Economic Valuation of Owabong Water Park in Purbalingga Regency

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ABSTRACT

The research aims to assess willingness to pay (WTP) of visitors to the Owabong water park in Bojongsari District, Purbalingga Regency. It is a mix method research where the primary data were obtained from 96 respondents using incidental sampling technique and completed by 3 key persons trough purposive sampling. By using Contingent Valuation Method (CVM), the WTP of Owabong visitors shows an average value of IDR30,000. Comparing to the WTP, the ticket price is IDR25,000 per person on weekdays and IDR35,000 on weekends. Therefore, there would be an opportunity to raise the ticket price, from IDR25,000 to IDR30,000 on weekdays while it would be better to hold at IDR35,000 on weekends. This suggestion should of course consider other factors attracting the visitors to Owabong.

Keywords: Willingness to pay, contingent valuation method, Owabong, ticket price

1. Introduction

The tourism sector is one of the potential sectors which can improve the economy. In detail, this sector can increase regional and also state incomes, contribute to national development, increase employment opportunities, and improve the standard of living (Todaro and Smith, 2015). Indonesia is a developing country that has great potential in the tourism sector. Indonesia has richness, diversity, and tropical natural beauty and extraordinary cultural heritage. In addition, Indonesia also has a variety of customs, religions, cultures and ethnicities.

According to data from the Central Bureau of Statistics, the number of tourist visits to Indonesia continue to grow in 2018, increasing to 8.44 percent, compared to the number of visits in 2017, from 1.39 million to 1.51 million visits. Cumulatively (January-December 2018), the number of foreign tourist visits to Indonesia reached 10.58 million visits, an increase of 12.30 percent compared to the number of foreign tourist visits in 2017, i.e. 9.24 million visits. Tourism foreign exchange revenue in 2016 reached 13,568 million dollars, which previously in 2015 reached 12,225 million dollars (Ministry of Tourism, 2017).

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The development of tourism potential, besides being able to increase the number of tourist visits, is also able to increase the Original Local Government Revenue (PAD). With regard to PAD from the tourism sector, regions can explore the potential of natural resources in the form of tourist objects. The following shows the data on the number of tourist attractions in Central Java Province. According to the Central Bureau of Statistics of Central Java Province (2019), the number of tourist visits in Central Java Province from 2013 to 2018 shows an upward trend, i.e. around 29.4 million (2013) to around 45.1 million (2018) for domestic tourists; and around 388 thousand (2013) to around 900 thousand (2018) for foreign tourists. The increasing tendency of people to travel on tours has a positive impact on the development of tourism in regions (regencies/cities) in Central Java Province.

Judging from the ranking of tourism revenue within Central Java Province, Purbalingga Regency was awarded as the fourth where there is a new tourist attraction which is originally a public bath (swimming pool) in Bojongsari District (Central Bureau of Statistics of Central Java Province, 2019). This amazing place is supported by abundant springs from the Cidandang river, Cipawon, and Cikupel. In 2004 the management of the Bojongsari swimming pool was still held by the foundation, then in 2005 it was managed and developed by the Bojongsari Water Tourism Object Regional Company, or better known as Owabong.

A large number of local workers has been employed in Owabong and that number has increased over the years. The increase in the number of workers is in line with the increase in facilities offered, including tsunami-free beaches, spilled buckets, flying fox, gokart, 4D theater, jet couster, rafting advernture, etc. Every year Owabong targets to open 2 new rides (Dinporapar Kabupaten Purbalingga, 2019). In addition, economically, Owabong's revenue contribution to the total revenues of all tourist objects in Purbalingga Regency from 2006 to 2018 reached 80 - 90 percent and its contribution to Purbalingga Regency Original Income (PAD) was around 35 - 40 percent (Regency Dinporapar Purbalingga, 2019).

Based on this description, it is necessary to have an in-depth study of the economic value that Owabong tourists can enjoy. Furthermore, based on this value, it can be analyzed the willingness to pay (WTP) which then can be estimated the relevant and reasonable entrance ticket based on the WTP value.

2. Literature Review

This research is part of an economic study of natural and environmental resources that analyzes the economic value of developing a project or activity that involves natural resources (Suparmoko and Ratnaningsih, 2016). This study uses the willingness to pay (WTP) approach, namely how much the economic value is willing to be paid by those who receive or take benefit of economic activities. In other words, the calculation of WTP implies how far the ability of individuals or communities in the aggregate to pay in order to improve environmental conditions to conform to the desired standard, which is the potential use value of natural resources and environmental services (Suparmoko and Ratnaningsih, 2016).

Haider et al. (2017) analyzed the value of recreation and willingness to pay (WTP) to develop recreational facilities from four tourist attractions in Bangladesh, namely the Shat Gumbuj Mosque, Mozaffar Park, Niribili tourist attraction and Chandramahal Eco-park. The methods used are the travel cost method (TCM) and the contingency value method (CVM). The variables used are trip duration, travel costs, travel time, mileage, mode of transportation, frequency of visits, entrance fees and other travel-related aspects. The result shows that the variables of travel costs, travel distance, age have a statistically negative effect on the probability of visits.

A similar research was previously conducted by Bhatt and Bhat (2016) which used the travel cost method (TCM). This method is used to estimate the recreational use value of Dachigam National Park as well as its importance for park acquisition development and management policies. The variables analyzed included the number of visits (dependent variable), travel costs, round trip distances, individual monthly income, education, age, number of members, and gender (independent variables). The result shows that the variable travel costs and travel distance have a negative effect, while the individual income and education variables have a positive effect on recreational demand. The gender variable is also statistically significant with a positive coefficient, meaning that it indicates that male tourists are more enthusiastic about enjoying recreational sites than female tourists.

Likewise, research conducted by El-Bekkay et al. (2013) who examined the estimated value of recreation, namely the Massa River Estuary site (EOM, with the contingency value method (CVM) and the travel cost method (TCM). This study used the dependent variable on the number of annual visits as well as the independent variables in the form of age, distance from the site. , time at the recreation site, number of children, total travel expenses, monthly income, and WTP / Willingness to pay The result is that the consumer surplus per person per visit is estimated at US $ 65.36 and willingness to pay per visitor is around US $ 6.20. According to economic valuation This is that the development of the site must consider the opportunities and potentials that exist as a promising recreational site.

3. Research Methodology

This study uses primary data from Owabong tourists with incidental sampling as the sampling technique, namely the sampling technique based on chance, where each tourist encountered can be used as a sample / respondent as long as the criteria are suitable as a data source (Sugiyono, 2016). The number of samples required can be determined using the Lemeshow formula (1997), namely:

$$n = \frac{p(1-p)(\frac{Z\alpha}{2})^2}{D^2}$$

$$n = \frac{0,5(1-0,5)(1,96^2)}{0,1^2}$$

n = 96 persons

where :
n = minimum number of samples required

Z = standard value of distribution according to value α = 5% = 1.96
p = prevalence of outcome, because data have not been obtained, the maximum estimate is used, namely 50% or 0.5
D = limit of error or absolute precision or accuracy level of 10%

The contingency value method (CVM) is used to analyze the willingness to pay (WTP) of tourists for the benefits they get from enjoying a tourist attraction, in relation to improving the environmental conditions of the tourist attraction so that it conforms to the desired standard 2016). The different preferences of individual tourists for the increase or decrease in the value of the use and management of natural resources will cause the WTP value of each tourist to vary.

Several approaches in calculating WTP to calculate the increase or decrease in environmental conditions are:
3.1 Through a survey in determining the level of people's willingness to pay in order to reduce negative impacts on the environment or to obtain a better environmental quality.
3.2 Calculating the costs that individuals are willing to pay to reduce the negative impact on the environment due to a development activity.
3.3 Calculating the reduction or increase in the price of a good due to decreasing or increasing environmental quality.

4. Results and Discussion

This analysis will measure how much the visitors are willing to pay a certain amount (rupiah) to be used for maintenance, repair and development, both in quality and quantity, in relation to the various facilities and rides available in Owabong. The method used is through the Contingency Valuation approach, namely the technique of calculating Willingness to Pay (WTP).

The first step is asking visitors the bidding value obtained from increasing entrance tickets by 20 percent on weekdays and increasing entrance tickets by 15 percent on weekends, but with information that some facilities will be improved and some new rides will be built. The entrance ticket on weekdays (Monday-Friday) is IDR25,000 and on weekends (Saturday-Sunday) is IDR35,000, so the bid value 1, which is during weekdays, is IDR30,000, while the bid value 2, which is during weekend, is IDR40,000 (rounding). The visitors were asked to provide an assessment through the choice criteria strongly agree (5), agree (4), neutral (3), disagree (2), strongly disagree (1). The results of the research are shown in Table 1 and Table 2 below.

Table 1. Willingness to Pay (WTP) of Owabong Visitors: Bid Value 1

No	Visitor Income (IDR)	Choice Criteria (entrance ticket=IDR3,000)					
		5	4	3	2	1	Total
1	< 1,000,000	5	6	3	2	2	18
2	1,000,000 – 2,000,000	8	10	4	5	5	32
3	2,000,000 – 3,000,000	8	9	4	3	1	25
4	3,000,000 – 4,000,000	4	6	3	2	1	16
5	> 4,000,000	2	2	1	0	0	5
	TOTAL	27	33	15	12	9	**96**
	%	28	34	16	13	9	100

Source: Primary data (processed)

Based on Table 1 it can be observed that when visitors are offered a ticket increase of 20 percent to IDR30,000 during weekdays with information that facilities will be improved and added with rides, 28 percent strongly agree, 34 percent agree, 16 percent are neutral, 13 percent disagree, and 9 percent strongly disagreed. In other words, the visitors who agreed (strongly agreed and agreed) were 63 percent, while those who disagreed (disagreed and strongly disagreed) were 22 percent, and only 16 percent were neutral. Therefore, based on these results, it can be used as a recommendation that the entrance ticket can be proposed to be increased by 20 percent, from IDR25,000 to IDR30,000 for weekdays.

Furthermore, for bid value 2, the entry ticket at the weekend is increased by 15 percent, from IDR35,000 to IDR40,000 (rounding off). The research results are presented in Table 5 below.

Table 2. Willingness to Pay (WTP) of Owabong Visitors: Bid Value 2

No	Visitor Income (IDR)	Choice Criteria (entrance ticket=IDR40.000)					
		5	4	3	2	1	Total
1	< 1,000,000	0	0	3	7	8	18
2	1,000,000 – 2,000,000	0	0	2	13	17	32
3	2,000,000 – 3,000,000	0	1	3	10	11	25
4	3,000,000 – 4,000,000	0	0	2	9	5	16
5	> 4,000,000	0	0	0	3	2	5
	TOTAL	0	1	10	42	43	96
	%	0	1	10	44	45	100

Source: Primary data (processed)

Based on Table 2, it can be observed that when visitors are offered a ticket increase of 15 percent become IDR40,000 at the weekend with the information that facilities will be improved and rides will be built, 43 percent strongly disagree, 42 percent disagree, 10 percent are neutral, 1 percent agree, and 0 percent strongly disagree. In other words, the visitors who expressed agreement (strongly agreed and agreed) were only 1 percent while those who disagreed (disagreed and strongly disagreed) reached 89 percent and only 10 percent were neutral. Therefore, based on these results, it can be concluded that the visitors do not want an increase in entrance tickets at the weekend. The visitors assume that the current entrance ticket (on weekends) is in accordance with the visitors' abilities and perceptions.

Thus, based on Table 1 and Table 2, it can be concluded that the WTP of visitors during weekdays can be applied to the increase in the price of entrance ticket, from IDR25,000 to IDR30,000. However, during weekends, visitors do not want an increase in entrance tickets because the value/price is in accordance with the visitors' abilities and perceptions in terms of willingness to pay.

5. Conclusion

This research analyzes the economic valuation of Owabong development which focuses on calculating/determining the willingness to pay (WTP) of Owabong tourists. It is a mix method research where the primary data were obtained from 96 respondents using incidental sampling technique and completed by 3 key persons trough purposive sampling. By using Contingent Valuation Method (CVM), the WTP of Owabong visitors shows an average value of IDR30,000. Comparing to the WTP, the ticket price is IDR25,000 per person on weekdays and IDR35,000 on

weekends. Therefore, there would be an opportunity to raise the ticket price, from IDR25,000 to IDR30,000 on weekdays while it would be better to hold at IDR35,000 on weekends. This suggestion should of course consider other factors attracting the visitors to Owabong.

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