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Financial Analysis And Economic Social Impact Of Mangrove Ecotourism In Madura Straits (Case On Mayangan Probolinggo Beach, East Java)

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ABSTRACT

This study aims are (1) to identify the ecotourism profile of mangrove forest conservation, (2) to analyze the short-term financial of forest ecotourism of mangrove conservation and (3) to analyze the social and economic impacts to coastal communities of Madura Strait. It is descriptive (qualitative and quantitative) research using non-probability sampling techniques through purposive sampling method. The results show that mangrove conservation ecotourism profile was established on an 8.9 Ha land owned by Probolinggo City Government. The BJBR (Bee Jay Bakau Resort) ecotourism is located in Mayangan Beach Fishing Port area. In addition to providing mangrove conservation ecotourism, this ecotourism also provides several other interesting such as Rest-O-Tent as a floating restaurant with views of mangrove forest along with beautiful ocean views, Family Bungalows to provide experiences such as sailing on sea at high tides and Majengan Mangrove Beach that equipped with water bikes, kayaks, family gazes and lamp decorations to add to beauty of night. The short-term financial analysis shows that the investment capital is IDR 1,190,692,000. Fixed capital of IDR 510,750,000 and current capital is IDR 679,942,000. The revenue is IDR 1,250,000,000. R / C of 1,840 and the Profit is of IDR 570,058,000 and Rentability is 74.457%. The social and economic impacts felt by coastal communities is to decrease the Poor percentage from 2012 - 2020. The percentage of Poor population was 17.74% in 2012 and decreased respectively by 7.20% and 6.91% in 2019 and 2020. The society income around mangrove is also increase after the existence of ecotourism than before.

Keywords: Ecotourism, Conservation, Mangroves, Financial, Impact

INTRODUCTION

Mangrove ecosystem is one productive ecosystems in coastal areas with plant composition, forest structure, and very variable growth rates. Mangrove forests have a strategic role both ecologically and economically (Satyanarayana et al., 2012; Hidayatullah and Pujiono, 2014; Harahab et al., 2018). The ecological function of mangrove forests, among others, is as a nutrient provider, as a spawning

site, as an enlargement site for certain marine biota (such as fish, shrimp, and crabs), as a barrier to coastal abrasion and shoreline protection, absorbent waste and storm protection, tsunami and sea level rise (Jesus, 2012; Santos et al., 2014; Purwanti et al., 2018). The economic function of mangrove forests is as a provider of staple food, sources of fuel (rich fuel and charcoal), building materials, fisheries and agricultural development areas, paper raw materials, medicines and so on (Hijbeek et al., 2013). In addition, fisheries products and products from mangrove forests can be used as supporting commodities and attractions for ecotourism activities (Tuwo 2011; Burhanuddin, 2011). Therefore mangrove forest ecosystems in coastal areas should be maintained so that they can be used as ecotourism.

Ecotourism can be defined as a concept to develop sustainable tourism with aim to support the efforts to preserve the environment (natural and cultural) and increasing community participation in management, to provide economic benefits to local community. Within management term, ecotourism can be defined as the organization with the responsibility of tourism activities in natural places and / or regions based on natural principles and economically sustainable to supports environmental conservation efforts. Ecotourism is very appropriate and useful to maintain the integrity and authenticity of ecosystems in unspoiled areas. Even with ecotourism nature conservation can be improved the quality (Yulianda F. 2007).

Nadiasa M et al., (2010) said that ecotourism was a tourism activity directed to integrate economic development and ability to collect funding for resource conservation efforts as attractions. Development and utilization of mangrove ecosystems for ecotourism is one development alternatives to overcome the problem of utilization that is destructive and threatens the preservation of resources (Tuwo, 2011).

Implementation of Law No. 32 of 2004 on Regional Government has consequences for districts and / or cities as the basis of regional autonomy. First, regency / city area is demanded to be better able to run the government independently. For this reason, local governments must be able to explore local potential in order to increase local revenue. Second, regional autonomy must be able to encourage people to participate in various aspects of life in coastal communities (Primyastanto, M. 2015a).

Investors in early 2010 invested to conserve and manage mangrove forests around the coastal area of the Mayangan Beach Fishery Port, becoming an ecotourism object with the concept of mangrove tourism, a beachside playing arena, and concept of a floating restaurant. This is consistent with Probolinggo Government's policy since it was announced in Regional Medium-Term Development Plan (RPJMD), where the Probolinggo Government wants to develop an ecotourism sector based on marine tourism, local wisdom and beaches.

RESEARCH METHOD

This research was conducted in March 2021. The location was coast of Madura Strait, specifically in Mayangan District, Probolinggo City, and East Java.

Research Types

This is a qualitative research type with small-scale quantitative data. The reason is researchers act as research instruments to interact with respondents in order to get primary and secondary data.

Data Type

The data used is quantitative and qualitative. Quantitative data is short-term investments as capital, total costs, revenue, R / C, profits, and profitability. Then the qualitative data used is social and the economic impact to community, as well as mangrove impact data both directly and indirectly.

Data source

This research uses primary and secondary data. Primary data is obtained from interviews, observations and questionnaires. Interviews were done with manager of BJBR Ecotourism, DKP Probolinggo City, staff and community around the mangrove ecotourism who use mangrove ecotourism to earn income. The observations covers community activities in ecotourism area, general ecotourism conditions and mangrove conditions. The questionnaires were sent to respondents who have a livelihood around the conservation of mangrove ecotourism.

The secondary data came from several sources. The sources are Memorandum of Understanding (MOU) of BJBR ecotourism from Maritime Fisheries Office of Probolinggo City and BJBR Mangrove Forest Ecotourism Office, Central Statistics Agency of City of Probolinggo and previous researches.

Data analysis

Data is analyzed by qualitative method. The data from various sources are generally qualitative, but although there are also quantitative data. Therefore, there is no clear data analysis technique (Bungin, Burhan, 2001). The data is analyzed by several methods below.

1. Capital.

Capital is divided according to provenance, namely own capital and foreign capital. Own capital is comes from business owner or company. It is invested in company for an indefinite or uncertain period. The foreign capital originates from outside the company with temporary nature of working within a company concerned. The foreign capital is debt that must be returned in future (Primyastanto, 2015b).

2. Production Costs.

The costs can be classified into fixed and variable costs. The fixed costs do not depend on the amount of production produced. The more production will need more variable costs. Conversely, small production cost will need small variable costs (Primyastanto, M. 2016a), as shown in formulation below

$TC = FC + VC$

Description:

TC: Total cost (IDR)

FC: Fixed costs (IDR)

VC: Variable costs (IDR)

3. Revenue.

The Total Revenue is the gross income generated from production activities of a company which can be defined as the total product value of business in a certain period of time. Revenue is the money obtained from final product sale (Primyastanto, M. 2016b)

4. Revenue Cost (R/C) ratio.

The R / C ratio analysis is a tool to analyze the relative profits in a business within a period of 1 year compared to the costs used in production activities. A business is feasible if the R / C ratio is greater than 1 (R / C> 1). This means that higher the R / C ratio shows that the business activities provide a large profit (Primyastanto, M. 2016c), as shown in formulation below.

R / C Ratio = $\frac{TR}{TC}$

Description:

R / C: Return / Cost

TR: Total Revenue

TC: Total Cost

The criteria is below.

R / C Ratio> 1: profitable Business

R / C Ratio = 1: Break even (no profit and no loss)

R / C Ratio <1: Business loses (Primyastanto, M. 2017a)

5. Profit

Profit is net income from a business activity; it can be interpreted as the amount of revenue after being reduced by various costs incurred for fixed or non-permanent production process (Primyastanto, M. 2017b). Analysis of profit calculation (π) in one year is shown below.

Profit (π) before zakat (Earning Before Zakat)

EBZ = TR - TC

Description:

Π: Profit (IDR)

TR: Total Revenue (IDR)

TC: Total Cost / Total Cost (IDR)

Profit (π) after zakat (Profit After Zakat)

Zakat (Z) = 2.5% x EBZ EAZ = EBZ – Z (Primyastanto, M. 2018a)

6. Rentability

The rentability of a company shows the ratio between earnings and capital that generates profits. Rentability is the company's ability to generate profits with available capital within a certain time period (Riyanto. B. 2011).

Analysis of calculation of business profitability Rentability = (L/M) X 100%

Description:

L: Profit (IDR)

M: Capital (IDR)

RESULTS AND DISCUSSION

Mangrove Ecotourism Profile

Mangrove Conservation Ecotourism of Bee Jay Bakau Resort (well known as BJBR) is located in Mayangan Beach Fishing Port Area, Mayangan Village, Mayangan District, and Probolinggo City.

This ecotourism was established in 2012 on an area of 8.9 hectares owned by Government of Probolinggo City. Access to Bee Jay Bakau Resort (BJBR) is fairly easy, road to ecotourism is a paved road which certainly facilitate all types of vehicles to pass. Inside the ecotourism area is laid out very neat and attractive, as well as several types of rides and photo areas for tourists. BJBR provides mangrove conservation ecotourism. In addition to provide mangrove conservation ecotourism, this tourist attraction also provides several other interesting rides such as Rest-O-Tent which is a floating restaurant by presenting views of mangrove forest along with beautiful ocean views, Family Bungalows to provide experiences such as sailing on sea at high tides and Majengan Mangrove Beach which is equipped with water bikes, kayaks, family gazes and lamp decorations that add to beauty of night. The effort to maintain mangrove ecosystem utilize local wisdom in coastal communities to avoid environmental damage (Primyastanto, M. et al. 2010)

The vision of BJBR ecotourism is "Turning Trash Into Gold". Therefore, the ecotourism missions were: 1) being a vehicle to educate students to make them learn to love the environment early, 2) to become an exclusive family tourism vehicle with nuances of unique tidal beaches with diversity of flora and fauna, 3) to become a research object to everyone, both students, students and researchers from domestic and abroad (Novanza, et al. 2017).

Short-Term Financial Analysis of Mangrove Ecotourism

a) Capital

Capital is divided according to the source, namely own capital and foreign capital. Own capital comes from business owner or company invested in a company for an indefinite or uncertain period. The foreign capital comes from outside the company with a temporary period of working within a company. The foreign capital is debt owned by company that must be returned in future (Primyastanto, M. 2018b)

The fixed assets of this mangrove conservation ecotourism are IDR 510,750,000. The investment capital spent on mangrove conservation ecotourism consists of Bridges, Cast Concrete Bridge Retaining, Entrance and Exit Mangrove Areas, Genset 50 kVA and lighting around mangrove forest conservation. The fixed capital used for ecotourism comes from PT. BJBR in amount of IDR 527,442,000, - including depreciation from investment, Labor Wages, Land and Building Tax, 8.9 hectares of land rent from Probolinggo City Government, and maintenance of all existing facilities in mangrove forest conservation ecotourism.

b) Total Cost

Production costs of mangrove forest conservation ecotourism business include fix costs and variable cost. Fix costs are incurred in 1 year, including investment capital depreciation, labor wages, Land and Building Tax, maintenance of mangrove area facilities and land rent of 8.9 hectares totalling IDR 527,442,000. Variable costs incurred for 1 year in form of electricity payments and others. It can change based on the development of general costs in one year of IDR 152,500,000. So that total cost (total cost) that must be incurred by this mangrove conservation ecotourism in one year is IDR 679,942,000

c) Revenue

Revenue comes from sale of admission tickets to mangrove conservation ecotourism for one year. The ticket sales are 25,000 pieces with the price of 1 ticket of IDR 50,000. total revenue from mangrove conservation ecotourism in one year is IDR 1,250,000,000.

d) R / C

The Revenue Cost (R/C) ratio calculation of Mangrove Conservation Ecotourism is 1,840. It means the ecotourism is profitable and feasible to be continued, because the value of R / C ratio is greater than 1 (R / C> 1). In other words, the revenue is 1,840 times the costs incurred (Hanum, 2012).

e) Profit

The net profit of mangrove conservation ecotourism for one year is IDR 570,058,000. The profit was obtained from total revenue of IDR 1,250,000,000 deducted by total cost of IDR 679,942,000. The amount of zakat that can be distributed to poor, orphans around BJBR is 2.5% of profit namely IDR 14,251,450. It should be given to people who need according to commands of Allah SWT in Qur'an Surah At Taubah verse 60: " Charities are for the poor, and the destitute, and those who administer them, and for reconciling hearts, and for freeing slaves, and for those in debt, and in the path of Allah, and for the traveller in need—an obligation from Allah. Allah is All-Knowing, Most Wise".

f) Rentability

The rentability calculation of mangrove conservation ecotourism is 74.457%. It means the mangrove conservation ecotourism is beneficial and having opportunities to be developed. This Rentability value is greater than the current bank interest rate of 12% per year (Primyastanto, M. et al 2019)

The Social and Economic Impacts of Mangrove Ecotourism on Strait Coastal Communities

a) Percentage of Poor People in Mayangan Subdistrict, Probolinggo

The socio-economic impact of ecotourism in an area will provide employment opportunities which will certainly reduce the level of poverty there. Yulianda et al. (2010) argued that ecotourism and tourism can provide employment and employment opportunities without education and skills. Table 1 shows the percentage of poor population in Mayangan Subdistrict, Probolinggo.

Table 1. Percentage of the Poor in Mayangan Subdistrict

Year	Percent of Poor Population
2012	17.74
2013	10.93
2014	8.55
2015	8.37
2016	8.17
2017	7.97
2018	7.84
2019	7.20

2020	6.91

Source: Probolinggo Statistic Agency, 2021

Table 1 shows the percentage of poor people in Mayangan Sub-district, Probolinggo. It can be seen the percentage of poor people decreased from 2012 - 2020. In 2012 the percentage of poor people was 17.74% and decreased in 2019 and 2020, respectively by 7.20% and 6.91%. This decrease can be caused by opening of new jobs in Mayangan Subdistrict, Probolinggo, especially the tourism area of Probolinggo City.

b) The income level of Mayangan District, Probolinggo

This research uses 53 respondents. Table 2 shows the income level before and after Mangrove Ecotourism operation

Table 2. Income Levels Before Mangrove Ecotourism Operation

Income	Number of Respondents	Percentage
IDR <1,500,000	35	66.04%
IDR 1,550,000 - IDR 2,500,000	11	20.75%
IDR 2,550,000 - IDR 3,500,000	7	13.21%
IDR > 3,550,000	0	0%
TOTAL	53	100%

Source: Primary Data Processed, 2021

Table 2 shows the respondents who have an income of IDR 1,500,000 are 35 or 66.04%, respondents with an income of IDR 1,550,000-IDR 2,500,000 are 11 or 20.75%. Respondents with income of IDR 2,550,000 - IDR 3,500,000 are 7 or 13.21%. The income level change after Mangrove Ecotourism operation is shown in table 3.

Table 3. Income Level After Mangrove Ecotourism Operation

Income	Number of Respondents	Percentage
IDR <1,500,000	15	28.30%
IDR 1,550,000 - IDR 2,500,000	21	39.62%
IDR 2,550,000 - IDR 3,500,000	13	24.53%
IDR > 3,550,000	4	7.55%
TOTAL	53	100%

Source: Primary Data Processed, 2021

Table 2 and 3 shows the change of income level for the respondents. Respondents with income of IDR <1,500,000 before the ecotourism operation are 35 respondents, it changes to 15 respondents after mangrove conservation ecotourism operation. Respondents with income of IDR 1,550,000 - IDR 2,500,000 ecotourism operation are 11 respondents, it changes to 21 respondents.

Respondents with income of IDR 2,550,000 - IDR 3,500,000 before ecotourism operation are 7 respondents, it changes to 13 respondents since the mangrove conservation ecotourism operation. Respondents with an income > 3,550,000 before the existence of ecotourism amounted to 0

respondents and have changed to 4 respondents since the mangrove conservation ecotourism operation.

CONCLUSIONS AND SUGGESTIONS

Conclusion

This study examines the Mangrove Ecotourism operation at Probolinggo Beach. The conclusions are stated below.

1. Mangrove conservation ecotourism of Bee Jay Bakau Resort was developed in 2012 on 8.9 Ha land of Probolinggo City Government. It provide mangrove conservation ecotourism and several other interesting rides such as Rest-O-Tent as a floating restaurant with views of mangrove forest along with beautiful ocean views and Family Bungalows to provide experiences such as sailing on sea at high tides and Majengan Mangrove Beach that equipped with water bikes, kayaks, family gazes and lamp decorations to add to beauty of night.
2. Short-term Financial Analysis shows the Short-term Investment Value of IDR 1,190,692,000, Fixed capital of IDR 510,750,000 and current capital of IDR 679,942,000. The income is IDR 1,250,000,000, R / C of 1,840 and Profits of IDR 570,058,000 and Rentability of 74.457%.
3. The Social and Economic Impacts is felt by coastal communities in form of lower Percentage of Poor have from 2012 to 2020. In 2012 the percentage of Poor Population was 17.74% and decreased in 2019 and 2020 respectively by 7.20% and 6.91%. There is an increase in income received by communities around mangrove conservation ecotourism after the existence of ecotourism.

Suggestion

Suggestions for future researcher and others are below.

1. The government should make policies related to Mangrove Ecotourism in order to further develop in future. Community should be given counselling and economic incentives so the people pay more attention to environmental conditions around the mangrove and community plays an active role in maintaining the condition of surrounding environment.
2. Future researchers should conduct more in-depth research such as business feasibility, level of customer satisfaction and proper and sustainable management of Mangrove Ecotourism.
3. The community should maintain the cleanliness of environment around the mangrove by means of community service every 1 month as well as other social activities that benefit the mangrove environment.
4. The investors of Bee Jay Bakau Resort (BJBR) mangrove conservation ecotourism should provide promotion to prospective tourists as well as some socialization to surrounding community on importance of mangroves with collaboration to Probolinggo City Government.

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