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The Economic Valuation of the Curiak Island Area on the Development of Tourism of Special Interest of Wetlands in Barito Kuala District, South Kalimantan

Noor Rahmini [a], Eny Fahrati [b], Riza [c], Dina Novitasari [d]

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Corresponding Author [a]

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Barito Kuala;
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economic valuation;
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Abstract

One of the problems faced in the development of natural tourism is that until now it is not widely known how much recreation value is in a tourist area, such as on Curiak Island. In addition, in the context of making decisions for the development of the use of a tourist area, the value of the big and small of an economy. This study aims to determine the factors that influence the function of visitor demand to Curiak Island and the economic value of the Curiak Island tourist attraction, Barito Kuala Regency. Data collection techniques using observation, interviews and questionnaires. The data processed using descriptive analysis, multiple linear regression, and also using the consumer surplus formula. From the results of the study, there are two factors that effect demand function for ecotourism in Curiak Island, namely income and travel costs. From the calculation results, it can be seen that the consumer surplus based on the individual travel cost method is IDR 251,690.46 per individual in per visit and the economic value of Curiak Island is IDR 520,999,252 per year.

Contents

[a] Faculty of Economics and Business, Lambung Mangkurat University, Banjarmasin City, Indonesia
[b] Faculty of Economics and Business, Lambung Mangkurat University, Banjarmasin City, Indonesia
[c] Faculty of Economics and Business, Lambung Mangkurat University, Banjarmasin City, Indonesia
[d] Faculty of Economics and Business, Lambung Mangkurat University, Banjarmasin City, Indonesia

1 Introduction

Indonesia has a variety of flora and fauna and is endemic to it. In South Kalimantan, precisely in Barito Kuala Regency, there are swamp areas, mangrove forests, and flowed by several tributaries, which makes this area good tourism potential. One of the special interest tours in the Barito Kuala district is Curiak Island. Curiak Island is a small island located in the delta of the Barito River. This island is precisely located in Anjir Muara District, Barito Kuala Regency, South Kalimantan (Blangy & Mehta, 2006; Choi et al., 2010; Wesnawa, 2017; Amerta et al., 2018).

Called Curiak Island, because this area was once the habitat of the Curiak bird. Its location is not far from the Barito Bridge tourist attraction, making Curiak Island a place that is visited by many tourists who are interested in the potential of this island. On this island, there are conservation of endemic animals of Kalimantan, namely Proboscis monkeys, conservation of mangrove forests and local fruit plants typical of Kalimantan such as Rambai, Kuini and local fruit plants of Kalimantan as well as tidal rice plants. In addition, this island offers local wisdom which includes "balarung sungai", traditional fishing activities to catch fish, and a floating fish market (Sahabat Bekantan Indonesia Foundation, 2022).

The uniqueness of Curiak Island attracts the attention of domestic and foreign tourists to come. The following is presented data on tourist visits from 2017 to 2021 to Curiak Island.

Table 1
Data of tourist visits to Curiak Island
2017 – 2021

Year	Tourist	
	Domestic	LN
2017	526	
2018	875	125
2019	941	225
2020	123	
2021	207	

Source: Sahabat Bekantan Indonesia Foundation, 2022

Communities around natural attractions have great opportunities in producing goods and services as a complement to tourism. Thus it becomes one of the sources of community livelihoods and improves the economic welfare of the community (Simanjuntak, 2009). One of the problems faced in the development of nature tourism is that until now it is not widely known how much recreation value is in a tourist area, such as on Curiak Island. In addition, in the context of making decisions for the development of the use of a tourist area, the size of the economic value of the area needs to be known. The purpose of this is to know the characteristics and ratings of visitors, the demand function, and the economic value of the Curiak Island tourism object, Barito Kuala district. Based on the problems described above, this research is focused on answering the following problems: 1) What factors influence the intensity of visits to Curiak Island Ecotourism?. 2) What is the economic value of Curiak Island Ecotourism?

2 Materials and Methods

The research was carried out on Curiak Island. This study used the method of travel costs by interviewing visitors and related parties using a questionnaire. Data were collected through observation methods and interviews with questionnaires conducted with visitors and related parties such as Curiak Island

Management, namely the Indonesian Proboscis Monkeys Foundation, and Barito Kuala Regency Tourism Office. To find out the factors that influence the number of visits to the Curiak Island by using multiple linear regression analysis with the formula

$$\text{“}Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e\text{”}$$

With description:
Y = Number of visits to the Curiak Island Tour (Frequency of Visits per year)
X1 = Income (Rp/Month)
X2 = Travel Cost (Rp/visit)
X3 = Travel Time (Hours)
X4 = Length of Knowing (Years)
X5 = Education (Likert scale)
b0 = Konstanta
b_1-b_2 = regression coefficient
e = *Error*

The calculation of the economic valuation uses consumer surplus the formula:

$$CS = \frac{N^2}{2b1}$$

Information:
N = Number of tourist visits
b_1 = coefficient of travel cost

3 Results and Discussions

Curiak Island

Curiak Island is a delta of the Barito River which was formed in 1980. Curiak Island is a mangrove area that is a habitat as well as a suitable ecosystem for proboscis monkeys. Proboscis monkeys on the island of Curiak are a population that is in the midst of pressure from the environment and its surroundings. Curiak Island is close to the stop for barges carrying coal and at the same time is in the middle of commercial water traffic in South Kalimantan. At present, the land around Curiak Island has been used by the community as agricultural land (Subardin, 2011).

Curiak Island has natural potential in the form of endemic plants and animal populations that are diverse enough to attract visitors to visit it. The condition of the forest with fresh air and beautiful scenery, as well as the presence of various types of ornamental plants, makes visitors who come to Curiak Island have a different interest in the natural potential that exists (Sørensen & Jensen, 2015; Scheyvens, 1999; Stronza & Gordillo, 2008). This condition is of course not found anywhere else. The following shows the tourist attractions offered on Curiak Island in the diagram below (Figure 1)

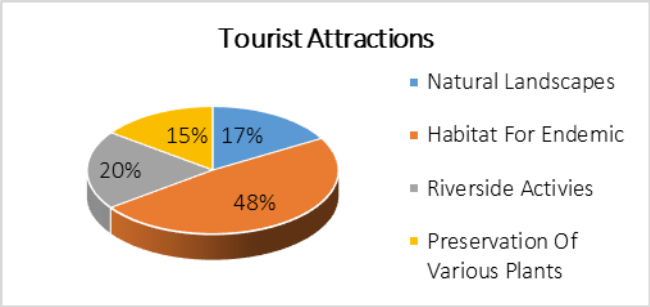

Figure 1. Tourist attractions on Curiak Island
Source: Primary Data Processed

As many as 48% of respondents are interested in the existence of endemic animal habitats, 20% of respondents are interested in riverside activities, 17% of respondents are interested in natural scenery, and 15% of respondents are interested in the preservation of various plants. Some of these natural potentials attract tourists to visit Curiak Island (Ambarita, 2017; Haryanto, 2014; Salma & Susilowati, 2004). Based on information from the manager, regarding financing for entry to Curiak Island tourism, there are several options, such as voluntary donations, in the form of voluntary money given by visitors when traveling on Curiak Island, while ecotourism packages are visits as well as tourist guides to introduce Curiak Island tourism intensely. Visitors perceptions of the form of payment entering tourist attractions can be seen in Figure 2.

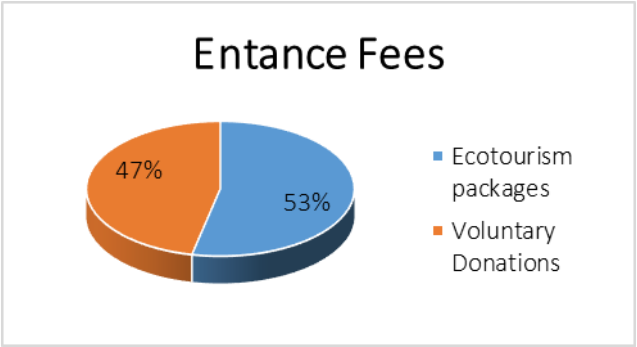

Figure 2. Diagram of types of entrance fees
Source: Primary Data Processed

As many as 53% said the entrance fee was through an ecotourism package together with their tour group, while 47% of respondents said the entrance fee to Curiak Island was through voluntary donations. Respondents' expectations of the facilities and service quality of the manager may increase. The demand function for visits to Curiak Island uses a travel cost approach with econometric techniques, namely multiple linear regression (Fauzi, 2021). There are 2 tests performed. The first test with the F or simultaneous test was carried out to determine whether there was an effect of the independent variables (income, travel costs, length of trip, length of knowing, and education on tourist visits to Curiak Island together or as a whole (Khoirudin & Khasanah, 2018; Mukaryanti, 2005; Premono & Kunarso, 2010).

Table 2
Simultaneous test results (F Test)

Variable	F-statistic	Prob(F-statistic)	Description
Regression	93.006	0.000	Significance

Source: Data Processed

F-test results show a value of 0.000. This simultaneous test shows that the variables of travel costs, length of trip, income, and education have a joint or significant effect on the variable number of visits on Curiak Island. The following describes the calculation of the t-test statistics in multiple linear analyses, as follows:

Table 3
Results of multiple linear regression analysis with t. Test

Variable	*Coefficient*	*Std. Error*	*t-Statistik*	*Prob.*
C	-20.456	2.166	-9.442	0.000
XI	0.273	0.339	0.425	0.425
X2	1.425	0.785	1.816	0.075
X3	2.811	0.342	8.229	0.000
X4	0.328	0.224	1.463	0.149
R-Squared = 0.871			F-Statistic = 93.006	
Adjusted R-Squared = 0.862			Prob(F-Statistic) = 0.000	

The results of the statistical t-test show that there are only 2 variables that dominantly affect tourist visits to Curiak Island, namely the travel cost variable (X_1) and the visitor income variable (X_3). The regression equation model obtained is as follows:

$$Y = -20{,}456 + 0{,}273\ X_1 + 1{,}425\ X_2 + 2{,}811\ X_3 + 0{,}328\ X_4$$

The regression equation explains that, if income (X_1) increases by 1%, the number of visits will increase by 0.237%. If the cost of travel (X_2) increases by 1%, the number of visits increases by 1.425%. If the length of the trip (X_3) increases by 1%, the number of visits increases by 2.811%, and if Education increases by 1 unit, the number of visits increases by 0.3 times a year.

Economic Valuation Calculation

Economic valuation is calculated using the Individual Travel Cost Method, namely by calculating the economic value of each individual per year. The regression result between the number of visits to Curiak Island (Y) and the independent variable of travel costs to Curiak Island (X_2) produces a model for the demand for tourist visits (Priono, 2012; Susilowati, 2009; Trauer, 2006; Pulido-Fernández et al., 2019). The equation model becomes the basis for calculating consumer surplus. The following is a table of the results of the regression:

Table 4
Travel cost variable regression test results

Model	Unstandardized Coefficients	
	B	Sig.
C	0.130	0.577
TC (Travel Cost)	1.331E-005	0.000

Source: Primary Data Processed

From table 4 it can be seen that the coefficient of travel costs is 0.00001331 as b1. By using the formula that has been mentioned and from the regression analysis, it is found that the consumer surplus or WTP value of visitors with a travel cost approach is IDR. 251,690.46 per individual per visit. Economic value is the aggregate or the sum of willingness to pay. On this basis, the economic value of Curiak Island based on the individual travel cost method is obtained by multiplying the WTP by the number of visits during 2021 of 207 people. The result of this multiplication is that the economic value of Curiak Island is IDR 520,999,252 per year (Haugland et al., 2011; Tang et al., 2011; Angelevska-Najdeska & Rakicevik, 2012).

4 Conclusion

a) From the results of the study, two factors influence the number of visits from tourists. The two factors are income and travel expenses.
b) The economic value of Curiak Island is IDR 520,999,252 per year.

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Biography of Authors

Noor Rahmini
She is a lecturer at the Master of Development Economics Study Program, Faculty of Economics and Business, Lambung Mangkurat University who studies tourism in the South Kalimantan area
Email: noorrahmini@ulm.ac.id

Eny Fahrati
She is a lecturer at the Faculty of Economics and Business, Lambung Mangkurat University. She has been teaching in the Faculty since 1988. She earned a Doctoranda degree in Economics from Lambung Mangkurat University in 1986. She also graduated in Agricultural Economics from the same University in 2007.
Email: eny.fahrati@ulm.ac.id

Riza
He is a postgraduate student in Development Economics at Lambung Mangkurat University.
Email: arizabbm@gmail.com

Dina Novitasari
She is an undergraduate student in the Development Economics study program at the University of Gastric Mangkurat who are also interested in developing South Kalimantan tourism.
Email: dinanovitasari611@gmail.com