communities. Based on the results of the SWOT analysis, steps can be formulated by using strengths and taking advantage of opportunities, namely the cooperation of the government and other tourism activities that take advantage of the potentiality. Utilizing the available attractions and adding supporting attractions, empowering local communities, and utilizing the location thoroughly is a must to create a successful tourism business.

5. SUMMARY

1. The area of origin of respondents is very diverse, ranging from North Sumatra Province, outside of North Sumatra Province such as Aceh, Central Aceh, Southeast Aceh, Duri, Jakarta, West Java, Agam, Purwokerto, West Sumatra, and Sumedang. However, the largest ones hail from Medan and North Sumatra Province.
2. The majority of respondents are between 17-26 years of age and between 27-36 years of age, female, and Aparatur Sipil Negara (state civil servants).
3. Most of the respondents have visited and will visit natural attractions, gone on and will go on culinary tours as well as shopping tours.
4. According to respondents, the reasonable ticket pricing to enter the Sei Nagalawan mangrove tourist attraction is under Rp. 25,000 and between Rp. 26,000 to Rp 50,000. Respondents also agreed and strongly agreed that the entrance fee should be used by the manager to build better facilities and infrastructure. Respondents also agreed and strongly agreed that the pricing would vary on a holiday/national holiday.
5. Respondents stated that the Sei Nagalawan mangrove tourism is lacking attractions and is not very well-known to the public. Respondents also agreed and strongly agreed to maintain the natural authenticity of Sei Nagalawan. It is also important to have road access to the tourist site.

6. According to respondents, it is necessary to provide facilities such as places of worship, washrooms, parking spaces, children's play areas, access to healthcare, and the provision of souvenir and security facilities.
7. A large percentage of the respondents stated that they are willing to visit and invite family or friends to visit the Sei Nagalawan mangrove tourist attraction. Most of the respondents agreed to spend money to travel to the site.
8. Most of the respondents want to witness the natural beauty and calm atmosphere that the site has to offer.
9. The development plan includes increasing children's play areas, photo-worthy spots, traveling boat services, water sports facilities, local cultural and culinary exhibitions, and add the number of homestays. The long-term plan is to attract international tourists and building a dock.
10. The development strategy includes conducting training for all Sei Nagalawan mangrove tourism managers on hospitality, promotion through social media, and improving hygiene standards.

RECOMMENDATION

1. Managers need to improve services such as comfort, security, hospitality, cleanliness, and provision of facilities for tourists who visit the Sei Nagalawan mangrove tourism site.
2. Managers need to increase the visibility of the mangrove tourism in Sei Nagalawan through online and offline promotional efforts.

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