



Travel Cost Method Efforts to Increase Eco-green Tourism in Bakut Island, Indonesia

(Case Study: Provinces in South Kalimantan)

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Abstract: Ecogreen tourism on Bakut Island, located in the Barito Kuala Regency area, is in the Anjir Muara sub-district. This research aims to determine the economic value of ecogreen tourism on Bakut Island and calculate travel costs, income, and distance from home to tourist attractions, as well as the number of visitors to Ecogreen tourism on Bakut Island. The population of this study is visitors to the Bakut Island tourism eco-green in the last few years who came to the Bakut Island tourism eco-green in the last three years, namely 2021-2023, totaling 1326 people. The sample used in this research was Accidental Sampling: anyone who was met accidentally when the author collected data there. The samples taken were 100 people. The data collection method used is descriptive and quantitative based on a questionnaire. By using the travel cost approach, it can be seen that the economic value is IDR. 269,945,007,-. Willingness to pay IDR. 26,950,-. Total Travel Cost IDR. 62,295,000,-. Total willingness to pay IDR. 20,765,000,-. Total travel cost IDR. 27,534,390,000,-. From the calculations above, it is necessary to develop Ecogreen tourism on Bakut Island in Barito Kuala Regency for the convenience of tourists enjoying the natural beauty of the mangrove ecosystem while also seeing proboscis monkeys. As an educational tourism destination, Bakut Island is considered to be in line with the spirit of "back to nature" behavior, which will be Future trends that need to be improved again both in terms of service, cleanliness, and comfort of eco-green tourism as well as the involvement of local communities from an economic and security perspective in protecting Bakut Island.

Keywords: Ecogreen Tour, Travel Cost Analysis, WTP, Use value.

1. Introduction

Ecogreen natural tourism on Bakut Island is a natural tourism that is related to knowledge about the flora and fauna whose habitats are gathered on the island, rare animals and mangrove plants, and rare types of plants that exist there, becoming a destination for tourists to carry out various kinds of research, travel activities using transportation. rivers such as boats or better known as klotok are a mode of air transportation to get to Bakut Island, ecogreen tourism destinations are also carried out by traveling along rivers to introduce marine tourism, which will be historic.

Visiting this natural tourist spot is of course voluntary without any element of coercion, considering that two alternative routes can be taken using land or river transportation and are temporary to enjoy the unique symptoms and beauty of nature for a certain period of time. Batola Regency has various natural and cultural resources as tourist objects and attractions (Sulthony, 2014). One alternative for developing tourist attractions which can be used as a choice for tourists as a tourist destination to enjoy, especially in Batola Regency, is a tourist attraction related to natural tourism (Girsang, 2013).

The existence of the Bakut Island natural tourist area can be used as a mainstay tourist destination. This is supported by the beauty of the natural panorama and the unique flora and fauna described at the beginning. The flow of the Barito River, which is traversed by ecogreen tourism users, goes directly to Bakut Island, so that on the journey, there are many ships carrying coal and logs which are dissolved using the river flow to the berth at the dock on the Barito River.

Utilizing the attractiveness of Bakut Island's natural tourism certainly requires efforts to manage, develop, increase marketing, promotion and information to the community and provide infrastructure facilities to support the sustainability of this natural tourism (Sembiring, 2016). This effort can be realized by knowing the economic value of natural tourism. Economic value can be obtained through travel costs with an approach to visitors and the willingness to pay from visitors voluntarily for the natural tourism benefits obtained. Determining the value of tourism services really depends on the appraiser (visitor) so it is necessary to know the characteristics of visitors to the tourist attraction. The economic value of ecogreen tourism on Bakut Island is not yet clear. This research needs to be carried out to obtain economic value. Based on this, the economic value obtained by natural tourism on Bakut Island can be considered in developing forms of service by tourist attraction management (Tambunan et al., 2013).

This research aims to determine the economic value of ecogreen tourism on Bakut Island and calculate travel costs, income and distance from home to tourist attractions as well as the number of visitors to Ecogreen tourism on Bakut Island.

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There are several differences between this research and previous research, where this research has many similarities in methodology, but the area or place studied is not the same, both the specific area studied and the recreation area, because Bakut Island is interesting because of the species of proboscis monkeys and rare plants that live there. and the area used as a tourist attraction is more of a research object or tourist attraction for researching proboscis monkeys with their biodiversity. There are several studies that have been conducted regarding travel costs or travel costs carried out by (Jaung & Carrasco, 2020; Batubara et al., 2020; Balmford et al., 2015; Butler, 2014; Juutinen et al., 2017; Tolvanen & Kangas, 2016, Bugge et al., 2016) conducted research in outdoor tourist attractions intended for the public.

2. Methodology

The population of this study is visitors to the Bakut Island tourism ecogreen in the last few years who came to the Bakut Island tourism ecogreen in the last three years, namely 2021-2023, totaling 1326 people. The sample used in this research was Accidental Sampling, namely anyone who was met accidentally when the author collected data there. The samples taken were 100 people. The data collection method used is descriptive and quantitative based on a questionnaire.

This research was carried out in the ecogreen area of natural tourism on Bakut Island, administratively located in Marabahan Baru Village, Anjir Muara District, Barito Kuala (Batola) Regency, South Kalimantan Province. Bakut Island tourist ecogreen is located under the Barito bridge. The choice of location was determined by considering this tourist attraction, including one of the tourist attractions along the river with one of the mascots being the proboscis monkey, the world's famous long-nosed monkey (Dharma et al., 2020). Ecogreen tourism is also an area of conservation material and is rich in biodiversity and is one of the National Tourism Strategic Areas (KSPN), which is a priority tourism (Permana et al., 2023)

The tools used in this research were questionnaires, stationery, digital cameras and laptops. Meanwhile, the object of this research is visitors to the natural tourism area of Bakut Island. In determining the sample size, the Slovin formula according to Arikunto (2010) is used, namely:

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{1.326}{1 + 1.326(0,1)^2}$$

$$n = \frac{1.326}{1 + 13,26}$$

$$n = 100 \text{ visitor}$$

Information:

n = Number of samples required

N = Average number of visitors in the last 3 years

e = Allowable error limit

Based on the use of data required in this research, the types of data used are primary data and secondary data. Primary data collection was carried out by direct observation and interviews with visitors with the help of questionnaires while secondary data was obtained from the Central Statistics Agency for Batola Regency, the Batola Tourism and Culture Office, the internet and through literature studies. Data analysis was carried out using the travel cost and willingness to pay method. Travel costs are the cost of round-trip transportation from the place of residence to tourist sites and other expenses during the trip and within the tourist area (Aryanto and Mardjudka, 2005). Overall, it is calculated using the formula:

$$CPT = CT + (CTr - CKh) + Cdok + CP + CM + Cln$$

Information:

CPT = Total Travel Costs (rupiah)

CT = Transportation costs

CTr = Cost of consumption in recreational areas

CKh = Daily consumption costs

Cdok = Documentation costs

CP = Parking Fee

CM = Entry Fee

Cln = Other costs - others

Calculation of the average cost of a visitor's trip to go to Bakut Island nature tourism uses the formula:

$$PATC = \frac{\sum PCPT}{n}$$

Information:

PATC = Average visitor travel cost (rupiah/person)

PCPT = total visitor travel costs (rupiah)

N = Number of visitors interviewed (people)

The average trip cost per zone is calculated according to the formula below:

$$ATCi = \frac{\sum_{i=1} BPTji}{Ni}$$

Information:

ATCI = average travel costs from zone i rupiah/visit/person)

BPTji = Total travel costs to location (j) from zone i (rupiah/visit)

Ni = Total number of visitors from zone i (person)

According to Siew et al., (2015) when visitors pay or do not pay for the existence of an existing tourist spot, it can be obtained by calculating the average estimate in the following way:

$$WTPB = \frac{\sum_{IB}^n WiB}{n}$$

Information:

WTPB = Average value of willingness to pay (Willingness to pay)

WiB = WTP Value i

n = Number of Respondents

IB = Respondent i who is willing to pay

The economic value of natural tourism on Bakut Island is based on the travel costs incurred by visitors and the willingness to pay some money for these natural attractions, obtained by adding up the total travel costs and willingness to pay. So, the formula for finding the economic value is as follows (Manil et al., 2015).

NE = TCP + WTPu

Information:

N = Economic Value

TCP = Total trip cost

WTPu = Total willingness to pay

3. Results and Discussion

Characteristics of Visitors

Visitors who were interviewed were predominantly male, namely 39 respondents and 61 female respondents (Figure 1). Generally, they come from 13 regions consisting of 11 districts, 2 cities and 1 outside of South Kalimantan Province (Figure 2). Most of the visitors came from the City of Banjarmasin because this area is the closest to achieving eco-green natural tourism on the island of Bakut. Visitors from the city try to find new tourist spots for picnics to reduce fatigue resulting from routine and activities carried out in urban areas.

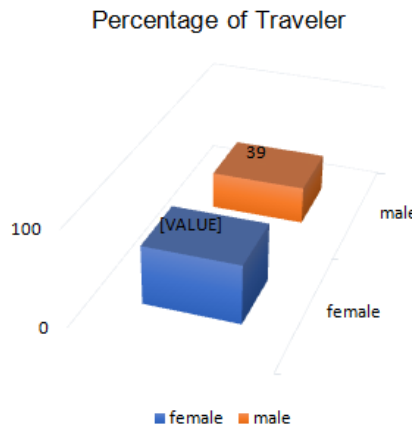


Fig 1. Gender percentage of visitors to the Bakut Island ecogreen

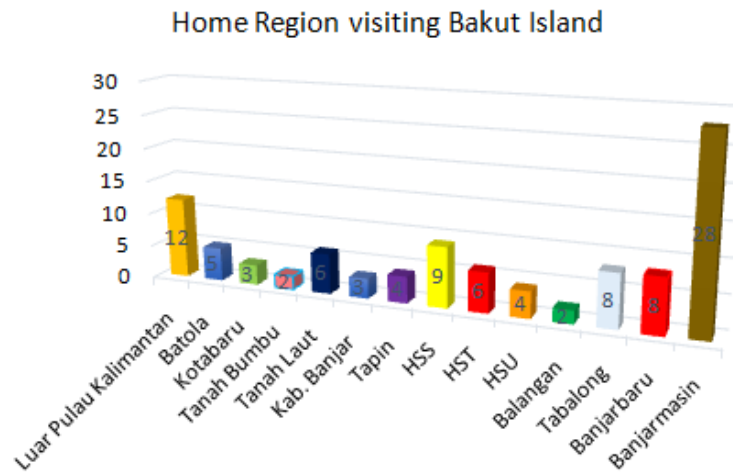


Fig 2. Area of origin of Bakut Island ecogreen visitors

The age distribution of visitors can be seen in Figure 3, where most of the respondents who visited the Bakut island tourism eco-green area, namely 42%, were aged between 32-45 years. According to Isnan (2016), age influences the desire to travel, the more one's age increases, the more obstacles one will experience in tourism activities. At a young age, people generally still have high enthusiasm and desire, as well as a strong physical condition to carry out recreational activities in nature. Viewed from the level of education, Visitors to Bakut Island are mostly students and civil servants (PNS) researchers at universities (Figure 4). Visitors with a higher educational background generally have a good quality of life and tend to have a greater desire to know and enjoy nature and the environment, also because of their assignments or as research material related to the courses they are taking. The distribution of respondents who visited the Bakut Island tourism ecogreen, the majority of which were civil servants (Figure 5), showed a high need for recreation due to tedious work routines. This is supported by research.

Number of Respondents Scattered

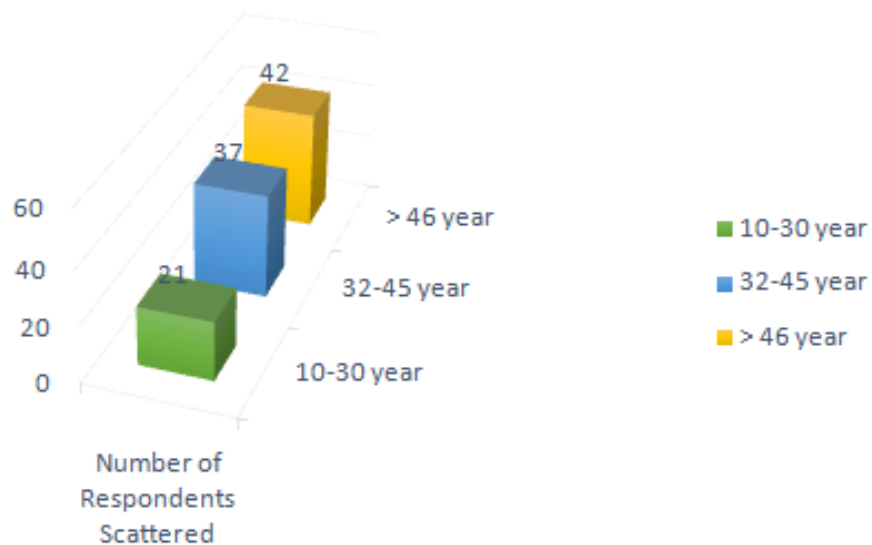


Fig 3. Age distribution of Bakut Island ecogreen visitors

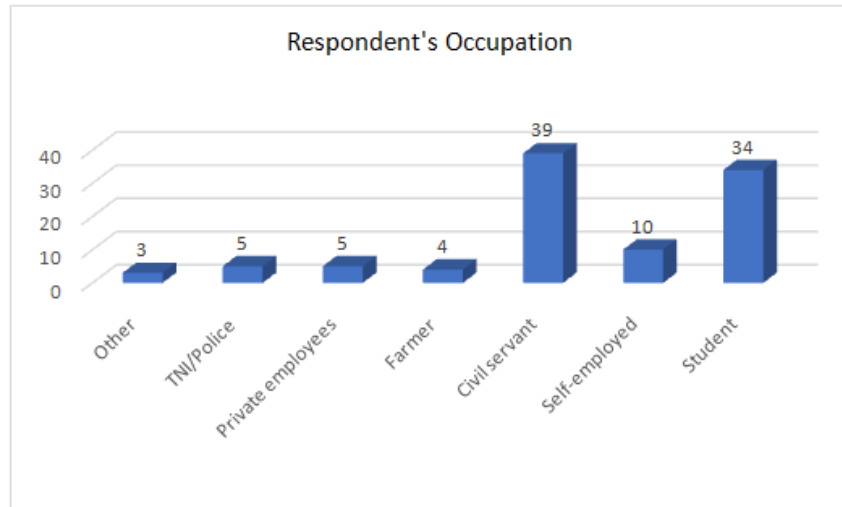


Fig 4. Occupation of visitors to Bakut Island ecogreen tourism

Based on research by Prenada et al. (2017) that government employees who visit natural tourist attractions tend to have higher levels of stress because they choose to travel to places that provide natural views to clear their minds. Visitors to the natural tourism area of Bakut Island have the highest income in the range of more than 7 (seven) million rupiah per month, namely 41 percent (Figure 6). Furthermore, as many as 26 percent of respondents earn around 5-7 million rupiah per month. 17 percent respectively for respondents who have an income of 3-5 million rupiah and 1-3 million rupiah per month, 9 percent, the lowest income is from 1 million to 500 thousand rupiah, 3 (three) percent, and the lowest income is under 500 thousand rupiah by 4 (four) percent.

This tourist attraction has a unique thing that stands out apart from the natural panorama, seeing the proboscis monkeys and the mangrove forests which are very interesting to observe and there is a viewing tower that can see the panorama around the island. Based on the explanation of income from several images, it shows that ecogreen tourism activities to Bakut Island are quite affordable, so they can be carried out by visitors from various income levels.

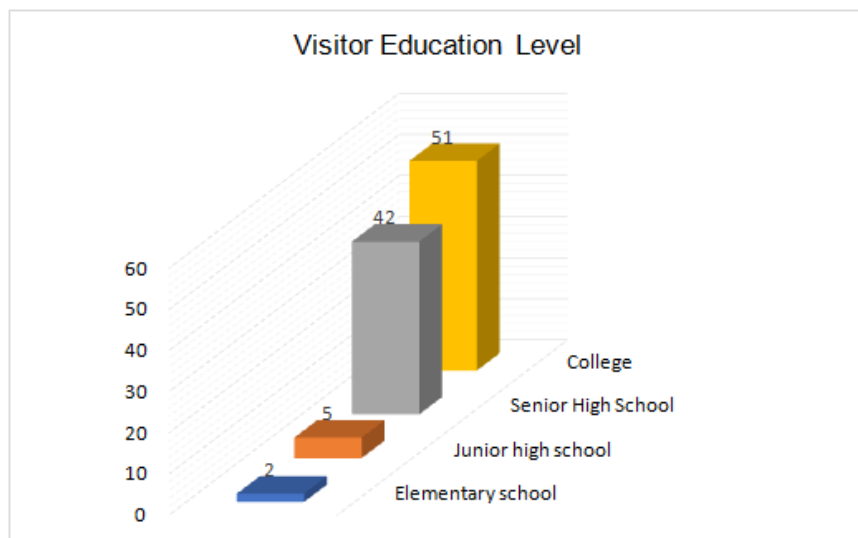


Fig 5. Educational level of ecogreen Bakut Island visitors

This research applies the individual travel cost method to estimate the annual cost of the ecogreen recreation value of Bakut Island tourism for visitors and residents of this area. Researchers found that Banjarmasin had the highest aggregate value. Our research shows that differences in aggregate value reflect differences in the value of the number of single recreational visits: the higher the value per visit, the higher the aggregate value, of course. However, the origin of visitors (whether local, national, or international), and their frequency of visiting

the landscape also have a strong influence on the aggregate value. In addition, the demand and value of recreation depend on the respondent's age and method of travel as well as their perception of the quality of the recreation environment on the Bakut Island tourism ecogreen.

Researchers found substantial heterogeneity among Bakut island ecogreen tourism areas with respect to average value per visit. Banjarmasin has the highest value per visit followed by HSS, Tabalong, and Banjarbaru. Among the three categories of visitors for these two regions, national visitors are very important because the distance to the nearest cities is quite long. Perhaps the relatively low price elasticity reflects the importance of major recreational attractions, aerial viewing, and proboscis monkey wildlife. In these two regions (Håkansson, 2008; Kulmala et al., 2008). In contrast, Tanah Bumbu and Balangan have the lowest average value per visit compared to the majority of others.

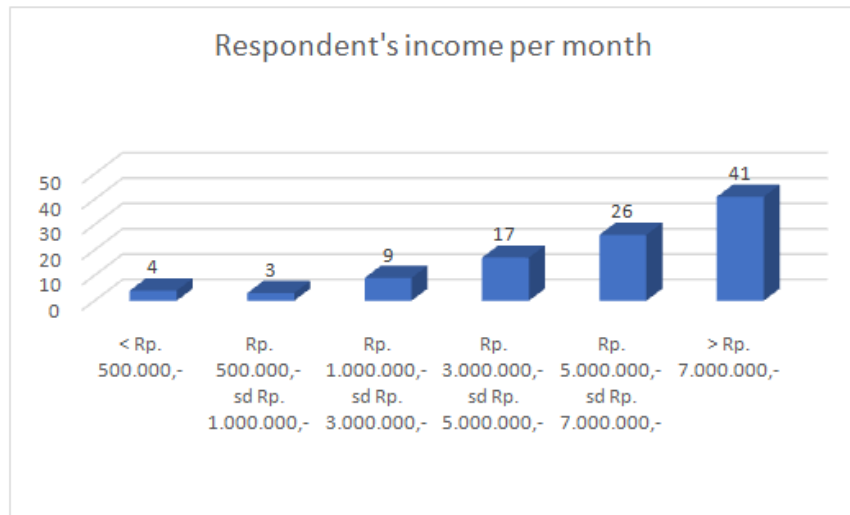


Fig 6. Bakut Island ecogreen visitor income per month

Travel costs (Travel cost method)

Travel costs for each individual are different; the smallest travel cost is IDR. 70,000/visit comes from Banjarmasin City, while the highest travel costs incurred by visitors are IDR. 1,675,000/visit came from outside South Kalimantan Province. So from 100 respondents, the total travel costs (CPT) were IDR. 20,765,000/visit. The average visitor travel cost (ATCi) obtained from the total visitor travel costs (BPTji) divided by the number of visitors interviewed is IDR. 207,650/person/visit. The total travel costs are obtained from the average visitor travel costs (ATCi) multiplied by the number of visitors in a year, namely 1,326 to obtain IDR 27,534,390,000/year.

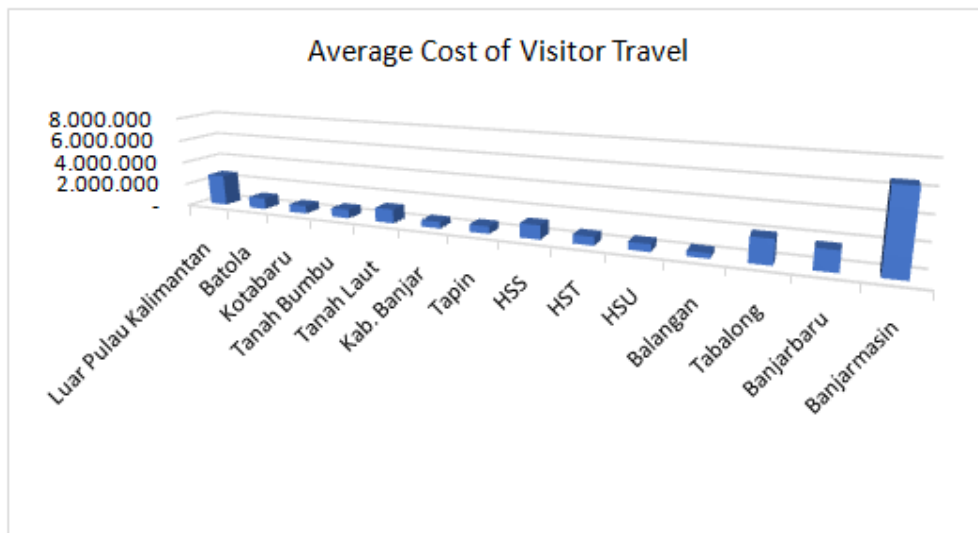


Fig 7. Average visitor travel costs

In Figure 7, you can see the average travel costs incurred by visitors based on the area of origin of their arrival. The value issued by visitors varies; this is due to accommodation, distance, and various desires to enjoy the eco-green tourism of Bakut Island. The farther the visitor's origin area results in higher travel expenses (Sihotang et al., 2014), and travel costs are influenced by the distance from the house to the tourist objects to be enjoyed (Effendi et al., 2015). The high cost of travel incurred by visitors to enjoy nature tourism shows that to increase revenue, managers can increase entrance ticket rates accompanied by an increase in supporting facilities and infrastructure services.

Willingness to Pay

Visitors' willingness to pay is obtained from visitors' willingness to pay for the beautiful natural tourism of Bakut Island that they have enjoyed. Most visitors agree to pay the fee (Figure 8). Things that influence visitors' willingness to pay are the characteristics of the visitors. Apart from that, it is also influenced by the existing facilities and infrastructure at this tourist attraction. Almost all of the visitors who are willing to pay feel that the management of nature tourism still needs to be improved, such as security, and repair of the stairs to the island of Bakut, which uses a quite minimal pier for visitor safety, arrangement, and cleanliness. Visitors who are willing to pay the smallest amount is IDR 5,000, and the largest is IDR 100,000. So, from the 100 visitors interviewed, the total willingness to pay for visitors was IDR 2,695,000/visit. So, the average willingness to pay is IDR. 26,950/person/visit. Total willingness to pay is IDR. 62,295,000/year which is obtained from the average willingness to pay for visitors multiplied by the number of visitors to Bakut Island in one year.

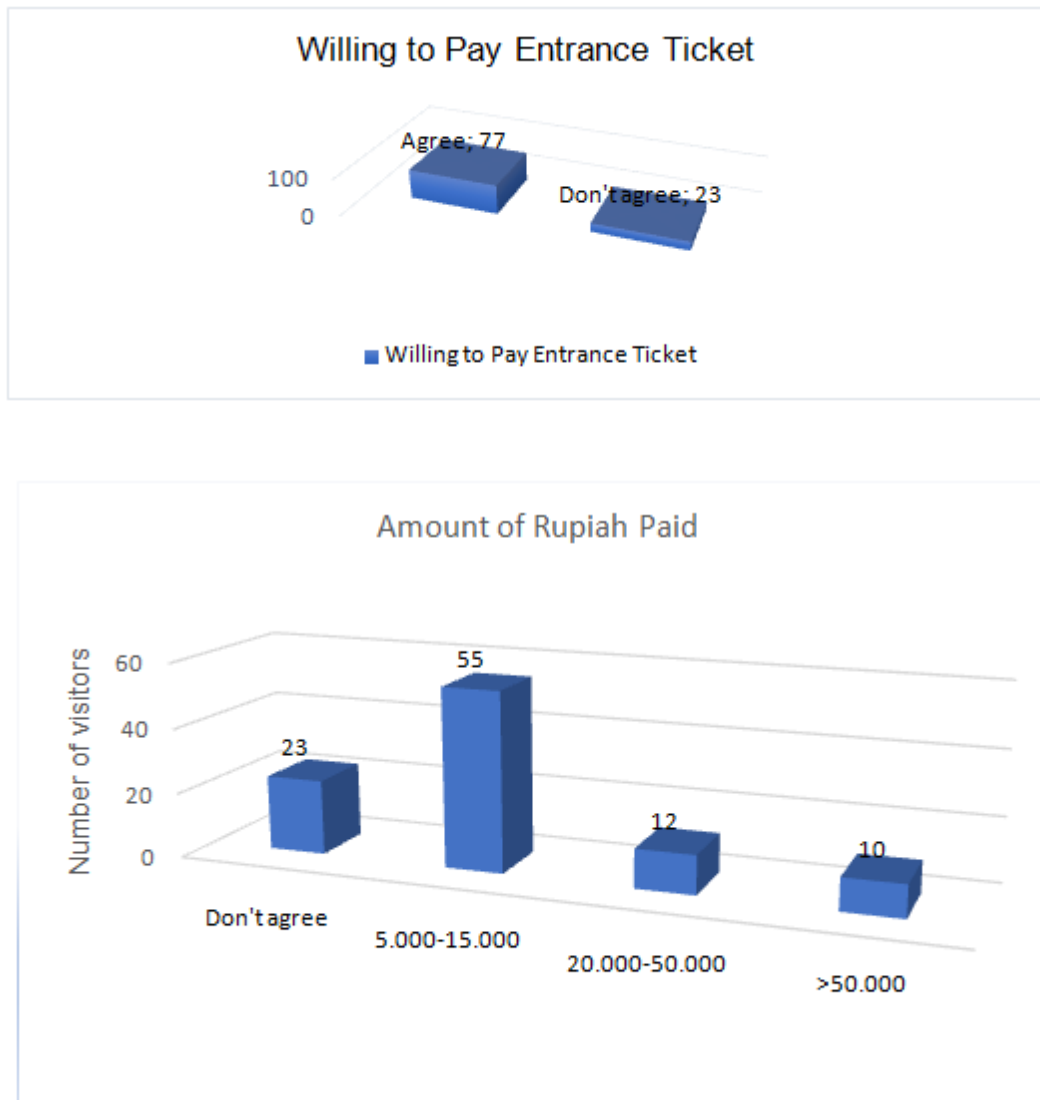


Fig 9. The amount of rupiah paid by ecogreen Bakut Island visitors

Ecogreen Economic Value Bakut Island Natural Tourism

The economic value of the Bakut Island Nature Tourism Ecogreen is obtained from calculating the total travel costs with the total willingness to pay for visitors, resulting in IDR 83,060,000 per year. The economic value obtained from visitors to the Bakut Island Nature Tourism Ecogreen tourist attraction is much higher than the income obtained from entrance tickets. Based on this, the revenue of this tourist attraction can still be increased by increasing the price of admission by the manager.

4. Conclusion

In conclusion, our results show that ecogreen tourism on Bakut Island provides considerable recreational service benefits. We focus on current recreation and natural tourism and thus do not address the cultural importance of other ecosystem services such as existence value, disuse, or future user choices. The total economic value estimated to be obtained from all final ecosystem services included in the ecogreen tourism of Bakut Island. Therefore, its economic value is quite large compared to other ecosystem services. However, the natural landscape in the ecogreen tourist area of Bakut Island is heterogeneous and many factors influence the recreational value.

The ecogreen features of Bakut Island tourism need to be taken into account when making land use decisions for this area. One of the aspects that influences the recreational value of ecogreen tourism on Bakut Island is environmental quality. Therefore, it is important that bioeconomic policies are developed and implemented in a sustainable manner in a way that avoids the potential negative impacts of agricultural and forestry intensification on recreational opportunities, such as reduced access to unmanaged nature and the need to provide clean water at these tourist attractions.

Increasing fisheries production requires site management so that the economic value of the river and ecogreen tourism on Bakut Island also avoids reducing the aesthetic appeal of ecogreen tourism on Bakut Island as an outdoor recreation area. However, there are many potential pathways for the development of an island tourism ecogreen bioeconomy. An interesting further research question is how to analyze the value of clean air and synergies between ecosystem services in different bioeconomic scenarios in ecogreen tourism on Bakut Island.

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