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Economic valuation of Kampung Rawa tourism development by CVM approach in Bejalen Village, Semarang Regency

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ABSTRACT

One of the tourist attractions in Semarang Regency is Kampung Rawa in Bejalen Village, Semarang Regency. The existence of Kampung Rawa becomes an instrument of local economic development in Bejalen Village. So, Kampung Rawa needs to be developed by making a selfie spot in Kampung Rawa interesting to visitors. This study aims to develop a hypothetical market development of selfie tourist attractions. The method in this study is a survey method for calculating economic value using contingent valuation methods (CVM). The results of this research are visitors are willing to pay (WTP) for the development of Kampung Rawa tourism. The average value of the WTP can be used as a reference for determining entry tickets for visitors allocated to develop Kampung Rawa tourism in Bejalen Village.

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Salah satu tempat wisata di Kabupaten Semarang yaitu Kampung Rawa di Desa Bejalen, kabupaten Semarang. Kampung Rawa memiliki daya tarik wisata alam yang berpotensi dijadikan tempat wisata. Adanya Kampung Rawa mampu menjadi instrumen pengembangan ekonomi lokal di Desa Bejalen. Sehingga Kampung Rawa perlu dikembangkan dengan cara membuat spot selfie agar pengunjung Kampung Rawa semakin banyak. Dengan demikian, pengelolaan Spot selfie diperlukan untuk keberlanjutan. Tujuan dari penelitian ini adalah untuk merancang pasar hipotetik perkembangan wisata spot selfie. Metode dalam penelitian ini yaitu metode survei untuk menghitung nilai ekonomi menggunakan *contigent valuation method* (CVM). Hasil penelitian menunjukkan bahwa pengunjung bersedia untuk membayar (WTP) untuk perkembangan desa wisata Kampung Rawa. Besarnya nilai rata-rata WTP dapat dijadikan acuan untuk penetapan besaran tiket masuk kepada pengunjung yang dialokasikan untuk perkembangan wisata Kampung Rawa di Desa Bejalen.

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1. Introduction

Tourism has become an important new activity for the people of Indonesia, so tourism activities are inseparable from people's lives, especially in the field of social and economic activities (Binns & Nel, 2002). Tourism has influences and benefits, namely generating foreign exchange, increasing business, accelerating income distribution, expanding product markets, expanding employment opportunities, and increasing the multiplier effect in the economy (Akama & Kieti, 2007).

The beginning of the formation of Kampung Rawa was when fishermen and farmer groups were given billions of rupiah in money from the Artha Prima Credit Union in 2004. The fishermen and farmer groups numbered 12 groups consisting of around 325 people who were included in the Kampung Rawa bond on August 4, 2012. The group is tasked with managing Kampung Rawa tourism. The Kampung Rawa tourist village has become an icon of local Ambarawa tourist destinations, especially Bejalen Village. Since 2012, visitors to Kampung Rawa have been increasing, both local and domestic tourists (Gunn & Var, 2020).

In order to maintain and increase the number of visitors, it is necessary to add new facilities to attract visitors to Kampung Rawa. Tourist villages are popular with Indonesian people because they have natural and cultural tourism values. In addition, interesting photo spots are usually the main attraction for visitors (Yoeti, 1997). So in Kampung Rawa, additional selfie spots are needed, which are attractive and can make Kampung Rawa dance more well-known.

The tourism development of Kampung Rawa aims to develop the local economy, create income and provide jobs for all people, especially Bejalen Village, and this happens sustainably. Therefore, assigning value to a resource is important for the sustainability of this resource, including paying attention to the conditions for the existence of tourism in the area so that tourism needs can be met "maximum" without having to reduce the physical condition/quality of the area's environment (Ritonga, 2018).

The economic value measures the maximum amount someone wants to sacrifice goods or services to obtain other goods or services (Ramukumba et al., 2012). Economic value can be seen from indirect use value, namely goods and services that exist because of the existence of a resource that cannot be directly extracted from these natural resources (Demartoto, 2008). The development of Kampung Rawa tourism will affect visitors' willingness to pay (WTP) for Kampung Rawa tourism objects. The willingness to pay method is a contingent valuation method (CVM) measurement.

The contingent valuation method (CVM) approach has been widely applied in research in Indonesia and the world. Research on the topic of the contingent valuation method (CVM) was conducted by (Baskara et al., 2017) regarding the economic value of managing the core zone of the island of Karimunjawa. (Susilowati et al., 2018) Regarding the economic valuation of the Jatijajar Goa tourist attraction in Kebumen Regency, and Ardiansyah et al (2019) regarding the estimation of the economic value of mangrove forest conservation in Karimunjawa island.

Based on the description above, the following problem can be formulated: estimating the hypothetical market for the Kampung Rawa tourism development program with the addition of selfie spot facilities in Kampung Rawa. The research aims to find out the hypothetical market design for the program to add facilities in the Kampung Rawa tourist village and to estimate the willingness to pay the value of visitors in the effort to develop Kampung Rawa tourism.

2. Research Method

This research used quantitative analysis methods (descriptive statistics), interviews, and CVM. Quantitative analysis (descriptive statistics) is an analytical method used to explain the profile of respondents and the level of awareness of visitors to Kampung Rawa tourism development. Interviews were conducted with Kampung Rawa managers and visitors. In-depth interviews were conducted to determine tourism development and estimate costs. In-depth interviews in this research were conducted with Kampung Rawa managers and related agencies to determine the economic value of the additional facilities. In general, economic valuation aims to provide economic value to the community's natural resources, and the CVM Approach measures the passive values (non-use values) of natural resources (Fauzi, 2006). CVM in research aims to calculate the economic value of tourism development and the willingness to pay visitors (Cohen & Uphoff, 1977). WTP from visitors to carry out the development of Kampung Rawa tourism and maintenance. The stages in applying CVM analysis in determining willingness to pay include creating a mortgage market, obtaining bids, estimating mean WTP/WTA, and aggregating data to determine the total value of WTP (Safitra & Yusman, 2014).

The first stage is creating a mortgage market. In making a mortgage market, respondents were first asked to listen to statements regarding the current environmental conditions of the Naga Sakti Lake tourism object (Sharpley, 2000). Furthermore, respondents were asked to listen to a statement regarding plans for environmental preservation so that the main function of the lake is maintained.

The second stage is obtaining bids. Offering the value of WTP is done through interviews with respondents with the help of a questionnaire. The WTP value is determined through the bidding game method, which is a bidding method in which the respondent is offered a bid value starting from the smallest value to the largest value until it reaches the maximum WTP value that the respondent can afford (Sharpley, 2000).

The third stage is estimating mean WTP/WTA WTP can be estimated by using the average value of the total value of WTP divided by the number of respondents (Wong, 1998). The formula calculates the estimated value of the average WTP:

$$EWTP = \frac{\sum_{i=1}^{n} Wi}{n}$$

Means:

EWTP: Estimated WTP Average Value
W_i: Value of the i-th WTP
N : Number of respondents/sample
i : The I-th respondent who is willing to pay (i= 1, 2, 3, …n)

The fourth stage is aggregating data to determine the total value of WTP. The sum of the data is done by converting the WTP's average value to the study's total population. The total value of WTP visitors is calculated using the formula:

$$TWTP = \sum_{i=0}^{n} WTPi\ ni$$

Means :

TWTP : Total WTP
WTP_i : WTP sample i
N_i: The number of samples i who is willing to pay WTP
i: Respondent i who is willing to pay (i = 1, 2, 3, …n)

3. Result and Discussion

Kampung Rawa is located on crooked land or Bondo deso with an area of 5500 meters in Bejalen village, Ambarawa sub-district. Kampung Rawa is located on the southern ring road KM 03, Ambarawa sub-district, Semarang Regency, with a distance of 15 km from Rawa Pening to Ungaran city. Swamp Village – Semarang city 45 Km. Swamp Village – Salatiga city 5 Km (Sriyanto, 2018). The land area of Kampung Rawa is 5500 meters, utilizing the local potential for the natural resources of Lake Rawa Pening and natural views of rice fields and views of Mount Ungaran. The potential of Lake Rawa Pening is still very beautiful, with a wide landscape of waters. View the mountains on the slopes of Mount Merbabu, Telomoyo Ungaran, and Kendali Sodo, which are in the Ambarawa sub-district, Bawen, and Banyubiru.

Currently, the management of Kampung Rawa is divided into three groups: the management, Bumdes of Bejalen village, and the Pakeltanen Association group. The scope of management is entrance tickets for visitors to the swamp village and the facilities available for visitors to the swamp village. The scope of the association's management, namely motor boat rides for visitors, irrigation of farmers' fields, and helping fishermen keep swamps clean. The scope of Bumdes management is related to capital for new activities from Kampung Rawa and permits related to Kampung Rawa.

Women dominated respondents in this research because Kampung Rawa is often used as a picnic for PKK mothers to enjoy the natural beauty and culinary delights of Kampung Rawa. At the same time, men only travel with a family who is traveling with family. Furthermore, the marital status of the respondents in this study was dominated by married status, namely 29%, while those with unmarried status were 11%. This is because Kampung Rawa is often used for family tourism and picnics with a group or agency.

Based on the interview, the education level of the 40 respondents is the most dominant, namely strata or undergraduates, with a value of 17%. Furthermore, the level of education in high school is 14%. The level of education in academies/diplomas is 4%, then the level of education in junior high is 3%, and finally, the level of education in elementary school is 2%. This happened because, at the time of the research, it coincided with a large number of groups from several agencies and school holidays.

CVM is used to analyze the total WTP value of respondents for the development of Kampung Rawa tourism with the addition of Spot selfie facilities. Following are the results of the application of CVM in this study;

Designing the Mortgage Market

Respondents have explained the importance of tourism development for the sustainability of Kampung Rawa. The development of Kampung Rawa tourism is by building selfie spots that will make visitors more interested, curious, and comfortable while in Kampung Rawa. After being given information about tourism development, the respondents explained the manager's plan to build a selfie spot above the Swamp to become a tourist attraction and increase the number of visitors interested in visiting Swamp Village. The following is a picture of the Spot selfie design;

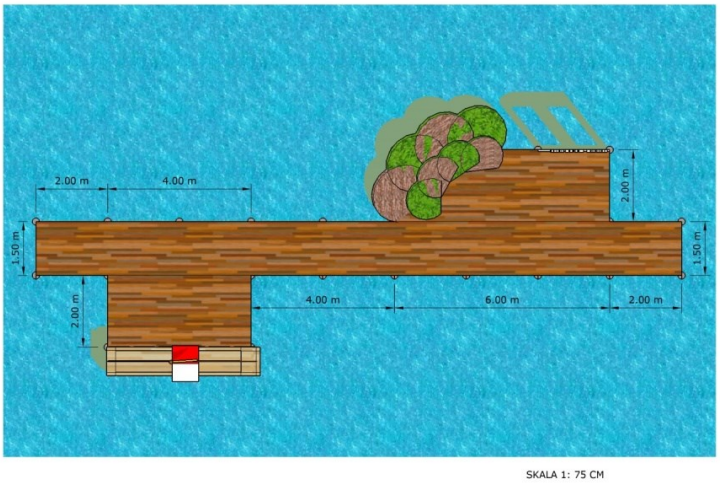

Figure 1. Foundation of Selfie Spot

The budget from the management of Kampung Rawa is quite limited to develop tourist rides, so visitors are expected to participate through contributions. Contribution rates are based on the two mortgage market scenarios below;

Scenario I

Visitors contribute Rp. 3,500 with one selfie spot. The following is a picture of scenario I

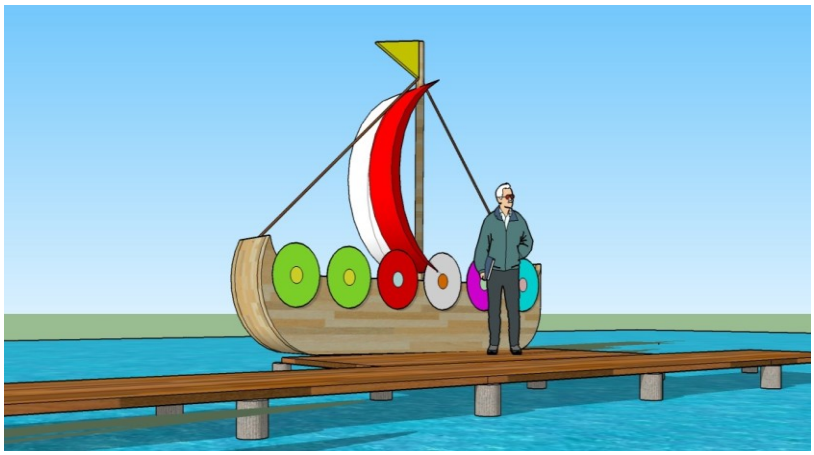

Figure 2. Scenario I Selfie Spot

Scenario II

Visitors contribute Rp. 5,500 with two selfie spots. The following is a picture of scenario II.

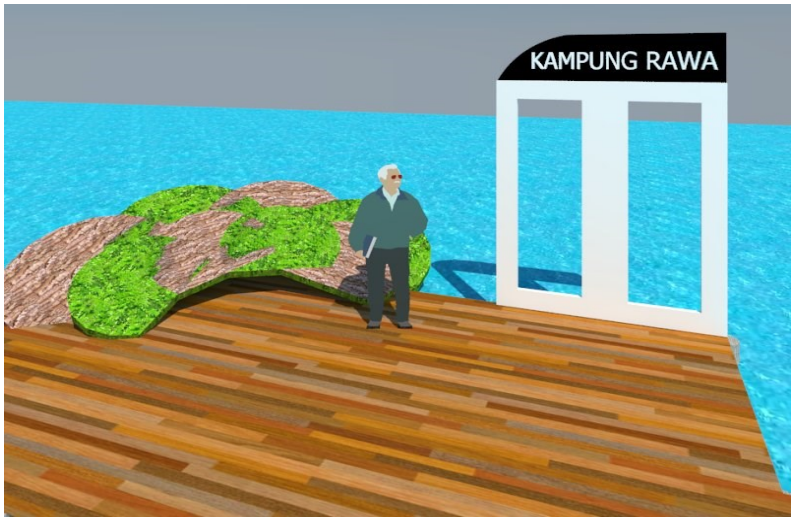

Figure 3. Scenario II Selfie Spot

Visitors as respondents are given two scenario options as above. Furthermore, visitors were given an explanation that the contributions collected would be managed and allocated for the construction of selfie spots and their maintenance.

Get the bid value

The auction game bidding approach determines the respondent's WTP value. This bidding method is applied by giving bid values to respondents starting from the smallest value until it reaches the WTP value desired by the respondent. The bid value was obtained through the estimated cost of building a selfie spot through interviews with Kampung Rawa managers and architects. The following is an estimate of the spot selfie budget plan;

Table 1. Scenario I Program for Adding Spot selfie Facilities and Their Maintenance in Kampung Rawa

Description	Name of Product	Volume	Amount	Price (IDR)	Total (IDR)
Program for Adding Spot selfie 1 Facilities (Maintenance of 5 years)	**Adding Spot selfie 1 Facility**				
	Foundation	0,26	16	3.843.512	15.989.009
	Column	4,32	14	7.873.262	476.174.885
	Chest of drawer	0,224	16	8.000.000	28.672.000
	Spot selfie 1		1	10.205.500	10.205.500
	Maintenance of 5 years				
	Salary		60 (month)	750.000	45.000.000
	Total				**576. 041.395**
Offering (bid) Scenario 1			= Cost scenario I: Population = Rp. 576. 041.395: 154.099 = Rp. 3738 = Rp. 3.500 / person		

Table 2. Scenario II Program for Adding Spot selfie Facilities and Their Maintenance in Kampung Rawa

Description	Name of Product	Volume	Amount	Price (IDR)	Total (IDR)
Program for Adding Spot selfie 3 Facilities (Maintenance of 5 years)	**Adding Spot selfie 2 Facilities**				
	Foundation	0,26	20	3.843.512	19.986.262
	Column	4,32	18	7.873.262	612.224.853
	Chest of drawer	0,224	20	8.000.000	35.840.000
	Spot selfie 1		1	10.205.500	10.205.500
	Spot selfie 2		1	12.000.000	15.000.000
	Maintenance of 5 years				
	Salary	3	60 (months)	750.000	135.000.000
	Total				825.256.615
Offering (bid) Scenario II			= Cost scenario II: Population = Rp. 825.256.615: 154.099 = Rp. 5355.3 = Rp. 5.500 / person		

Calculate the average value of WTP

The willingness of respondents to pay or not pay, as well as finding the amount of WTP value that is willing to be paid, is obtained through interviews with the help of a questionnaire. As many as 39% (39 people) need and agree regarding holding a program to add Spot selfie facilities. However, when respondents were asked whether respondents were willing to participate by paying contributions in two program scenarios that would be added to the Kampung Swamp entrance fee for the next year, 37% (37 people) of respondents were willing to pay, while 3% (3 people) respondents are not willing to pay.

The estimated WTP average value of respondents is obtained based on the ratio of the total value of WTP given by respondents to the total number of respondents who are willing to pay. The distribution of WTP respondents can be seen in Table 3.

Table 3. Distribution of WTP Value of Respondents Willing to Pay

NO	WTP (IDR) (a)	Respondent (Person) (b)	WTP x Respondent is ready to pay (IDR)
1	3.500,00	26	91.000
2	5.500,00	27	148.500
	Amount		239.500

Based on Table 3, the average WTP value is obtained by using the formula;

$$EWTP = \frac{\sum_{n=1}^{n} Wi}{n}$$

Where :
EWTP: estimated average WTP
Wi: the value of the i-th WTP
n: Number of respondents
i: the number of respondents I who are willing to pay (i = 1,2,….n)
So that the calculation results are obtained as follows:

$$EWTP = \frac{239.500}{37}$$

= Rp 6.472,97

Based on the calculations, the average respondent's WTP value was Rp. 6,472.97, which was then rounded up to Rp. 6,500.00. the average WTP value of IDR 6,500 per visitor per year can be used as a reference for determining the increase in ticket prices over the next year that will be charged to visitors to Kampung Rawa to ensure the success of the program to add selfie sports facilities. Technically, the payment technique for contributions can be made through payment of an entrance ticket to Kampung Rawa, which originally cost Rp. 2,000.00/per person to Rp. 8500.00/per person.

Aggregating data to determine the Total Value of WTP

The total value of WTP for the program to add selfie spots in Kampung Rawa is calculated by multiplying the average WTP offered by the total population in the study. The average value of the offers obtained according to table 3.4 is IDR 8,500.00, and the total population in this study is 154,099 visitors to Kampung Rawa for two years. Calculation of the total results of the WTP program for adding selfie spots in Kampung Rawa is presented in Table 4.

Table 4 Total WTP Program for Adding Spot selfie in Kampung Rawa

Average of WTP (IDR)	Amount of research population (Visitor)	Total WTP/ year (IDR)
8.500,00	154.099	1.309.841.500,00

Based on the calculation results in table 5, the total value of WTP visitors to the program for adding selfie spots in Kampung Rawa is Rp. 1,309,841,500.00 per 2 (two) years. This value is the economic value of tourism development in the context of developing Kampung Rawa selfie spots.

4. Conclusions

Based on the results of in-depth interviews with the Kampung Rawa tourism manager, a tourist vehicle will be developed with a program to add selfie spots. The hypothetical market design includes additional self-spot facilities and their maintenance in Kampung Rawa, which consists of 2 proposed scenario options. Scenario 1 pays Rp. 3,500 for one selfie spot and maintenance for five years, while scenario II pays Rp. 5,500 for two selfie spots and their maintenance for the last five years. The scenario is offered to visitors to contribute. So that the average value of the WTP is IDR 8,500.00, and the total economic value is IDR. 1,309,841,500.00 per 2 (two) years.

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