

RESEARCH ARTICLE



Conservation of Endemic Birds through the Willingness to Pay Tourists in the Manusela National Park Ecotourism Area

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Abstract

Ecotourism management requires a lot of funds, so through ecotourism activities, visitors can get involved in supporting the conservation of the area through their willingness to pay (WTP). The purpose of this study was to determine the perceptions, preferences of tourists and the willingness to pay visitors (WTP) in supporting the conservation of bird species in Resort Masihulan (MNP). Determination of the sample using the accidental sampling technique. A total of 38 samples were used. The characteristics and perceptions of visitors were analyzed using qualitative descriptive methods, while the willingness to pay of tourists was analyzed quantitatively. The results showed that the WTP, to support the conservation of endemic bird species obtained a value of IDR 150.000, -. This value indicates that the appropriate price for birdwatching ecotourism services in Masihulan resorts for tourists is 150.000, -. Regression analysis shows that the factors that determine visitors' willingness to pay are income and the length of stay of tourists at the object.

Keywords: willingness to pay, resort masihulan, MNP

1. Introduction

Ecotourism is currently a tourist attraction product segment with growing opportunities for visits. The development of this market segment is significant and shows a positive trend [1]. The development of ecotourism trends is more directed at tourism activities in natural areas, which offer potential natural attractions with unique endemic flora and fauna and beautiful natural landscapes. Areas that have natural attractiveness and high uniqueness are mostly owned by forested areas designated as conservation areas.

Manusela National Park (MNP) is a conservation area in Maluku, especially in North Seram, Central Maluku Regency. The MNP was determined based on the decree of the Minister of Agriculture, No. 736/Mentan/X/1982, dated October 14, 1982, covering an area of 174.545,59 ha. The Manusela National Park area is geographically located between 129°9'3" - 129°46'14" BT – 2°48'24" – 3°18'24" LS" South latitude. Administratively, it is included in the North Seram sub-district, which is in Wahai, and in the South Seram sub-district in Tehoru. Access to the MNP area can be reached by land and sea, with a long journey of approximately 6-8 hours [2].

The MNP area is the habitat of 22 species of endemic Maluku birds, which are currently experiencing threats to habitat change and damage. Therefore, management needs to be conducted to support the conservation of these birds. Ecotourism is an alternative management strategy that can be implemented collaboratively to support the conservation of endemic bird species. Community-based ecotourism can be used to conserve endemic bird species, as well as to improve the welfare of the community around the area living around Manusela National Park [3]. Krüger [4] suggests that the participation of local communities in the management and development of ecotourism objects can support the success of conservation efforts for areas or locations with "flagship" species. In addition to the benefits of conservation, the development and management of ecotourism can also increase public

awareness and participation in conservation activities, particularly when the economic impact of environmental services can be directly enjoyed by communities in ecotourism areas [5].

The Masihulan Resort is 1 (one) of the 4 (four) resorts under the MNP's responsibility and is being developed as an ecotourism object. Development was carried out to attract tourists to the area. The Masihulan Resort is an area within the northern part of the MNP sub-management work area, where the management of attractive objects is focused on birdwatching and tracking Mount Binaya. The location of the MNP area on the Wallace line provides potential opportunities as an endemic bird area with uniqueness, rarity, and a high selling value.

Birdwatching visitors' activities can influence the existence of habitat and bird populations in the area because there are types of birds that require habitat conditions that are very suitable to their needs and away from noise. Therefore, visitors to the object must be involved in maintaining the conservation of endemic bird habitats from changes or environmental damage to their habitats. In other words, the value of the condition of habitat damage that occurs in an area can be measured by the willingness of visitors to pay so that the environment and ecosystem can be restored to their original or close to original condition [6]. For this reason, the study in this research is (a) knowing the characteristics of ecotourism visitors at the Masihulan Resort, MNP, (b) calculating the value of visitors' willingness to pay, and (c) examining the factors that influence willingness to pay.

2. Materials and Methods

This study was conducted in the MNP Utilization Zone. Observations were carried out at the Masihulan Resort, which was developed as a birdwatching ecotourism site. This research is quantitative and descriptive, based on primary data obtained from structured interviews using questionnaires. The sampling method used was an accidental sampling technique. This technique was performed on respondents/visitors met by researchers at the research location. The feasibility and accuracy of the selected sample is still considered in the number of respondents using accidental sampling. The respondents interviewed were foreign visitors, because based on information from MNP Hall staff, it was explained that visits to birds watching trekking were dominated by foreign tourists rather than domestic or local tourists. The number of respondents met during the research and interviews was 38. The number of respondents was also adjusted to visit the data from the MNP Center (presented in Table 1). Data on domestic visitors was not included because, during the research, birdwatching activities at the Masihulan Resort were only encountered by foreign tourists.

Tabel 1. Visitor to The Manusela National Park

Year	Foreign Tourist
2017	16
2018	42
2019	94

Source: MNP Office (2021)

The contingent valuation method (CVM) was used to identify the WTP value of the Masihulan Resort ecotourism object. The CVM method was chosen to determine Willingness to Pay based on the bidding game. The CVM is a method of evaluating natural resources and the environment by asking visitors directly about the value of the benefits obtained. The economic value of natural resources and the environment can be obtained by asking about willingness to pay, which can be expressed in units of money.

2.1. Analysis of Willingness Value (WTP) to Support Ecotourism

The CVM is a non-market economic assessment method that is often used to measure the passive value or value of the existence of a natural resource. The stages of conducting a study with CVM are as follows:

2.1.1. Determine the Hypothetical Market

The Hypothetical Market was created to provide visitors with an idea of the lack of bird-watching facilities at Masihulan Resort. For example, there needs to be additional observation facilities such as binoculars or binoculars, there needs to be a camping ground area, animal observation tower, tree house, rubbish bin and management process, conservation environmental education camp, and establishment of a conservation support team, apart from the need to train local guides regarding English language skills and knowledge related to the role of interpreter. Management efforts that are planned based on needs are offered to visitors to participate in the form of costs they wish to incur.

2.1.2. Offering a WTP Value

The WTP amount offered to support sustainable ecotourism at the Masihulan Resort birdwatching object was determined using the open-ended question method. The next stage is to obtain the value of the offer; visitors are asked questions regarding whether they are willing or unwilling to pay for the value of environmental services produced by the Birdwatching Object at the Masihulan Resort. One way to determine the WTP value is through the bidding game method, namely, a certain price has been set by the interviewer and then asked to the respondent; if the respondent agreed with the price offered, then the price was increased and continued to increase until the respondent answered no.

The WTP value was determined through interviews with respondents with the help of a questionnaire. The bidding game method is used to determine the bid value. The bidding game method determines the value of the offer given to respondents starting from the lowest value, which continues to increase until the respondent is not willing to pay that price. In this study, the offer value is determined based on the entrance ticket price at the object. The size ranged from IDR 50,000 to IDR 250,000.

2.1.3. Estimated Average WTP Value

Before calculating the average WTP value for visitors, it is necessary to first consider whether there are values that deviate greatly from the average (outliers). If, then the average WTP value can be based on the median value (middle value). If there is no value, the mean (average) value can be used as follows:

$$EWTP = \sum_{i=1}^n WiPfi \quad (1)$$

Remarks:

EWTP = average guess of WTP

Wi = WTP value of respondent-i)

Pfi = the relative frequency of the class

N = Respondent number

I = Respondent who are willing to pay

2.1.4. Adding up the Total WTP Value Data

The estimated total WTP value is calculated using the following formula:

$$TWTP = \sum_{i=1}^n WTPi \left(\frac{ni}{N} \right) P \quad (2)$$

Remarks:

TWTP = Total WTP

WTPi = WTP value of individual sample i

Ni = The number of the i-the sample who are willing to pay is WTP

N = Number of respondents/samples

P = Total Population

I = Respondent i who is willing to pay

3. Results and Discussion

3.1. Visitor Profile

Visitor profile data at the Masihulan Resort were taken based on country of origin, age, occupation, education, length of stay at the object, and motivation for visiting. The results show that the visitor profiles encountered during the research have different characteristics. The visitor characteristics are presented in Table 1.

Table 1. Profile of international tourists in the ecotourism area of the Manusela National Park

Number	Indicator	Criteria	Percentage
1	Country of origin	Europe (n=22)	58
		America (n=11)	29
		Asia (n=5)	13
2	Age	15-25	12
		26-35	4
		36-45	8
		46-56	15
		>56	63
3	Work	government employes	23
		non-government employes	62
		others	15
4.	Education	a.High school	12
		b.Bachelor	76
		c.Magister	12
5	Length of visit to the site	a.3-5 day	100
		b.1 Week and more - 0	0
		c.>1 Week	0
6	Visit motivation	a.Hardcore nature/study	0
		b.Birdwatching	47
		c.Walkingjungle	38
		d.Living culture	15
7.	Source of information about tourist attraction	a. Website office MNP	77
		b. Travel agent	23
		c. Friend/family	0
8.	Nature of visit	a.Alone	8
		b.Couple	23
		c.Grup (3-5 people)	69
9	Frequency of visits	a.One time visit	69
		b.Twice	8
		c. More than twice	23
10	Monthly Income	a.1-5 million IDR	11
		b.6-10 million IDR	18
		c.11-15 million IDR	32
		d.> 16 million IDR	39

3.2. Willingness to Pay (WTP) to Support Birdwatching Ecotourism in Resort Masihulan

Twenty-nine tourists (76%) were willing to pay more to support the development of birdwatching ecotourism at Masihulan Resort, whereas 9 visitors (31%) were not willing to pay. The data are presented in Table 1. Visitors explained that their willingness to pay was seen in several ways, including because the current ticket price was sufficient. affordable. In addition, with the development of ecotourism, there is an active role that can be played in supporting the sustainability of conservation areas. Another reason is that management and development still need to be carried out; for example, bird observation facilities are still considered too standard, apart from observation facilities, and interpreter readiness is not yet available with optimal quality and quantity. Meanwhile,

Nine visitors were not willing to provide WTP because visitors thought that the condition of endemic birds in the area as in situ habitat in conservation areas should be sustainable, and

there should be management funds provided in the form of non-tax state income to all National Park to carry out optimal management. in area. Meanwhile, there also those who think that it is true that WTP will be used in management and development according to visitors' expectations.

3.3. WTP Value to Support Ecotourism in MNP

Based on the results of the visitor questionnaire tabulation, it can be explained that the WTP value that is willing to be given to support ecotourism management at the Masihulan Resort varies. To determine the WTP value, visitors tend to choose prices in multiples of IDR 25,000, such as IDR. 50,000, - IDR 75,000, - IDR 100,000, -, IDR. 125,000, - and so on. Data on the distribution of visitors' WTP are shown in Table 2.

Table 2. The calculation of the Willingness to Pay (WTP) value.

Number (i)	WTP (IDR) (w)	Numbers of Visitors (n)	Total (IDR) (wn)
1	50.000	0	
2	75.000	0	
3	100.000	2	200.000
4	125.000	6	750.000
5	150.000	12	1.800.000
6	175.000	1	175.000
7	200.000	8	1.600.000
Total		29	4.525.000
Average			156.034
Median			150.000

In Table 2. the lowest WTP value that visitors are willing to give was IDR 50,000, and the highest WTP is IDR 200,000. The average WTP value for visitors was IDR 156,034.-. This condition explains why the entrance ticket price in the MNP area is still considered appropriate. Therefore, visitors still feel that the WTP value is in accordance with the benefits received from ecotourism activities in the MNP.

The average WTP value for Masihulan Resort is still relatively small when compared to WTP Mount Rinjani National Park [7] or WTP Komodo National Park [8], which is highly correlated with visitors' preferences when enjoying ecotourism objects. The conditions that can influence visitor preferences include services, observation facilities that are not yet optimal, and the ability of local guides who cannot speak English. Therefore, foreign tourists who are interested in coming must provide their own guidance when making bird-watching observations. In addition, sometimes the number and types of endemic birds that were expected to be observed were not found during the observation.

Visitor preferences are largely determined by management's readiness to create comfortable conditions for visitors at the object location. The comfort factor is an important aspect that object managers need to create to attract repeated visits to the area. When these conditions can support the ecotourism activities carried out, satisfaction is felt, so that the object manager can immediately receive a positive impact from the visit in supporting management. Madaidy & Juwana [6], Sadikin et al. [7], and Sanjaya & Saptutyningasih [9] stated that preferences greatly influence the amount of visitors' WTP.

Apart from knowing tourists' preferences regarding the management of the Manusela National Park ecotourism attraction, tourists' concern for the sustainability of ecotourism management of the Masihulan Resort was also revealed. Through WTP, there are visitors' hopes for managers of ecotourism objects that future management will focus more on efforts to preserve habitat from hunting and destruction by the community, so that bird populations can be well maintained. Disturbed animal habitats affect the attractiveness of birds for visitors to observe when carrying out birdwatching activities in the coming years.

3.4. Total WTP Value

The total WTP value was calculated to determine the estimated total income from managing ecotourism objects at the Masihulan Resort. The calculation of the total value of income from Manusela National Park ecotourism activities is shown in Table 3.

Tabel 3. Estimated total WTP value

WTP (IDR) (w)	Numbers (n)	Population (a)	Total numbers (w x a)
50 000	0	0	0
75 000	0	0	0
100 000	2	34	3.400.000
125 000	6	102	12.750.000
150 000	12	204	30.600.000
175 000	1	17	2.975.000
200 000	8	136	27.200.000
	29	493	76.925.000

Based on data from Table 3, the income from ecotourism management in the Manusela National Park area based on the total number of visitors' willingness to pay is IDR. 76,925,000. This value is the value of environmental goods and services contained in the Masihulan Resort birdwatching ecotourism site. The WTP value of visitors to tourist objects is relatively small, because many ecotourism objects still lack facilities, so many visitors still do not understand the WTP value and cannot provide a good assessment of the object. Hasiani (2016), stated that visitors' understanding of the object and all the comfort they feel while carrying out ecotourism activities will have an influence on the amount of WTP they are willing to provide. The WTP value, which is relatively small, requires that the management of the ecotourism object, in this case the Manusela National Park Hall, must develop tourist objects in the form of camping ground facilities, toilets, bird watching towers, tree houses, increase the ability of local guides, and maintain the cleanliness and quality of the objects from rubbish, because the readiness of facilities and the comfort of objects that are maintained will have a positive influence on visitors and influence visitors' ability to pay in supporting the management and preservation of the object.

4. Conclusions

The results showed that the WTP, to support the conservation of endemic bird species obtained a value of IDR 150.000, -. This value indicates that the appropriate price for birdwatching ecotourism services in Masihulan resorts for tourists is 150.000,

Conflicts of interest

There are no conflicts to declare.

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