

## FEASIBILITY STUDY ON SUSTAINABLE NATURAL TOURISM IN BAJULMATI NATURAL TOURISM AREA

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### ABSTRACT

*Bajul Mati is a sustainable natural tourism that applies aspects of environmental conservation, economic aspects which is beneficial for the community and social aspects in the form of local wisdom. The purpose of this research is to conduct a feasibility study of Bajul Mati from economic and environmental aspects. Research method applied in this study is mixed study with Bajul Mati as the tourism object. The data collection is done through interviews and observations, as well as calculation using Net Present Value. The result of this study is  $NPV > 0$ , which means that Bajul Mati is economically viable and improved the welfare of residents through homestay and traders. Environmental aspects consist of conservation in rivers and caves.*

**Keywords:** Sustainable nature tourism, feasibility study, Net Present Value

### INTRODUCTION

#### a. Background

Indonesia is a country that has a great diversity of natural richness of flora, fauna and landscapes. Therefore, the Indonesian government develops the country as a nature tourism area to increase foreign exchange. According to the ministerial regulation of tourism of the Republic of Indonesia number 14 of 2016 on tourism destination guidelines (Permenpar, 2016), the development of tourist areas should be based on elements of diversity, uniqueness and peculiarities of culture and nature by not ignoring future needs, which are expected to bring benefits sustainably. Sustainable nature tourism development should pay attention to the benefits, risks and sustainability to reduce environmental degradation due to waste and exploitation. It should also financially beneficial to provide job vacancies as well as improving the economy of the surrounding community (Stefanica & Butnaru, 2017).

Bajul Mati nature tourism located in Kabupaten Malang is very potential to be developed as it has potential for coastal, caves, and river tourism. The concept of sustainable tourism is tourism that takes full account of the current and future economic, social and environmental impacts to address the needs of visitors, the travel industry, and the environment (WTO, 2004). Sustainable nature tourism has been able to improve Indonesia's economic development as it focuses on improving the environment in the form of natural conservation, social impact in the form of improving the community economy, and social in the form of social transformation of new values/cultures.

Based on the background, the focus of this study is how is the feasibility of Bajulmati Natural Tourism area of assessed from the sustainable natural tourism concept?

### LITERATURE REVIEW

#### A. Sustainable Nature Tourism

##### 1. Definition of Nature Tourism

Nature tourism is that utilizes the potential of natural resources, both in the natural state and after an exploitation in the form of development. Nature Tourism is principally developed with the aim to preserve the natural and beneficial areas of the society economically (Suyitno, 2006). The success of a place to develop into natural attractions is very dependent on several factors, such as: 1) Tourist attractions that stimulate someone's desire to visit due to satisfaction (Ervina & Agoes, 2015), 2) accessibility means transportation is easily accessible, 3) Amenity means the availability of various supporting facilities, and 4) tourist activities for entertainment.

##### 2. Definition of Sustainable Nature Tourism

Sustainable tourism is tourism developed with the orientation to natural resources preservation to be utilized by the current generation to the next generation by taking the sustainability of the tourism area, the economic potential of tourist areas, and social culture of the community in the tourist areas into consideration (Katerina and Gabriela, 2012). Tourism potential has a positive impact for sustainable development because, in terms of economy, it could improve the welfare of society as the society can open up business due to many coming visitors. In terms of natural aspect, it could preserve nature. In terms of social, it increases social interaction and social change to be more advanced for both current and future generations (Chenguang & Liu,

2019).

There are 3 aspects that are noted in the sustainable tourism, which are 1) Environmental aspects by reducing environmental damage in the form of environmental degradation, mine exploitation and waste pollution. The environment is preserved to ensure the visitors' safety aspects from natural disasters aspect, such as landslides, while also attracting visitors through biodiversity, 2) Economic aspect aims to increase the economic potential of tourist objects for both current and future generations. Residents can maximize the economic opportunity on the visiting visitors, such as opening up a business place, trades and others to increase the welfare of the community, and 3) social aspect is that tourism development should conform to local culture and wisdom of the society that become the identity and charms so that tourists come for both current and future generations.

## **B. Principles and Development of Sustainable Nature Tourism**

### **1. Principles of Sustainable Tourism**

Initially, the principles of sustainable tourism emphasizes on 4 (four) principles as follows (Sunaryo in Azzat, 2018): 1) Environmentally sustainable/preserved, 2) Economically viable, 3) Socially and culturally acceptable, 4) Technologically appropriate. The principles of sustainable nature tourism consists of: 1) The principle of environmentally sustainable, in which tourism development should be based on environmental concept and also prevent environmental and ecological degradation, 2) the principle of economically viable, in which there are benefits for both the developer of the region and the community, 3) The principle of socially and culturally acceptable, in which the development of tourism should comply with the local culture and wisdom, which is the identity of the community and should not be harmed, and 4) The principle of technologically appropriate, in which technology is used to utilize local resources so as to empower the community.

The purpose of tourism development with the concept of sustainable tourism has the goals of: 1) The increasing understanding and awareness that tourism can contribute significantly to the conservation of the environment and economic development, 2) The increasing balance in development, 3) The increasing quality of life for local communities, 4) The increasing quality of experience for visitors and tourists, and 5) Improving the quality of the environment in preserving the nature for future generation (Sunaryo in Azzat, 2018):

### **2. Development of Sustainable Nature tourism**

According to Pitana in Pendit (2002), the development of sustainable nature tourism with the concept of sustainable tourism is done to improve the aspects of environmental conservation, aspect of economic potential, as well as aspects of local wisdom of the society impacting the economic development. The following are the policy instruments: 1) The instruments of wisdom in tourism and the development of area functions to support the potential of natural attractions, 2) The effectiveness of the function and the role of natural attractions are reviewed from the aspects of coordination of related institutions that are based on the principle of effectiveness and function of tourism objects, 3) The institutional and human resources capacity in the management of natural attractions in the forest area should be handled by a competent person so as not to contradict the principle of sustainable development, 4) The mechanism of the active role of society in supporting the development of nature tourism.

The development of sustainable natural tourist attraction is all that possess uniqueness, simplicity, and value in the form of natural resources diversity, culture, and man-made products that become the visitors' purpose to visit. (Undang- Undang Republik Indonesia No.10 Tahun 2009). Tourist attraction is divided into two kinds, namely: a) natural tourism that has natural biodiversity and cultivation which are able to attract visitors, b) the development of special tourism, such as outbound activities and hiking, attracts visitors.

Special interest tourism is defined as a kind of tourism which location has physical attributes that emphasize the element of challenge, recreative, and fulfillment of a tourist's wishes through engagement/interaction with natural elements (Anindita, 2010). There are two groups: a) Light Group (Soft Adventure), which is a group that considers their involvement as more of a desire to try new activities, and b) Heavy Group (Hard Adventure), which is a group that considers their involvement in the activities of special interest tourism as a way to further motivate them.

## **C. Feasibility Study on Sustainable Tourism**

### **1. Feasibility Study on Business**

The definition of feasibility study is a preliminary study conducted to formulate the required information in the form of resources, costs, benefits and worthiness in accordance with what is proposed and expected (O'Brien, 2005). The 5 goals in conducting feasibility study are a) To facilitate planning through future forecasting, b) To facilitate implementation with systematic guidelines, c) To facilitate supervision to fit the plan, D) To facilitate control over the execution of the project, and e) To avoid risk of losses through future forecasting. The research by Subagyo (2007) explains the aspects of feasibility study: a) Primary aspects are the main aspects in writing feasibility study, which consist of 1) Management and organization aspects in development and operations, 2) Marketing aspect, which discusses the mechanisms of the market, 3) Economic aspects, which discusses the project benefit, and 4) Legal aspects, which discusses the validity of the documents, and B) Secondary aspects are

complementary aspects, consisting of: 1) Environment aspects with analysis on the environmental impact (AMDAL) that aims to assess the impact of a business plan and/or activities (Danang, 2014), and 2) Social aspects of demographic change, cultural change, and community lifestyle changes.

## 2. Tourism Feasibility Study

According to the research by Pitana & Ketut (2009), tourism feasibility study is divided into seven aspects: a) Attraction is a factor that attracts people to visit and sightsee an interesting place, b) Accessibility is the access and availability of public transportation, c) The condition of the social and economic environment of the community within a radius of 1 km from natural attractions, d) Accommodation is the availability of vehicles within a radius of 15 km from the natural attraction, e) Supporting facilities and infrastructure to ensure the visitors satisfaction, such as souvenir center, restaurant, praying area and lavatories, f) Safety with the indicators of travel comforts and good road conditions, and g) Relation with both similar and different tourist objects. Several factors influencing the demand and offer of tourist attractions are a) Potential demand factor is when promotion should be increased where there is strong attraction of natural tourism object to attract tourists' interest and b) Tourist attraction factors that pay attention to enticement (attraction), accessible (transportation), amenities (facilities), and ancillary (institutional).

## RESEARCH METHOD

### A. Approach and Types of Research

Mixed-method research is a research approach that combines or associates both qualitative and quantitative. This research was conducted to conduct a feasibility study on a sustainable tourism area on the nature tourism area of Bajulmati. Feasibility study could be used as a consideration to continue and discontinue business activities (Ibrahim, 2003).

### B. Research Site

This study was conducted in the nature tourism area of Bajulmati, located in Gajah Rejo village, Gedangan subdistrict, Malang district. This location was chosen because the nature tourism area of Bajulmati is a very attractive area with various types of spectacular tourist destinations, ranging from cave tourism such as coban cave to special interest tourism such as rivers and vertical caves,

### C. Data Source

Primary data source was obtained through direct data through observations and interviews, while secondary data was obtained through journals and reference books. In this research, the researcher acts as the data collector or research instrument in order to perceive the research object directly as perceived by the subject. The researcher conducted the research in the nature tourism area of Bajulmati in May 2019. The informant selection in this study uses purposive or intentional, in which the informants have a background to support the research. Based on the informant selection, the superintendent of Bajul Mati was the main informant, while the merchants, community and tourists were the supporting informants.

### D. Data Collection and Data Analysis

There are 3 data collection techniques used in the research, which are: 1. Observation, which is a data collection technique where researchers go straight to the field to observe the activities at the research site (Creswell, 2010). The researcher observed the management and preservation of Bajul Mati nature tourism as well as the economic activities of the community. 2. Interview, which is a conversation with specific intentions done by two parties who exchange information directly and objectively (Moleong, 2013). 3. The documentation was done by note-taking and copying obtained data, such as reports, photos and video.

### E. Data Analysis Techniques

The data analysis used in this study refers to Miles and Huberman in Sugiyono (2012), which stated that data analysis consists of three steps. The initial stage begins through: 1. Data reduction through a summary of the pattern of research activities and consultation to the lecturer, 2. Presenting the data in the form of narration or sentence to fit the focus of the research, and 3. Drawing conclusion and verifying.

The data analysis of this research was conducted using two approaches, namely the qualitative data analysis approach and quantitative data analysis approach.

- 1) Qualitative data analysis was done through feasibility assessment of bajulmati sustainable nature tourism based on the basic principles of sustainable tourism concept, emphasizing on preserving the environment and its continuation
- 2) Quantitative data analysis in this research was done through the use of project feasibility analysis method, widely known as Net Present Value (NPV) analysis method (Anthes in Novie, 2012). Net Present Value (NPV) analysis method is a method used in conducting feasibility analysis. This method is done by calculating the current money value from the estimation of the current net cash flow as well as the future with the amount of investment. If the Net Present Value (NPV) result is

positive, then the project could be determined feasible and can be continued. However, if the Net Present Value (NPV) is negative, then the project could not be determined feasible and cannot be continued (Novie,2012).

$$\text{The formula for calculating Net present Value (NPV) is : } NPV = \sum_{t=0}^n \frac{(C)t}{(1+i)t} + \sum_{t=0}^n \frac{(Co)t}{(1-i)t} - C$$

According to Kuswadi (2007), the measures performed in calculating NPV are: 1. Determine the rate of discount (discount rate) to be used, in this case it could be: a. Cost of capital, or b. Expected rate of return, 2. Calculate the present value of the cash flow with the discount rate.3. Calculate the present value of the investment amount. 4. Calculate the NPV to present the results of the investment decision.

#### F. Data Validity Check

The data validity check used in this research was triangulation by checking the factual data on the research object. Triangulation method was used in this study to compare the data obtained from interviews with the data from observations and documentation

### RESULTS AND DISCUSSION

#### A. Bajul Mati Tourism Object of Malang District

Geographically, Bajulmati nature tourism is located in Bajulmati Hamlet area, which is a tourist area in the southern part of Malang District. Administratively, it is located in Gajahrejo Village in Gedangan subdistrict, Malang district. This Bajulmati nature tourism area located in the hamlet of Bajulmati, Gajahrejo village and Umbulrejo Village, Gedangan Sub District is a line of coastal tourism areas. The people's livelihood is gardening and farming, as the area is fertile.

The History of Bajul Mati is a tourist destination managed by the community of two villages, namely the community of Gajahrejo village and the community of Sidodadi village. Initially, Bajulmati nature tourism was found by the boyscout student from UIN Malang who conducted expedition activities in the Bajulmati hamlet. In 2014, a student from UIN Malang who was cooperating with Lepen Adventure team turned coban cave and river exploration as tourist destinations.

The head of the two villages are directly responsible for the structural management of this tourist destination, but the figure of Bajul Mati Hamlet is the one in charge, while the Lepen Adventure team acts as the executor and the field executive. The vision is to realize Bajulmati nature tourism as a sustainable tourist destination through harnessing the tourism potentials while paying attention to aspects of natural and environmental sustainability. The missions are a. Creating economic opportunities for the community, b. Harnessing the tourism potential in order to preserve the nature and environment, and c. Creating a sustainable tourist destination

#### B. Business Feasibility Analysis on Bajul Mati Tourism Object of Malang District

##### 1. The Feasibility of Bajul Mati Economically

###### a. Aspects of Financial Feasibility

The financial analysis method used in identifying the feasibility of Bajulmati nature tourism economically is Net Present Value (NPV). Based on the results of the analysis done as described, it can be explained as follows: See the next page.

| Year | Net Cash Flow                  | PV Factor | PV              |
|------|--------------------------------|-----------|-----------------|
| 1    | Rp. 36.010.000                 | 0,95      | Rp. 34.209.500  |
| 2    | Rp. 43.212.000                 | 0,90      | Rp. 38.890.800  |
| 3    | Rp. 50.414.000                 | 0,86      | Rp. 43.356.040  |
| 4    | Rp. 57.616.000                 | 0,83      | Rp. 47.821.280  |
| 5    | Rp. 64.818.000                 | 0,79      | Rp. 51.206.220  |
|      | <i>Net Cash Flow (NCF)</i>     |           | Rp. 252.070.000 |
|      | <i>Net Present Value (NPV)</i> |           | Rp. 215.483.840 |

Based on the results of the financial analysis using Net Present Value (NPV), it can be stated that Bajulmati nature tourism is financially feasible as the NPV value is positive (NPV > 0).

## **b. Economic Benefit for Communities in Bajulmati**

The positive impact of Bajul Mati tourism is that it is able to improve the community's economy as it encourages new merchants and increases the number of visitors in Bajul Mati nature tourism. According to the research by Katerina & Gabriela (2012), sustainable tourism that concerns about environment preservation will bring economic benefits to the surrounding community. Based on the results of the research, it is known that Bajul Mati tourism increases the community's economy as the community opened up lodgings (home stay) and become a merchant when a lot of visitors come to Bajul Mati. According to Sunaryo in Azzat (2018), there are two benefits of sustainable nature tourism which are the concept of economically viable and the principle of socially and culturally acceptable, where an integrated tourism is utilizing environmental sustainability and local wisdom of the society.

## **2. Feasibility of Bajulmati Nature Tourism Environmentally**

Nature tourism development should pay attention to aspects of risk and its benefits so that it can be utilized by the next generation (WTO, 2004). The environmental feasibility analysis of Bajul Mati nature tourism is:

### **a. Environmental Conditions in The Cave Area From Threat of Damage**

Environmental conditions on sustainable nature tourism is essential to preserve the preservation of flora and fauna and reduce the impact of environmental degradation due to waste. The result of this research shows that the superintendent of Bajul Mati nature tourism makes regulation for cave visitors to bring drinks and throw garbage away in the provided bin, thereby reducing waste pollution in caves. The community build nameplates, cave directions, gazebo for rest, and waste facilities such as lavatories to increase the number of visiting visitors. This is in accordance with the concept of institutional capacity and human resources by managing it competently without damaging the natural elements according to the analysis of AMDAL and the principle of community participation to be active in the management of tourism objects (Yoeti, 2008).

### **b. Conditions of Flora and Fauna in Caves Tourist Destination**

The condition of flora and fauna is well preserved as a natural attraction as it has been treated by the caretaker. Based on the result of the research, the flora diversity is still well-preserved for cave exploration to prevent landslide and water overflow during rainy season, even though the geographical conditions are steep cliffs. Bajul Mati Community acts as a Hard Adventure, which means the community actively participate and involve themselves in maintaining the richness of flora and fauna through reforestation (Anindita, 2010).

### **c. The Land Condition and Its Supporting Capacity as A Cave Tourism Destination**

The land condition is very good as the community utilizes land conservation to support nature tourism sustainability of Goa Bajul Mati. Based on the result of the research, the land condition of Gua Bajul Mati exploration tourism is still good for water absorption and natural sustainability because people do not manage the land in exploitative or aggressive ways. According to Pitana & Ketut (2009), good land conditions are able to support the accessibility and safety aspects because Goa Bajul Mati is easily traversed by any modes of transportation while also assuring the convenience of visitors to come there.

### **d. Condition of River Area as Tourist Destination of River Exploration and Preservation Efforts**

The condition of the river is already in accordance with the aspects of nature tourism feasibility study for river exploration. The result of the study shows that the condition of the river for river exploration in Bajul Mati is very good. The community is expected to actively plant mangroves along the river flow to prevent land degradation in productive land utilized by residents for agricultural activities. According to Kasmere & Jakfar (2007), the purpose of feasibility study is to facilitate the implementation and supervision for river exploration activities by increasing the supporting facilities and supervising land degradation by planting mangroves to prevent landslides and floods.

## **CONCLUSION**

Based on the results of an economic analysis using the Net Present Value (NPV) analysis method is positive that is Rp. 215,483,840 > 0 which means it is economically feasible and can be continued to develop, besides that economically also has an impact on people's welfare because the community can open home stay businesses around the bajulmati nature tourism area. While the feasibility of the environment, the role of the community in reforestation mangrove and efforts to maintain its sustainability are able to support the feasibility of nature tourism Bajulmati as a sustainable nature tourism area. It might be better to increase promotion through social media, private cooperation and government in the development of facilities to attract visitors.

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