Ecotourism Development Strategies of Pulau Merah Beach, Banyuwangi, Indonesia

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Abstract. The study aimed to explain the development of ecotourism management strategies in Pulau Merah beach, Banyuwangi regency, Indonesia. Various aspects need to be considered by local government to increase tourism visit by monitoring 1) the increasing number of visitors, 2) estimated days of stay, and 3) cultural involvement as a tourist attraction. As natural tourist destination, Pulau Merah beach also are able to support the environment. It needed to be considered by the tour manager, so that ecotourism strategy needs to be applied. The research was used descriptive method with qualitative and quantitative techniques. The data used primary data through in-depth interview and secondary data through literature, documentation, and publication of tourism management. Process Hierarchy Analysis (AHP) was used to measure the implementation of ecotourism strategy in Pulau Merah beach. Through the research, an alternative policy and development should be considered by the local government and communities to support the environment and ensure the sustainability of natural tourism quality. Therefore, ecotourism policy becomes one of the main alternatives as a result of data collection and analysis following the urgency of the field so that it highly recommended to be applied.

1. Introduction

The geographical conditions as the largest archipelago in the world make Indonesia have rich natural resources in the coastal area. It is known from the total length of the coastline that reaches 99,093 Km, and the second-longest position in the world after Canada [1]. The coastal environment as a transition between the mainland and the sea has diverse environmental characteristics so that it can support the community economy. Through economy, the coastal environment can develop other sectors, such as tourism, fisheries, planting, mining, industry, services, and others [2]. Indonesia is one of the countries that have high tourism potential, which is an alternative to increase the visa income, increase investment, and develop the region [3].

In Indonesia, there is the right of local autonomy to manage tourism so that it becomes independent regional identities, one of them is Banyuwangi Regency, East Java. Banyuwangi Regency continues to grow and is famous for the management of independent businesses in Indonesia because it is near from Bali island. Banyuwangi is one of the districts in East Java that has the potential to develop into the tourism industry in the next four years because the regional income of the Banyuwangi tourism sector has exceeded the target [4]. The number of tourist visits in 2016 has reached of 4,751,203 visitors, with around 141 thousand of international visitors increased from 116 thousand tourists before, also increased from 2.7 million to 4.5 million of domestic tourist as much as 185% since 2012 [5].

The significant increase of tourists in Banyuwangi influenced the use of local wisdom by the management in tourism [6]. The development strategy was written on the Tourism Office performance agreement consisted of three main indicators, they are 1) percentage improvement in the number of visitors, 2) estimated days of stay, and 3) the number of local cultures developed as tourist attractions [7]. The program was implemented through the local wisdom that applied to all tourist attractions in Banyuwangi Regency including Pulau Merah Beach. Pulau Merah Beach is the leading tourist destination of Banyuwangi Regency that become a major tourism icon next to the Gandrung dance as the official branding of Banyuwangi Tourism on the eastjava.com page[8].
Pulau Merah Beach in Banyuwangi Regency began to be known until it was chosen as a venue for international surfing competitions since 2013 participated by 15 countries. The activity received appreciation from the Indonesia Surfing Association (INSA) as an introduction of Pulau Merah Beach to the world and has more potential compared to G-Land [9]. The performance that also balanced with the extraordinary natural beauty of the beach made the beach to have visited as many as 402,017 people, which 98,970 tourists came to Pulau Merah Beach in 2017 [10]. The high demand for tourist visits also gives a big contribution to Pulau Merah Beach to be the most popular exclusive destinations. In 2020 several tour service packages for tourists put of IDR 867,000 for a one-person visit to Pulau Merah Beach [11]. The economic opportunity needed to be a concern for the government and regional managers to increase revenues from natural tourism, so that the development of local wisdom continues to be improved.

The development of tourism based on local wisdom to improve the economic sustainability in Pulau Merah Beach can be classified as the application of Community-Based Tourism (CBT) [12]. The development principle includes 2 of the three main components in sustainable development that are 1) sustainable social and culture as well as 2) sustainable economy [13]. The application of principles was aligned with the objectives of the work plan in 2019, which is "increasing sustainable economic growth" with the target to "the development of tourism based on local wisdom of the community" [14]. The strategy implementation on Pulau Merah Beach showed in the following figure.

The consideration of the development of Pulau Merah Beach tourism to improve the economy and preserve culture is a good strategy to implement. The increasing revenue from visitors that continue to grow every year was also clear proof of the successful promotion in the Pulau Merah Beach tourism. Therefore, as one of the exclusive destinations and branding of tourism areas in Banyuwangi Regency, all aspects of sustainable development needed to be considered[6]. It is aligned with sustainable development, which managers also need to give full attention and support to the ecological sustainable [13] so that the carrying capacity of the environment continues to be sustainable.

The application of sustainable environmental strategies in tourism is known as ecotourism. Ecotourism is a concept of sustainable tourism development aimed to support preserving the environment (natural and cultural) and increase community participation in management to provide
economic benefits to the local community [15]. The idea is based on ecotourism as an alternative tourism strategy as a consequence of dissatisfaction with the tourism management that did not consider to social and ecological impacts and concerned with the economy and visitors [16]. Therefore, to avoid dissatisfaction and environmental damage due to lack of consideration to the ecological carrying capacity on Pulau Merah Beach, the ecotourism strategies application needed to be studied as a basic implementation of sustainable development in the tourist area.

2. Methods and Research Site

The research was conducted in Pulau Merah Beach which is located ± 70 Km from the center of Banyuwangi Regency, East Java. The research method used descriptive analysis with qualitative and quantitative techniques. Data were collected from primary and secondary data done in mid-2019. Primary data was collected from observations and in-depth interviews with key informants and stakeholders, while secondary data was obtained from literacy, publications and documentation from government agencies and communities regarding tourism management in Banyuwangi Regency.

Figure 5. Research Location Map

a. Eastside of Pulau Merah Beach and
b. Westside of Pulau Merah Beach
The data analysis used SWOT analysis to analyze the implementation of ecotourism development strategies on Pulau Merah Beach using SWOT analysis. The SWOT assessment is obtained from the identification through Analysis Hierarchy Process (AHP) from the matrix of Internal Factor (IFAS) and External Factors (EFAS) to determine the quadrant position. Internal factors (IFAS) consist of physical elements, accessibility, amenities, attractions, promotions, and local tourism management organisations, while external factors (EFAS) include the number of visitors, differences with other attractions around, government regulations, and environmental preservation.[17]

The results of SWOT analysis was considered to be alternative policies that aimed to achieve sustainable development. Aside from the economic and social-cultural factors, optimizing the application of strategies to support sustainable development can be an alternative policy strategy for developing the ecotourism. The optimization also aims to preserve the coastal environment as a tourist attraction so that the environmental carrying capacity to support tourism continues to be guaranteed.

3. Results and Discussion

3.1 History The Tourism Development of the Red Island Beach

Pulau Merah Beach as a terminology means a red color island. The naming was due to the existence of a small hill of 200 meters having a red base ground, but then it was starting to be covered with some vegetations (interview, 2019). The small hill was the main icon of Pulau Merah Beach, which can be visited when the tide is low. Also, there is a beautiful view along the coastline of 3 km with gently sloping topography and 2-5 meters of wave height with wavelengths of 200 meters that make Pulau Merah Beach be one of the tourist destinations for world surfers [18]. Pulau Merah Beach also safer than Plengkung Beach, due to the fine sandy beach base that makes it safe for beginner surfers.

Pulau Merah Beach is located in Sumberagung Village, Pesanggaran District, on the south coast of Banyuwangi Regency. The beach has the characteristics of sloping and curved beach because it is located in the bay, so that it becomes one of the leading tourist attraction that are quite safe in Pancer Bay along with two other beaches. It is located in the coastline of Pancer Bay, that is Mustika Pancer Beach which is used as a supporting beach tourist attraction and Pancer Beach which is used as a fish auction place (Tempat Pelelangan Ikan) in Pancer village. Both beaches were still in the development which is managed by the community so that it can be alternative destinations for visitors to Pulau Merah Beach.

Historically, Pulau Merah Beach was severely damaged by the tsunami in 1994. The height of tsunami waves on the coastline reaches 14 meters, thus providing damage to the coastal environment around the coast [19]. But under the leadership of the regent, Pulau Merah Beach continued to grow so that in 2012 access roads to the beach began to be built. The attention of the government is not enough just to improve access of the main road but followed by holding the international events such as the Banyuwangi Tour de Ijen in 2012 and the 2013 International Surf Competition which is held regularly until now.
The introduction of Pulau Merah Beach to an international scale came to a peak in 2013 when 58 surfers from 15 countries attended the International Surf Competition event. The event marked as the success of the local government and received full appreciation from the Indonesian surfing association. Since then, Pulau Merah Beach has continued to develop by building better accommodations such as transportation access, lodging, restaurants, surfing attractions, and tourist security programs with exclusive services. As improvements continue to be made the number of visitors on Pulau Merah Beach has also increased every year. The data of visitors since 2013 has reached 285,812 visitors, in 2014 has reached 341,479 visitors, in 2015 has reached 383,756, in 2016 has reached 395,134 visitors, and in 2017 has reached 402,017 visitors [5] [10] so that the average visit per year was about 361,640 visitors.

The increasing number of visitors is the initial target of the local government. The indicator of the successful strategy was to get an increase in visitors each year. The increases also have a significant impact on the economy of the community, stakeholders, and the local government. Pulau Merah Beach is officially under the responsibility of Perhutani in Unit II of East Java, KPH South Banyuwangi in coordination with the Culture and Tourism Office that has succeeded in making the international scale event by continuously promoting and improving tourism services. After succeeding in various national and international events, Pulau Merah Beach also loved by every visitor, even the President of INSA (Indonesian Surfing Association) stated that the scenery and waves in the Pulau Merah tourist area are one of the best in Indonesia [9].

Pulau Merah Beach can be categorized as one of the main destinations in Banyuwangi Regency which can compete with Ijen Crater Tourism. As the main destination for beach tourism, Pulau Merah Beach is still very capable of accommodating tourists and offering exclusive services. A statement published by a foreign traveler from South Africa who wrote the eight reasons why tourists need to visit Pulau Merah Beach are 1) Pulau Merah Beach is the best beach on Java Island because the beach has a beautiful long line of soft sand and the water provides perfect swimming area, 2) the relaxed atmosphere, 3) popular surf spots in Java, 4) closed adventures to Wedi Ireng Beach, 5) have a popular sunset spot among the locals, 6) the town looks like a perfect sleepy village, 7) popular off the tourist path, 8) it's cheap [20]. Through various perspectives from visitors and managers, Pulau Merah Beach has become a destination for tourist, both domestic and foreign that can match the popularity of Tanah Lot Beach on Bali Island (interview, 2019).

3.2 Tourism Development Strategy in the Pulau Merah Beach

Pulau Merah Beach as one of the best beach tourism destinations in Banyuwangi Regency is currently being developed by implementing a strategy based on local wisdom. It was stated in the Performance Agreement of the Head of Culture and Tourism Office with the regional secretary noted that the target of tourism development in Banyuwangi Regency was based on the "Local Wisdom-Based Tourism Development Strategy" [7]. The agreement was detailed indicators that need to be achieved including 1) increasing the percentage of tourist visits, 2) estimated days of stay, and 3) the number of local cultures developed into tourist attractions. In addition to having a local wisdom-based tourism development, all tourism area managers are expected to provide a better economic impact for the community by involving all local cultures as preservation and characteristic of the region.

The principle of local wisdom in tourism development is included in sustainable development by involving the cultural and social community [17]. The empowerment of local wisdom as a personal branding of a tourist area is also one of the dominant factors. The concept of development strategy is often known as Social and Culture Sustainability which ensures that the development carried out has a positive impact on the surrounding community following the culture and values in the community [17]. It is a combination of nature tourism service providers that were simultaneously preserving multicultural values.

The implementation based on local wisdom involves all values, morals, and culture owned by the community to support the economy in the tourist area. Its application can be made using the promotion or managing the beach with the community by using the Gandrung dancer as an opening. Gandrung dance is one of the cultural characteristics in Banyuwangi Regency, which is almost used in all official opening special activities in Banyuwangi Regency. In 2019, there was the opening event of the International Surf Competition, which began with the Gandrung Surf Competition followed by dozens of local dancers in Banyuwangi. Besides, the involvement of the local culture became an
attraction in the Pulau Merah Beach tourism, such as the Segara Tawang Alun Temple which is a worship place for Hindu that held the Mekiyis ceremony.

Following the Performance Agreement from DISBUDPAR in 2019 it is stated that the development of the tourism area is based on the local wisdom of the community, but it is also balanced with various work programs. The program consists of 3 parts, which are 1) the management of cultural wealth and diversity, 2) the destination development program and the tourism partnership network, and 3) the tourism marketing development program. Therefore, to manage local culture as a tourist attraction, improvements from internal and external factors are also carried out gradually so that the program can be realized. Development of internal factors (IFAS) and external factors (EFAS) in the Pulau Merah Beach can be used as a basis for a SWOT assessment to improve tourism as can be seen in the following table.

**Table 1. IFAS and EFAS Matrices**

| Internal Factors (IFAS) | Strength (S) | Weight | Rating | Score |
|------------------------|--------------|--------|--------|-------|
| 1. Has a coastline of 3 km and ramps | 0.10 | 4 | 0.40 |
| 2. Island (small hill) as high as 200 meters which is a characteristic of area | 0.10 | 4 | 0.40 |
| 3. Wave height 2-5 m with an average length of 200 making it the main spot for surfing | 0.10 | 5 | 0.50 |
| 4. Panorama of beautiful white sand beach and sunset | 0.20 | 5 | 1.20 |
| 5. There are many restaurants and homestays | 0.15 | 5 | 0.75 |
| 6. Large parking lots and toilets | 0.10 | 4 | 0.40 |
| 7. Conducive security | 0.10 | 4 | 0.40 |
| 8. There are already Perhutani managers and the community | 0.10 | 3 | 0.30 |
| 9. The promotions is carried out periodically | 0.5 | 5 | 0.25 |
| **Total** | **9** | **4.60** |

| Weaknesses (W) | Weight | Rating | Score |
|----------------|--------|--------|-------|
| 1. The location was far from the city center so minimal public transportation | 0.20 | 5 | 1.00 |
| 2. here is no visitor limit for the preservation of environmental carrying capacity | 0.30 | 3 | 0.90 |
| 3. Bins are limited | 0.25 | 4 | 1.00 |
| 4. The community has not been accommodated to maintain cleanliness and environmental sustainability | 0.25 | 4 | 1.00 |
| **Total** | **3.70** |

**Strengths-Weaknesses 0.70**

| External Factors (EFAS) | Opportunities (O) | Weight | Rating | Score |
|------------------------|-------------------|--------|--------|-------|
| 1. Active involvement in surfing national or international shows or events | 0.20 | 5 | 1.00 |
| 2. Having a surfing spot with a fine white sand beach for beginner to professional surfers | 0.20 | 5 | 1.00 |
| 3. Being the most popular natural tourist trends after Ijen Crater | 0.15 | 5 | 0.75 |
| 4. Far from the city so that the atmosphere is calmer and cooler | 0.10 | 4 | 0.40 |
| 5. Has formed a Disaster Resilient Village | 0.10 | 4 | 0.40 |
| 6. Regulations on tourism management have been set | 0.10 | 4 | 0.40 |
| 7. Entering fee is relatively cheap | 0.10 | 3 | 0.30 |
| 8. There are many tour and travel agencies that | 0.05 | 4 | 0.20 |
provide tour packages for tourists

| Threats (T) | Threats of threat of tidal waves and tsunamis 0.20 | Some beaches have other unique characteristics around Pulau Merah Beach 0.35 | Lack of awareness of visitors to maintain cleanliness and preservation of the beach 0.30 | The beach has relatively high waves, so it is less friendly to children 0.15 |
|------------|----------------------------------------|-------------------------------------------------|-------------------------------------------------|----------------------------------|
| Total      | 4.45                                   | 0.80                                            | 1.75                                            | 0.45                             |

Opportunities- Threat 0.55

Source: Research Data (2020)

Based on the results of IFAS and EFAS, Pulau Merah beach is in quadrant 1 or in a growth position with a position in the stable growth strategy. So it has more the strengths and opportunities of tourism development compared with the weaknesses and threats. The results showed that the high number of strengths and economic opportunities developed through local wisdom-based development that gives a positive impact on tourism promotion. In addition, the availability of accommodation in providing exclusive services for tourists also makes Pulau Merah Beach a great opportunity to invite many tourists to come.

In the IFAS and EFAS matrices, it can be seen that the managers and the community have succeeded in achieving at least two conditions for sustainable development which is 1) social and cultural sustainability and 2) economic sustainability. Management of tourism based on local wisdom of the community has succeeded in providing a high economic impact so that Pulau Merah Beach has succeeded in becoming a CBT (Community Based Tourism) model in Banyuwangi Regency. Therefore, to support optimal regional development, alternative solutions are needed so that weaknesses and threats cannot affect strengths and opportunities.

Following the principle of sustainable development, there is one major factor that does not receive special attention, that is ecological sustainability. Ecological sustainability is often associated with environmental preservation so that the carrying capacity of nature is not disturbed to utilize nature tourism. It can be seen in weaknesses and threats of IFAS and EFAS matrices, such as in the lack of visitor restrictions, the trash can is quite limited, and the surrounding community still needs to be continued to socialize about how to maintain a clean environment so that the carrying capacity of tourism continues to grow. Therefore, alternative development strategies are needed to preserve the environment so that all aspects of sustainable tourism development and reduce the value of existing weaknesses/threats.

3.3 Development of Ecotourism in the Pulau Merah Beach

The implementation of alternative strategies to preserve ecotourism areas certainly has a variety of basic references in the development. In Indonesia, the regulation refers to the Regulation of the Minister of Maritime Affairs and Fisheries of the Republic of Indonesia Number Per.30 / Men / 2010 related to the Management and Zoning Plan of Conservation Waters Areas in Chapter IV article 29 covering 1) maintenance and improvement of biodiversity, 2) protection of community resources local, 3) economic development based on marine ecotourism, 4) maintenance of ecological processes and life support systems, 5) promotion of sustainable use of resources, and 6) promotion of governance efforts for environmental protection of marine conservation areas [21]. Through this basic reference, the ecotourism strategy can provide full assurance of efforts to protect cultural values in the community, preservation of nature, and the quality of sustainable living in tourism areas, one of which can be applied to the management of Pulau Merah Beach, Banyuwangi Regency.

Pulau Merah Beach, as a natural tourism destination, continues to experience a growing number of visits and contributes to significant regional income each year. Since it has been hit by the tsunami in 1994 and damaged the natural and social environment, the improvement and promotion
have continued to improve until now. The development will certainly continue to have a positive impact on the economic growth of the community, so there needs to be a balance in environmental management. Environmental factors as an inventory of natural tourism become very important to maintain the sustainability of tourist destinations. Therefore, the development of community-based local wisdom also needs to be carried out the application of environmental-based strategies. The implementation of an environment-based strategy cannot be carried out on its own, so it needs to be implemented side by side with the previous development strategies.

The strategy for developing natural tourism areas by taking into account of environmental for the benefit of ecosystem sustainability is known as ecotourism development. Ecotourism development is a concept of sustainable tourism development that aims to support environmental (natural and cultural) environmental preservation efforts and increase community participation in management so as to provide economic benefits to the local community [15]. Conceptually, ecotourism emphasizes the basic principles of integrated ecology and tourism that must be considered to improve the people's economy and pay attention to environmental preservation.

The concept of CBT is also adapted in ecotourism so that the term Community Based Ecotourism (CBE) is known. Community-based ecotourism is an ecotourism business that emphasizes the active role of the community [22]. It is based on the fact that people know nature and culture that are potential and selling points as tourist attractions, so that community involvement is absolute (DG PDP-Depbudpar & WWF-Indonesia, 2009; Husamah, 2018). According to Priono (2012) developing operational guidelines on ecotourism development strategies, it is necessary to pay attention to five principles, namely (1) conservation principles (nature conservation principles and cultural conservation principles), (2) community participation principles, (3) economic principles, (4) educational principles, and (5) tourism principles [23].

In Indonesia, the ecotourism development strategy has been applied in several tourist destinations and has succeeded in providing an impact on ecological sustainability on the environment. One of the best in Indonesia is the application of ecotourism in the Mount Halimun Salak National Park (TNGHS) which provides an economic and ecological improvement impact of natural tourism that focuses on environmental service providers [24]. In addition to the application of ecotourism on beach tourism, one of them is in the Clungup Mangrove Conservation (CMC) since 2012 by the Sendang Biru Community Bhakti Alam Institute in Malang Regency. This CMC has a mangrove area that has been officially managed with an area of 81 hectares and a 117-hectare beach border covering 3 main beaches, namely Clungup Beach, Gatra Beach, and Tiga Warna Beach [15]. Community-based beach ecotourism can also be applied in Pantai Taman Pacitan Regency such as 1) the turtle zoning system as a tourism asset, 2) the development of an ecotourism area as a supporter of conservation, and 3) involving the community in planning, implementation, capital and sharing of results [25].

Through the principles of ecotourism development strategies and their application to natural tourism destinations in Indonesia, the research aimed to develop these ecotourism strategies in Pulau Merah Beach tourist destinations. After developing rapidly in supporting the economy of the coastal community, Pulau Merah Beach has succeeded in becoming one of the leading tourist destinations that implement a local wisdom-based tourism strategy. Therefore, as an ecological counterweight in the coastal area, further studies on ecotourism development strategies need to be carried out [17].

In implementing the ecotourism strategy, several criteria need to be considered by managers, local communities, and visitors. The criteria that become the reference standard consist of 5 main principles, as stated by Priono[24] which are conservation, community participation, economy, education, and tourism. There are some of principles need to be improved on Pulau Merah Beach consisting of 1) managing facilities and facilities following environmental carrying capacity, 2) raising awareness and appreciation of stakeholders towards the preservation of the natural environment, 3) reducing negative impacts such as managing or controlling the amount of waste brought by visitors, 4) enforcing affirmative measures on business actors or visitors who violate environmental preservation efforts, 5) applying environmental preservation as the main indicator in tourism SOPs, and 6) Applying the ecotourism code of ethics strictly to visitors and businessman.

The application of environment-based tourism or ecotourism on the Red Island coast can be made with various improvements. It is supported by the management of beach tourism and services for visitors have been very good, so it does not require a very significant change. Through evaluating
the carrying capacity of the environment to support the sustainability of tourism activities at this time, awareness to maintain environmental conditions sustainably must begin to be considered in the future.

The implementation ecotourism strategies on the Pulau Merah Beach are only on the awareness of the public and tourist visitors. The role of stakeholders can also have a big influence if each unit can commit to the planned standard ecotourism strategy. It is reinforced by Arlin's opinion in 2015 related to the role of stakeholders in supporting the acceleration of the development of ecotourism strategies, including 1) government institutions (making official regulations on coastal ecotourism, allocating funding for tourism development, conducting education and training, coordinating the development of activities, and involving local communities in conservation), 2) the management center (conducting oversight of the coastal area, initiating an ecotourism acceleration program, guaranteeing environmental and cultural preservation, giving direction to tourists), 3) the tourism industry (supporting the development of ecotourism activities, promotion carried out periodically by paying attention to the carrying capacity of the environment, and conducting assistance and collaboration with visitors and the community), 4) research institutions (conducting an inventory of potential tourist areas, providing education and training on environmental preservation efforts, and conducting research on sustainable resources), and 5) Non-Governmental Organizations (implementing ecotourism development strategies, providing support and commitment to environmental preservation, and volunteering in area surveillance) [22]. The development of Pulau Merah Beach in positive governance and promotion is inseparable from the role of these stakeholders. By involving stakeholders in the implementation of ecotourism is a strategic step to support the sustainability of environmental carrying capacity in the tourist area [26].

The development of ecotourism on Pulau Merah Beach is a strategy that has been widely used in natural attractions and is proven to have a positive impact. The availability of environmental carrying capacity in natural tourism is an important thing that needs to be considered by all communities because the natural environment is the main object of the tourist destination so that the social aspects of society and economic fulfillment can go hand in hand [27]. Therefore, exploitation of coastal tourism which is not followed by environmental preservation causes the carrying capacity and attractiveness of these tourist attractions to decrease. Pulau Merah Beach currently is a leading beach tourism destination in Banyuwangi Regency that needs to implement an ecotourism strategy as a basis for sustainable development, so that the ecology can guarantee the economic and social sustainability of the community in the coastal environment.

4. Conclusions

Pulau Merah Beach is one of the marine tourism destinations, which is the main attraction for beach tourism in Banyuwangi Regency. The beach develops using local wisdom strategy with indicators of achievement 1) an increase in the number of visitors, 2) estimated days of stay, and 3) the number of cultures that can be involved in tourism promotion. Through the strategy, Pulau Merah Beach develops optimally, offering tourist services for beach tourism and surfing attractions to being known on an international scale. However, the use of this tourism area needs to be balanced with the principle of sustainable development with three main factors to consider which are 1) sustainable ecology, 2) sustainable socio-cultural, and 3) sustainable economy. Based on the IFAS and EFAS matrices and interviews with key informants, socio-cultural and economic sustainable dominated the development of tourism, such as the involvement of local wisdom and the number of visitors that continues to increase. The ecological principles that should be the main points of the use of nature tourism become less attention to the carrying capacity and sustainability. Therefore, the application of ecotourism strategy by considering environmental preservation is needed without eliminating local wisdom and the economy of the community in the coastal tourism area. Pulau Merah Beach is known for its highly developed tourism management and promotion by involving interactive social media such as booking and accommodation and accommodation booking systems. The implementation of ecotourism strategies can be implemented if all parties commit together. Using ecotourism on the management of Pulau Merah Beach, the area can be succeeded in developing the principle of sustainable development, starting from the consideration of environmental quality and social-cultural involvement of the community. Therefore, the economy improvement of coastal communities that can be guaranteed and sustainable.
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