Sustainable tourism development in Kepulauan Seribu

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Abstract. This paper aims to analyze sustainable tourism development in the Kepulauan Seribu. The methodology employed three indicators for sustainable tourism namely development strategies, visitor behavior, and general concepts. The results show that tourism development driven by a private company has a lack of the principles of sustainability. Tourism development is oriented to non-local business players. On the contrary, the island that is managed by the community and the government implements the principles of sustainable tourism development. The owner of hotels and homestays use local labors. Based on visitor behavior indicator, those islands managed by private companies, only apply one out of 6 sustainable indicators, namely trip preparation. For the other 4 sustainable tourism development indicators, private islands do not implement them. For example, when tourists do not learn the local language, they have no desire to visit the private island again. Based on development strategies indicators, the island being managed by the community and government does implement the sustainable tourism development principles. This is because the island implements the most determined sustainable tourism indicators such as using local developers, local labors, and local architectures.

Keywords: Sustainable tourism indicators, strategies of development, visitor behavior, Kepulauan Seribu.

1. Introduction
Sustainable tourism development is very important [1] because there are changes in the tourism industry market today. That changes occur because of several reasons. According to [2] there are four factors that cause changes in tourism interests. One of them is an increase in environmental awareness and cultural sensitivity of society.

According to [3] in the Hawaiian Islands and Baléares, there are four indicators that must be adhered to so that sustainable tourism development is met. First, each island must take part in the development of tourism carried out and between islands must support each other. That means that local people must actively participate in tourism development. Second, tourism development must respect the hierarchy of the governance structure of an archipelagic state or district [4], therefore tourism development should be aware of conflicts due to the inability of communication between each island. Third, each island in the archipelagic state must have a characteristic and unique market. According to [5] noted the development of tourism in the Egée Islands that each island has a distinctive profile. Fourth, the transportation system is a very essential factor in the development of tourism in an archipelagic state [6].

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The high environmental awareness of visitors comes mainly from developed countries. In addition to enjoying tourism sites, these visitors also observe whether the attractions offered to consider well the environment carrying capacity [7]. This is due to the fact that tourist is willing to consume and select the recreation according to their preferences. In other words, the tourist would like to see that the natural resources for tourism were not heavily extracted but the managers are still paying attention to its sustainability. Importantly, tourism products were encouraged to be more green products and or sustainable resource use. Almost all kinds of tourism development in Indonesia including sustainable development of tourism, as well as mass tourism development, can easily fall on the same mistakes that may damage the environment [8].

Although, the tourism sector may act as a source of livelihood but it also can be one of the sources that can damage the environment. According to [9], the first thing to do to attract visitors is the construction of infrastructures such as hotels, restaurants, and accessibility that can change the environment of an island. For example, tourism development in Baleares, Antilles, and in Puerto de la Cruz, have made the island filled with increasingly crowded buildings to attract even more visitors. Kepulauan Seribu was chosen as the research location, because of this Kepulauan Seribu has a tourist attraction, but it is very vulnerable to the environmental impact of tourism. This paper will answer *How the development of sustainable tourism in the Kepulauan Seribu is. Does it meet the principles of sustainable tourism development or not?*

2. Research methodology

2.1. Data analysis

Analysis of sustainable tourism development models uses a qualitative approach. The parameters and variables are qualitative variables and employ the model developed by [10,11,12]. The sustainable tourism development model investigates aspects of development strategies, visitor behavior, and general concepts. The sustainability of tourism development indicators for the aspects of development strategies include planning before development, evaluating costs and benefits, utilizing local architectures and local developers. The sustainability of tourism development indicators for the aspects of visitor behavior include making travel arrangements, learning local languages, relaxing activities, and would like to come back to the site again. The sustainability of tourism development indicators for the last aspect (general concept) is the speed of the development, control of the development, the measurable scale of the development, duration of the development, the quality of the visit, and the existence of local control.

2.2. Data sources, data collection methods, and location of research

The research uses primary data by conducting interviews with visitors, the community members, and the private sector managing the island, and the government. The survey was conducted in the Kepulauan Seribu. The interview was conducted by comparing aspects and parameters from the development strategies, visitors’ behavior, and general concepts proposed by [10,11,12].

3. Results and discussion

3.1. Sustainable parameters of development strategy

From the aspect of development strategy, the sustainability of tourism development depends on who the tour manager is. For example, tourism management on islands managed by the community is more sustainable than tourism management conducted by the private company. Out of the 5 sustainable tourism indicators from the strategic development that has been determined by [10,11,12,13], community-managed tourist islands are more sustainable because they apply most of the indicators that are determined for sustainability. They are using local developers, local labors, and local architecture. Lodging and restaurant owners use developers and local workers because of cheaper prices. That can help their family or neighbors themselves. There are also several restaurants and homestays that use non-local architecture. Some reasons for using non-local architectures are the domestic tourists' interest
in modern and minimalist buildings, and non-local buildings are usually easier to maintain compared to traditional buildings using wood. The wood material is very susceptible to termite attacks. The development of tourism is carried out with insufficient planning. This can be seen from the construction of hotels and restaurants in coastal locations (10-30 meters from the beachside), the absence of a good garbage disposal system, and the mixed layout between settlements and tourist areas.

The small island tourism is managed by the government is usually relatively similar to the island being managed by the local community. It means that tourism development is considered sustainable in terms of the development strategy undertaken. Sustainable tourism development indicators, such as using developers, labor, and local architecture are being met. However, the lack of supervision during the implementation of tourism development has led to unsustainable practices such as a pile of untreated and uncollected garbage in many places, many restaurants made by the community but did not get license or permission from the government, some irresponsible action on the walls of Dutch historical heritage buildings. The building with a restaurant or other new building made by the government uses local architecture, but for Dutch historical heritage buildings, using European architecture. Sometimes the government cannot employ local developers from Kepulauan Seribu since the bidding process mandates the use of the third party with the most economical proposals. Those are many times that do not come from the Thousand Islands. Many local developers do not meet the requirements set by the auction committee, such as the tax payer’s principal number, and other requirements. But for restaurants and other businesses in the tourism sector, management is carried out by involving the community.

On several islands managed by the private sector, there are only a few sustainable indicators were met, namely the use of local architecture and planning before the development. Of the two islands managed by private companies that are used for research locations (Bidadari Island and Ayer Besar Island), all hotel and restaurant buildings are traditional types using wood materials. The reason for using local architecture is because these two islands have a market share of foreign tourists who generally have a preference for a local taste for experiences. However, this local architecture has very high maintenance costs, because the material is made of wood and it is susceptible to termite attacks. The other four indicators are tourism development are not carried out in a planned manner, emphasize more on increasing the capacity of visitors, using developers from outside the Kepulauan Seribu, and also using labor from residents outside the island.

Tourism development that emphasizes on increasing the number of visitors will lead to the number of costs incurred to build tourism infrastructure. Too many visitors will exceed the carrying capacity of the environment. For example, the visitors on holidays on Bidadari Island are between 100-200 people, whereas the environmental carrying capacity of the coastal area is only 50 people for economy class, 40 people for the middle class, 30 people for luxury classes, and 20 people for special classes. Usually, the use of non-local developers has led to the employment of non-local workers as well.

3.2. Parameter of visitor behavior
Based on the development of sustainable tourism in terms of tourist behavior, there are 6 indicators of sustainability that have been determined by [10,11,12,13]. The islands managed by private companies (Ayer Besar Island and Bidadari) only apply one indicator of sustainable tourism development, namely trip preparation. The trip preparation is usually carried out by foreign tourists, companies, or middle-class tourist. This preparation is done one-two months before the departure by a tour agent. According to travel agents, visitors are in peak seasons during national holidays and school holidays. Usually, many families ask for tour assistance to prepare for their holidays.

The cost of using this tour agent is far more expensive than without one. For example, the cost to go to the Ayer Besar Island without using a travel agent is IDR 150,000 per day / per person in one day trip. Using a travel agent, the cost that must be spent per day is IDR 260,000. There are no public boats going to the tourist sites of the Bidadari Island and the Ayer Besar Island. Therefore, it is very difficult to visit Bidadari Island and Ayer Besar Island without using a tourist agent. Another option is tourists should rent a good boat from Ancol or from Tanjung Pasir to directly go to Ayer Island. However, the rental prices from Ancol beach are more expensive than from Tanjung Pasir.
Another interesting behaviour of tourists visiting the Kepulauan Seribu is that they do not speak Bahasa Indonesia. Therefore, these foreign tourists mostly did not come for the second or third time to the same place or island. However, the domestic tourists from Indonesia, they do come again.

For the island being managed by local people, the sustainable indicators were less met. From the 5 sustainable indicators, there is one indicator met. The indicator of tourists’ behavior visits the island being managed by local people is similar to those visiting islands being managed by private companies. These two types of islands, managed by local people and by a private company, do not apply sustainable tourism indicators. This we can see from 5 sustainable tourism indicators, tourists visiting the island being managed local people only apply one indicator, namely the desire to visit this island at another time. They want to visit again because the cost that must be spent is cheap and the island can be visited easily due to much alternative transportation available. In contrast to that, islands being managed by private companies are not easy to visit because of rare and infrequent transportation that leads to expensive transportation costs. For the other 4 indicators, tourists visiting the community-managed islands do not apply sustainable tourism indicators, namely not learning the local language, being intensity-oriented, and not making preparations to visit the island. The reason they did not make preparations because visiting this island is easy, close to Jakarta, the cheap costs, and plenty of alternative transportation.

Comparison of tourists visiting islands that are managed by private companies and by local people shows that tourists visiting the islands managed by the government apply more sustainable tourism of the five indicators of sustainable tourism. These tourists do not apply only one indicator, namely not learning the local language of the island they will visit. They apply indicators of preparation for travel and the desire to revisit the island.

3.3. Sustainable parameter of general aspect
Using the perspective of the general concept, the tourism management model depends on who manages the island. For example, for islands that are managed by private companies according to sustainability indicators proposed by [13], [10], [11], and [12], tourism development is done by paying less attention to sustainability indicators. Out of 6 indicators of sustainable tourism development, only one indicator is applied by the manager, namely development planning. The body that controls the island is the “owner” of the island. And the government cannot directly monitor tourism development. The government can indeed revoke the island’s permit if it violates government regulations. Unfortunately, the supervision carried out is very weak due to limited human resources. Because the management of the island is a collaborative agreement between the government and the private sector. Therefore, sometimes local people do not have access to the particular island.

On the other hand, islands that are managed by the private sector, tourism development is carried out quickly, done on an inappropriate scale. Although it is not being managed by local communities, the entrepreneurs are still from neighboring places such as Jakarta and Bogor. Tourism development is carried out in a relatively fast time because the owners of capital have a large capital for island development. This can be seen from the number of hotels, and infrastructures on the island owned by the private sector. Tourism development is more quantitative because in general the developer only thinks about the number of visitors and the benefits or profits gained, but ignores the principle participation of the local community, one of the characteristics of sustainable development of tourism.

The island managed by the Government is more sustainable. It implements indicators for tourism development sustainably, namely the development of tourism is carried out step by step and tourism development is carried out in a relatively long term. It is a more qualitative approach to include community participation. Therefore, it is jointly managed by the central government and society, and the development is carried out on the right scale. The government manages four islands, three of them (Onrust Island, Cipir Island, and Kelor Island) is to maintain historical heritage in the Dutch colonial era, and one of them (Pulau Rambut) is for observation and education tours. Consequently, there will be not many physical developments on the island to impact less on the environment. For example, on the four islands, there are no hotels, and only the Onrust Island and Cipir Island have restaurants. Therefore,
the development of tourism on this island is qualitative, not only pursuing the number of tourists but also thinking about environmental sustainability and historical heritage. Community involvement can be seen from their participation in managing restaurants, transportation, and souvenir business. Therefore, these islands are not managed exclusively but inclusively having high engagement from the communities.

Community-based tourism management usually carries out in a more sustainable manner based on those 6 sustainable indicators. Those sustainable indicators are the development of tourism is carried out slowly (except for Pramuka island, tourism development is carried out fast, because of the high public demand for underwater tourism), tourism development is carried out in a relatively long period, it is qualitative manner, is being managed by local communities, and tourism development is controlled by the community and government. The slow development of tourism on the island which is managed by the community is because the community does not have a large capital in building tourism infrastructure. In addition, tourism buildings must also be limited, due to the limited availability of land (consideration of the proportion of land use for settlement and tourism development). The development of tourism is carried out qualitatively means tourism development that is not only on the target number of tourist visits but the benefits gained from community participation in tourism development. Community participation can be seen from the construction of homestays, restaurants, making souvenirs, and the guide profession during in tourism development. Lastly, one indicator of sustainable development of tourism is the right scale. The islands managed by the community do not implement this indicator.

4. Conclusion
We find that sustainable tourism development in Kepulauan Seribu depends on who manages the islands. In this archipelagic state, the management of the island can be divided into three types, namely the island that is managed by the government, the local people/community, and the private company. From the aspect of the development strategy, the management of tourism in the islands managed by the community is more sustainable than the management of tourism carried out by the private company. This island managed by the community is more sustainable because it implements most of the sustainable indicators that are determined such as using developers, labor, and local architectures. In contrast, islands that are managed by a private company, from aspects of sustainable development strategies, lack of sustainable tourism development such as emphasizing more on increasing the capacity of visitors, using developers from outside the Kepulauan Seribu and also using workers from outside the island. The islands that are managed by the government, from the general aspect, are more sustainable, because they implement indicators for sustainable development of tourism, namely the development of tourism is carried out slowly and tourism development is carried out in a relatively long term, is qualitative, managed by the government through local community engagement, so that tourism development is controlled by the government and the community, and its development is carried out in the right scale. Consequently, on the islands that are managed by the government, there will be not much physical development carried out to protect the environment. For example, on the four islands, there are no hotels. Only on Onrust Island and Cipir Island have restaurants. Therefore, the development of tourism on this island is qualitative, not only pursuing the number of tourists, but also considering environmental sustainability and historical heritage. Community involvement can be seen from their participation in managing restaurants, transportation, souvenir business. Therefore, these islands are being managed in an inclusive way with high community participation.

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