

Sustainable Eco-Tourism Concept in Coastal Settlement Based on Economic Sustainability

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Abstract: Tourism is one of the main sectors in the national development of Indonesia. In addition to providing many benefits, tourism is also one of the main sources of environmental damage. An area that has a lot of potential for tourism development in the coastal settlement area. The Coastal settlement has the potential in terms of environmental and economic aspects. It has abundant natural resources and has the potential to be conserved. However, it is not supported by a good environment. Coastal settlement is stacked with a lot of garbage, waste, and houses that are not well-treated. This study is conducted in Kampung Tambak Cemandi, Sidoarjo. This study aims to formulate the concept of coastal settlement structure to become economy based sustainable ecotourism. This study uses a qualitative method, in which the researcher describes and analyzes the real condition of the village regarding problems and potential to become a tourist village. To determine the strategy, a SWOT analysis was used. The result of this study is the concept of the Kampung Tambak Cemandi arrangement being an ecotourism village with the concept of a sustainable economy. The concept of tourism that can be applied in Kampung Tambak Cemandi Sidoarjo, is the development of the environment in the context of environmental preservation and utilization of natural resources. In addition, the emphasis on sustainable economic needs that involve the participation of local communities, in order to improve the economy of the community and the government

1 INTRODUCTION

Tourism development is one of many ways to increase the development of a country in terms of economics. Tourism is expected to be able to provide a major contribution to the increase in foreign exchange in the efforts of the government to realize the welfare and prosperity of the community, be it for now or the future. However, tourism is also referred to as one of the main sources of environmental damage. The development of tourism nowadays is dominated by economic and aesthetic values compared to the development of social, cultural, and environmental values. In good and effective development, tourism can produce positive benefits in terms of the economic, social, cultural, and natural environment. According to Law of the Republic of Indonesia no. 10 of 2009, it is stated that there is an awareness of the concept of a sustainable multidimensional approach, which is

environmentally friendly, economically beneficial, socially acceptable, and placing society as the core subject of development (Sharvina, 2016). One form of tourism products as a derivative of the concept of sustainable tourism development is the concept of ecotourism development and sustainable economy. Ecotourism is a combination of various interests in terms of social, economic, and environmental issues. The main focus of ecotourism-based tourism is on the potential of tourism for sustainability and culture in the future (Dirawan, 2008). Development which considers the capacity of natural resources and the environment creates a harmonious condition with sustainable economic development. In developing tourism, an area needs to consider its potential. This study was conducted in Kampung Tambak Cemandi, Sidoarjo. This area has the potential of its economic and environmental aspects, is known as the biggest milkfish producer in Sidoarjo. The potential economic and environmental aspects of the Kampung

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Tambak Cemandi in Sidoarjo is the economic aspect, the community who mostly work as a fisherman which can later increase the tourism, yet the area remains underdeveloped and public awareness regarding such a potential. In terms of environmental aspect, this area is an area which mainly consists of milkfish ponds; furthermore, this area is also a coastal area in which most people live as a fisherman. However, the environment is still slim and the awareness of the community regarding their environment is low and there is not any specific attention nor effort to improve the quality of the environment. With the problems and potential of Kampung Tambak Cemandi, the development for the village is in terms of social, cultural, and environmental preservation with the concept of ecotourism.

2 COASTAL SETTLEMENT

Fisherman settlement is located in a coastal area including lakes and rivers. Not everyone living in this area is a fisherman but there are also other fields of occupation such as tourism, inter-island transportation, etc (Umbara, 2003). Around the settlement, there is a field that serves to dry fish. The center of fish (TPI) is a place to buy and sell fish and other supporting facilities for fishing. The community itself has its own problems including poverty, social inequality, economic pressures, limited access to capital, technology, and markets, socio-economic, low quality of human resources, degradation of environmental resources, and low environmental quality.

3 SUSTAINABLE TOURISM

According to Haris (2000), the sustainability concept can be divided into three aspects: (1) Economic sustainability is a development that is able to produce goods and services continuously, (2) Environmental sustainability is a development that is able to maintain stable resources, avoid exploitation of natural resources and environmental absorption, (3) Social sustainability is a system that is able to achieve equality, provision of social services including health, education, gender, and political accountability. The concept of sustainable development is adapted in the tourism sector as a model that integrates the physical environment (place), the cultural environment (host community), and tourists (visitors). Sustainable tourism development is a development that can be

supported ecologically as well as economically, even ethically and socially fair to the community (Hartono, 2014). According to the WTO (2001), the concept of sustainable tourism development essentially emphasizes 4 (four) principles, two of which are, an environment that can be sustainable and economically feasible. Sustainable tourism development is essentially related to efforts to ensure that natural, social, and cultural resources are used for tourism development for now and generations to come. According to Sharpley (2000), the development of sustainable tourism is related to the use of natural resources and human resources for the long term. The concept of sustainable tourism has five main pillars in its development including, among others, economic performance, investment and competitiveness, employment, human capital, and natural and cultural environment sustainability (UNWTO, 2013). According to Syamsu in Prakoso (2008), an area is considered to be a tourist area based on several factors including the scarcity factor, the nature of tourist attraction that is unusual or rare, natural factors, uniqueness, and community empowerment factors that are able to encourage people to participate.

4 ECOTOURISM

The International Ecotourism Society (2002) defines ecotourism as a tourist trip that is responsible for natural areas carried out aiming to conserve the environment and preserving the lives and welfare of the local community. Sustainable ecotourism can have a positive impact on the environment. According to the Green Tourism Association, ecotourism in a tourism development has four pillars and attributes, three of which are environmental responsibilities, such as protection, conservation of natural resources, and physical environment; local economic vitality, which encourages the growth of the local economy, business, and community; and experimental richness, namely creating attractions that can enrich and enhance a more satisfying experience. An integrated ecotourism management system is needed to build sustainable and community-based ecotourism. This system involves a system of planning, implementation, monitoring, and evaluation that is able to integrate all interests of stakeholders, such as the government, local community, business people, researchers, academics, and tourists. From the ecological aspect, planning to measure the capacity of the environment is important prior to the development. The environment capacity shows the ability of the environment to support

ecotourism activities, such as clean water, land management, and biodiversity owned by the ecotourism area. Economically, an ecotourism development plan must include the calculation of the cost of benefits from the development. In socio-cultural terms, planning must incorporate the local socio-cultural conditions of the community that can be developed in ecotourism activities as well as possible negative impacts that will be received as well as the solutions. Ecotourism is a unity of tourism values that are interrelated between the balance of natural beauty and the effort to preserve. In ecotourism development, it is necessary to pay attention to several principles, namely the principle of conservation, the principle of community participation, and the principle of economics (Subandi, 2005).

5 ECONOMIC SUSTAINABILITY

Economic development based on natural resources that do not pay attention to environmental aspects would ultimately have a negative impact on the environment since natural resources and the environment basically have limited carrying capacity. Economic development that does not pay attention to the capacity of natural resources and the environment will cause development problems in the future. In terms of economics, there are two main reasons for economic development to be sustainable: (1) Moral, current generation enjoys goods and services produced from natural resources and the environment, so it is morally necessary to pay attention to the availability of natural resources for the next generations in the future, and (2) Ecology, economic activity should not be directed at activities to exploit natural resources and the environment which can ultimately threaten ecological functions (Fauzi, 2004).

6 METHODOLOGY

This study used the post-positivist paradigm since there were other factors, namely community participation that affected the objectivity and could be applied in other studies with different contexts. The design of this study used a qualitative method to identify and understand the problems and potential of the environment in Kampung Tambak Cemandi. Furthermore, to determine the strategy, a SWOT analysis (Strengths, Weakness, Opportunity, and

Threats) was used. Data were analysed using qualitative descriptive analysis. The data used were in the form of qualitative data. The data needed to be a map of the location, the landscape photography of the study area, the potential of tourism objects, plans for the development of tourism objects and areas, and management and tourism attractions. These data were obtained through field observation and interviews with the community and related institutions. This study used a case study in Kampung Tambak Cemandi Sidoarjo and the local community. A case study was selected due to the location which had a lot of potentials to become a tourist village. This study used a purposive sampling technique. Data were collected to obtain primary data and secondary data. The primary data were collected from two methods, namely field observation, and an interview. Secondary data were collected through literature studies. Data were analysed using spatial analysis and qualitative descriptive. Spatial analysis was selected based on tourism potential mapping in Kampung Tambak Cemandi. Data from interviews and observation were analysed descriptively to explain the result. The data that had been collected were processed and analysed by dividing the steps into data collection, data reduction, data presentation, and conclusions

7 RESULTS AND DISCUSSION

The location of our research is at Tambak Cemandi Kalanganyar Sidoarjo. Here is the site location and existing zoning area research of tourism settlements examined in Figure 1.

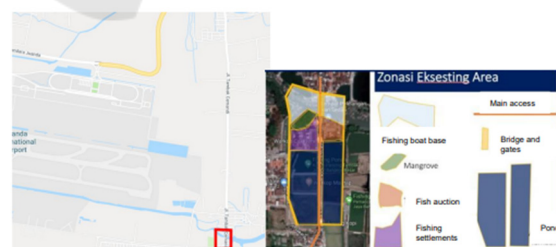


Figure 1. Site Location and Existing zoning Area Research
Source: Writer Document

Within the area of our meticulous areas, there are several zoning starting from fishing vessel base, mangrove tourism area, TPI area of fresh fish, fishermen residential area, bridge and gate area which is the main access to the tourist area, and which The most widespread of these areas dominate the region.

In-depth interview techniques or group discussion forums at this stage we interviewed 3 respondents with. The background is different but with the scope of the residence can be in the research area. Here are some questions in our interview.

The interviews we do contain identity or personal data from respondents, regarding name, age, address and occupation. In addition, in interviews, we also asked about the early history of the pond and the development of the area around the pond. Knowledge of the ownership of farms on site, the economy of the site, how the area can become the largest producer of Milkfish in Sidoarjo, community literacy related to social and cultural activities, existing government programs, Local people's wishes for farming and preserving the environment, and the community's desire if the village is a tourist kampung.

The result of this interview stage we collect information that comes directly from the residents about the location about where they live to be developed into a tourist settlement. Our first respondent was the mother of Kho aged 60 and lived in the village of Tambak Cemandi Sidoarjo, her work is a fishing pond and food vendors. The second respondent is the mother of Az aged 35, she is a drink and pulse salesman for the fishing visitor. Our third Respondent Pak Sa was 55 years old as a sea fisherman.

Based on information from the resource of the farm already existed from the past and there are only seven houses. The rights of his own are varied from the people's property and belong to the distant. The family economy of respondents was good enough but still, some are lacking. Suggestions for government programs are usually like free boats for poor citizens. Many people are eager to make their village a tourist kampung. From the interview in depth to three respondents, we analysed with SWOT analysis (Strength, Weakness, Opportunity, and Threat) to know the potential found in Kampung Tambak Cemandi is described in Table 1

Table 1. SWOT Analysis

Strength A. The attraction of Kampung Tambak Cemandi and the characteristic of tourism potential. B. The results of the many ponds and its dairy. C. comfortable atmosphere on site. D. Strategic area for the development of pond tourism.	Weakness A. Limitation of tourism development costs. B. Lack of infrastructure. C. Lack of local public awareness. D. The environment is still rundown. E. No special transportation. F. Lack of cooperation between communities.
Opportunity A. Strategic location with public facilities supported around the village (range). B. Natural resources that are typical to be preserved. C. The uniqueness of society in the processing of ponds. D. Interest from local people to become a tourism village.	Threat A. The development of other tourism objects that increase competition. B. Environmental damage due to excessive tourism development. C. Waning the community's interest in this attraction if there is no innovation

Economic factors and environmental factors in the area of study. The following analysis is described in Table 2 and Table 3.

Table 2. Economic factors Analysis

Existing	Development potential
<ul style="list-style-type: none"> • Fishermen • Fish Sellers • Industry-scale pinning • Fishing • Culinary • Drinks Vending • Seller's staple Needs • The community culture has not been fully undertaken inconsistent and yet developed. 	<ul style="list-style-type: none"> • Fishermen • Boat and Mangrove Tours • Travel fish Sellers • Industry-scale pinning • Travel Fishing • Local culinary Specialties • Special Souvenir Center • Tourism Tambak Cemandi • Drinks Vending • Sellers of Basic Needs • Demo activities/performances between citizens in various fish processing and tourists. • The nursing activities for the industry that can be tourism. • Banded Milkfish activities. • Fisherman-experience activities i.e. fishing activities by boat to find fish in the sea can be tourism for 2-3 hours. • The activities of size and paint the boat simultaneously. • Provide a restaurant that serves the food of this village.

Table 3. Economic factors Analysis

<ul style="list-style-type: none"> • The environment in this village includes a slum environment and can not be used to appeal to tourists. • No special arrangement and attention to improve the environmental quality of this kampung. 	<ul style="list-style-type: none"> • Clean the slum environment in the village. • Perform the arrangement on residents' settlements. • Perform the setup Mangrove area and river and sea area. • Preserve the existing natural environment.
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In addition to the analysis of the four main factors, there are details of the characteristic infrastructure supporting the development of tourism of Cemandi village, Kalanganyar, Sidoarjo. Here are the details:

1. The place to eat: like a café or a restaurant that sells food based on local products from Kampung Cemandi
2. Office of Information and security services: covering security post, public service facility and office for information and safety in the form of coverage of Health place (Puskesmas/Hospital)
3. Souvenir Center: Shops that sell processed food from the village of Cemandi.
4. Clean water supply
5. Electricity network: Using energy-saving resources such as solar system energy.
6. Trash bin: provision of trash at several points with certain distance and provision of TPA as a place of the final murder.
7. Road condition: The condition of the road is already good (asphalt) with the addition of the short-cut ways on each side for safety and comfort
8. Road Signs and Directions
9. Transportation mode: There is special transportation in the location of Cemandi village, Kalanganyar.
10. Tourist parking places

From the results of the analysis, it can be compiled into a concept of the arrangement of Tourism village Tambak Cemandi Kalanganya Sidoarjo. The analysis gives a picture of the concept from the village tourism village of Tambak Cemandi Sidoarjo described in the following figure 2:

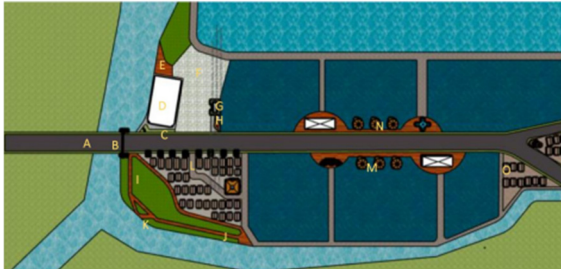


Figure. 2. Site Plan concept and time arrangement

Description:

- A. Gate entrance, placed on a bridge that is a marker of a tourist area.
- B. The bridge is the main link and main access location of the site from the city of Surabaya.
- C. Information centre, located near the parking area.
- D. Place fish auction, in renovation so it can attract many visitors and deserves to be used as a tourist icon of this village.
- E. The place to raise the result of fishermen, in the form of open space that many people see as one of the treats that can be enjoyed by visitors.
- F. Tourist parking Place, placed on the front of the village zoning Tourism Cemandi Village.
- G. Mini Museum, placed in the information as one of the educational forms in the village tourism complex.
- H. Access mangrove tourism, in Add the access Wusata in the mangrove zone that is part of this area.
- I. Boat Tours
- J. Boat excursions, visitors can enjoy the boat provided by the residents.
- K. Kampung Wisata, House of residents become a market that each can sell processed results, catch from the results of the fishermen in this village.
- L. Travel fishing pond, which has been attracted by the community and can be developed again into a unified tourism place.
- M. Culinary tourism and garden, the provision of food and playground is the main factor of the key to the development of village tourism so that people are interested to visit this tourism complex.

- N. A souvenir centre, placed at the very end of a series of Cemandi tourist Kampong and can be one of the driving factors of the economic growth of local residents.

The site plan from the village tourism Village Tambak Cemandi Sidoarjo is the details of the initial concept that has been described in Figure 2. From the above site will be described in a deeper partpart of the concept of architecture that is correct with the needs and criteria of analysis above

Rute of the site plan from the village tourism Village Tambak Cemandi Sidoarjo described in the following figure 3

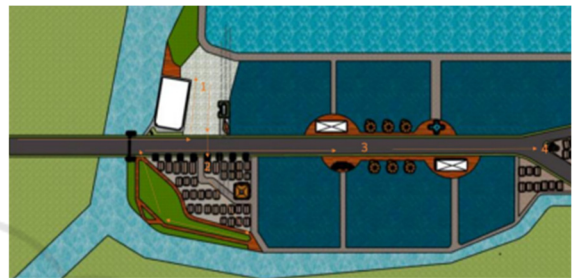


Figure. 3. Rute of the site plan concept and time arrangement

Description:

1. After passing the gate entrance, the parking area is the first place of a tourist. There is information centre, located near the parking area.
2. Residents ' residential area in the tourist village complex, there are a mosque and some facilities
3. Next stop is recreative tourism facility and culinary tour
4. Last stop is the shopping tourism complex in the village tourist villages

The concept of the entrance from Tambak Cemandi village. The monumental gate can be an attraction for tourists. The concept of TPI (fish Auction place) of coastal results need to be done a total renovation due to its existing condition is very concern. The modern and open concept of TPI can make tourists interested and feel when shopping.



Figure 4. Existing Main Gate and Fish Auction Place



Figure 5. Main gate concept and fish auction place

Here the existing public facility and Shelter on residents' settlements.



Figure 6. Existing public facility and Shelter on residents' settlements



Figure 7. Concept of public facility and Shelter on residents' settlements

Overview of the concept of public facilities provided in the village tourism village of Tambak Cemandi Sidoarjo, among others, tour information Post-mini-museum that explains at a glance about this tourist village, public toilets, mosque, parking lots of tourists and A special tourist attraction in this tourist area. The main concept of the residents' residential area in the tourist village complex is the addition of a uniform shelter in front of all the residents' houses, whose existence today is selling the results of fishermen both from ponds and from the sea. The Shelter is free to sell or m, promote the attraction of the residents such as the thorns, fumes, and drying. From this concept, it is intended for the economy of the villagers to be raised and develop the resources and distinctive features of the village.

Overview of the concept of recreative tourism in the village tourism village of Tambak Cemandi Sidoarjo

are typical restaurants processed by residents and also parks and play areas are provided for children. The main concept of this facility is recreative and placed on the edge of the main access road and in front of the fishing pond area (pond which is functioning as the fishing pool area). From the concept is aimed to make this area a recreative function that is not only aimed at the adult fishing activities but also can recreation with children and families, the economy level of the villagers can be increased. Here the existing of recreative tourism facility.



Figure 8. Existing of recreative tourism facility

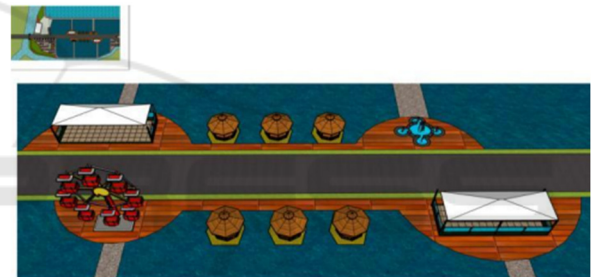


Figure 9. Concept of recreative tourism facility and culinary tour



Figure 10. Existing shoppes tourism in the tourist villages



Figure 11. Concept of shopping tourism in the village tourist villages

An overview of the concept of shopping tourism in the village tourist villages Tambak Cemandi Sidoarjo is allocated to settlements located on the end of the corridor Street Tambak Cemnadi. The main concept of this facility is to revive the economy of the villagers so that on the front porch of the residents can be allocated as an area selling souvenirs, by the typical in this village. There is a view tower in this area aims as an iconic and the attraction of this village tourism so that the tourists feel curious and is located to visit the area of the souvenir village and see the view of this tourism village from above Tower. From this concept, it is aimed to make this area a facility that accommodates activities in terms of recreative but still can improve the economy of the villagers

8 CONCLUSION

To date, the economy of the citizens is largely from the results of working as fishermen and selling fish cannot be used to appeal to tourists. Many local tourists visit on weekends only. Lending a business capital and a dedicated target to become. Tourist village. Local cooperatives can support community entrepreneurial activities. So that the economy of the local and surrounding Waga can be lifted because in addition to improving the income from fishermen also get the results from tourists who come and enjoy the tourism facilities provided and managed by the community. From the results of the analysis, resulted in the concept that has been shown before there are some main points: the concept of modern and open TPI can make tourists interested and feel when shopping. The concept of the house arrangement of residents aimed to make the economy of villagers can be raised and develop resources and characteristics that are already in this village. The concept is aimed to make this area a recreative function that is not only aimed at the adult fishing activities but also for recreation of with children and families. The economy of the villagers can be lifted, and the concept of shopping tourism in the village Tambak Cemandi Sidoarjo is a facility that accommodates activities in terms of recreative but still can improve the economy of the villagers.

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