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## PROFILE OF TOURIST VISITS IN SANGIRAN SITE AREA, SRAGEN REGENCY

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**Abstrak:** Kegiatan pariwisata merupakan kegiatan mata rantai yang melibatkan berbagai sektor dan lembaga yang terkait. Pariwisata merupakan salah satu bidang dalam kehidupan masyarakat Kabupaten Sragen, yang pada beberapa tahun terakhir ini menjadi salah satu prioritas dalam pembangunan. Hal ini didasari oleh kesadaran pemerintah daerah bahwa perkembangan pariwisata dapat menunjang pendapatan daerah yang sekaligus dapat meningkatkan taraf hidup masyarakat yang tinggal di daerah wisata. Untuk itu evaluasi terhadap dampak adanya pariwisata di suatu daerah terhadap kondisi sosial ekonomi masyarakat menjadi hal yang penting untuk diketahui. Sangiran merupakan salah satu situs paleontologis terlengkap di Indonesia. Sangiran juga telah ditetapkan sebagai warisan budaya oleh UNESCO pada tanggal 5 Desember 1996, dengan nomor penetapan C.593. Situs Sangiran sendiri terletak di Kabupaten Sragen dan Kabupaten Karanganyar, Provinsi Jawa Tengah. Secara umum latar belakang penduduk di kawasan Situs Sangiran berasal dari suku bangsa Jawa yang dalam kehidupan sehari-hari berkomunikasi dengan menggunakan bahasa Jawa. Situs Sangiran telah dikenal sebagai kawasan manusia purba dari Kala Plestosen. Tidak hanya menyimpan kekayaan arkeologis, Sangiran juga sangat kaya akan potensi budaya, baik dari masa prasejarah maupun masa sekarang. Banyak hal yang bisa dinikmati di Sangiran, selain museum yang memaparkan temuan arkeologis yang sarat makna, masyarakat juga dapat menikmati kebudayaan setempat, antara lain seni tradisional, upacara adat, arsitektur lokal serta kerajinan rakyatnya yang dapat menjadi nilai tambah situs. Studi ini bertujuan unruk mengetahui profil kunjungan wisatawan di Kawasan Situs Sangiran. Studi ini menemukan bahwa faktor-faktor yang mempengaruhi jumlah kunjungan ke Kawasan Situs Sangiran adalah biaya perjalanan, usia, jenis kelamin, dan pendapatan responden per bulan yang berhubungan dengan keputusan untuk berkunjung ke Kawasan Situs Sangiran. Selanjutnya, faktor-faktor yang berpengaruh terhadap kesediaan responden menerima penawaran tiket dalam skenario hipotesa pasar di Kawasan Situs Sangiran adalah nominal penawaran harga tiket masuk terhadap suatu hipotesis pasar yang diberikan kepada responden, usia, jenis kelamin, pendapatan responden perbulan, tingkat pendidikan responden, dan asal responden.

**Kata kunci:** wisatawan, pariwisata, profil

**Abstract:** Tourism activities are chain activities that involve various sectors and related institutions. Tourism is one of the fields in the lives of the people of Sragen Regency, which has become one of the priorities in development in recent years. This is based on the local government's awareness that tourism development can support regional income while at the same time increasing the standard of living of people living in tourist areas. For this reason, evaluating the impact of tourism in an area on the socioeconomic conditions of the community is an important thing to know. Sangiran is one of the most complete paleontological sites in Indonesia. Sangiran has also been designated as a cultural heritage by UNESCO on December 5, 1996, with the designation number C.593. The Sangiran site itself is located in Sragen Regency and Karanganyar Regency, Central Java Province. In general, the background of the population in the Sangiran Site area comes from the Javanese ethnic group, who in daily life communicate using the Javanese language. The Sangiran site has been known as an ancient human area from the Pleistocene. Not only storing archaeological wealth, but Sangiran is also very rich in artistic potential, both from prehistoric times and the present. Many things can be enjoyed in Sangiran. Apart from the museum that presents archaeological findings full of meaning, the public can also enjoy the local culture, including traditional arts, traditional ceremonies, local architecture, and folk crafts, adding value to the site. This study aims to determine the profile of tourist visits in the Sangiran Site Area. This study found that the factors that influence the number of visits to the Sangiran Site Area are travel costs, age, gender, and monthly income of respondents related to visiting the Sangiran Site Area. Furthermore, the factors that influence the respondents' willingness to accept ticket offers in the market hypothesis scenario in the Sangiran Site Area are the nominal price of the entrance ticket to a market hypothesis given to

respondents, age, gender, monthly income of respondents, education level of respondents, and origin of the respondent.

**Keywords :** *tourists, tourism, profile.*

## INTRODUCTION

Sangiran is one of the most complete paleontological sites in Indonesia. Sangiran has also been designated as a cultural heritage by UNESCO on December 5, 1996, with the designation number C.593. The Sangiran site itself is located in Sragen Regency and Karanganyar Regency, Central Java Province. Sragen Regency includes three sub-districts, Kalijambe, Gemolong, and Plupuh; while in Karanganyar Regency it covers Gondangrejo District.

In general, the background of the population in the Sangiran Site area comes from the Javanese ethnic group who in daily life communicate using the Javanese language. The Sangiran site has been known as an ancient human area from the Pleistocene. Not only storing archaeological wealth, Sangiran is also very rich in artistic potential, both from prehistoric times and the present. Many things can be enjoyed in Sangiran; apart from the museum that presents archaeological findings that are full of meaning, the public can also enjoy the local culture, including traditional arts, traditional ceremonies, local architecture, and folk crafts value to the site.

The Sangiran site area has a legend, namely the presence of fossils. Fossils are authentic sources that can reconstruct the history of natural life and ancient humans in the millions. The people of the Sangiran site used to call the fossil a *balung buto*, which means giant bone. Some people in the Sangiran site still preserve traditional arts, namely *Rodat*, *Hadrah*, *Kotekan Lesung*, *Gambyong Dance*, *Tayub Dance*, *Reog*, and *Karawitan*. In addition, it also preserves crafts, namely making coconut shell buttons with shells, furniture, weaving *gloyor sarongs*, *batik*, and lucky *Indan stones*.

Because the Sangiran Site is located in Sragen Regency, it is not surprising that one of the economic activities which currently need to be improved in the district is the tourism sector. This sector is very complex and multidimensional, both physical, sociocultural, economic, and political. Tourism activities include foreign tourists and domestic tourists and several activities that provide tourists such as hotels, travel businesses, tour guides, restaurants, and others. Success in the tourism sector is reflected in the increasing flow of tourist visits.

Nevertheless, tourism activities are chain activities that involve various related sectors and institutions. Tourism is one of the fields in people's lives that has become one of the priorities in development in recent years. This is based on the local government's awareness that tourism development can support regional income while at the same time increasing the standard of living of people living in tourist areas. For this reason, an evaluation of the impact of tourism in an area on the socioeconomic conditions of the community is an important thing to know.

Sangiran Site Area is one of the *prima donnas* of tourism in Sragen Regency because it is famous for its world-famous Ancient Human Site. In addition, the Sangiran site also has an extraordinary

cultural wealth that is still developing today. This strengthens Sangiran's identity as one of the world's heritage so that by knowing and studying it, Sangiran's culture and traditions are preserved. The most dominant potential is the view above the gorgeous mountains and the attraction of ancient human privileges, which are both combined to become one of the attractive tourism destinations. This area will be developed as a regional service scale and is expected to improve the region's image. Thus, the Sangiran Site area can develop on a national and international scale.

## METHODOLOGY

### Profile and Data Source

The data used in this study are primary data (a combination of stated preference and released preference data) and secondary data. Primary data is a source of research data obtained directly from the source (not through an intermediary). The researcher specifically collected the primary data to answer the research questionnaire. In this study, primary data was obtained from respondents' answers in the Sangiran Site area, Sragen Regency, to the questionnaire submitted directly by the researcher. In addition, secondary data is needed to provide a profile and description related to regional, social, and economic conditions. The data is obtained from the publication of statistical reports and publications of other reports from various official sources, namely the Tourism and Culture Office of Sragen Regency.

### Field Survey

Field surveys were carried out to tourism actors and the public who were visiting the Sangiran Site area, Sragen Regency. According to data from the Department of Tourism and Culture of Sragen Regency, more than 275,000 visitors carry out tourism activities to Sragen Regency tourism objects. The survey was conducted through direct interviews or also called face-to-face interviews with structured questions. Survey activities were carried out during the period from April to June 2021.

### Model Specification

The model formed in this study using the contingency valuation method assumes that individuals, in this case, visitors to tourism objects, will receive an offer of admission prices to maximize their utility, which can be described in the following equation (Hanemann, 1984, Bowker & Stoll, 1988; Lee, 1997; Lee & Han, 2002; Adjaye & Tapsuwan, 2008):

$$V(1, Y - A; S) + \varepsilon_1 \geq V(0, Y; S) + \varepsilon_0 \quad (2.1)$$

and vice versa, individuals or, in this case, visitors to tourism objects will refuse the offer of admission prices if they are unable to maximize their utility. This condition can be described as follows:

$$V(1, Y - A; S) + \varepsilon_1 \leq V(0, Y; S) + \varepsilon_0 \quad (2.2)$$

In the two equations above,  $V$  is the indirect utility function,  $Y$  is income (monthly household income),  $A$  is the bid or bid for the price of admission,  $S$  represents the socioeconomic characteristics of individuals or known as demographic characteristics, and  $\varepsilon_0$  and  $\varepsilon_1$  are stochastic components,

variables. Independently distributed random variables with zero mean. Then, the difference in utility between the responses that agree with those who do not to the ticket price offer ( $\Delta\eta$ ), defined in the form of the following equation:

$$\Delta\eta = V(1, Y - A; S) - V(0, Y; S) + (\varepsilon_1 - \varepsilon_0) \quad (2.3)$$

The form of the above equation, which is a dichotomous choice contingent valuation method, is a binary choice dependent variable, so it requires a qualitative choice model or a qualitative choice model, where there are two choices, namely the logit model or the probit model. This study chose to use the logit model rather than the probit model. According to Hill, Griffiths, & Judge (2001) in Adjaye & Tapsuwan (2008), the logit model is formed based on the cumulative distribution while the probit model is formed based on the normal distribution and is numerically more complicated in its estimation. This question is also confirmed by Bishop & Heberlein (1979) and Sheller, Stoll, & Chavas (1985) in Lee (1997), which states that the logit model is relatively more chosen than the probit model.

Furthermore, individuals who faced with the choice of whether to accept or reject the market hypothesis offer level will have a probability ( $P_i$ ), where the individual who will receive the ticket price quote can be shown in the form of a logarithm or log-logit model as follows:

$$\begin{aligned} \text{Prob (yes)} &= F\eta\Delta\eta \\ &= (1 + e^{-\Delta V})^{-1} \\ &= \frac{1}{1 + e^{-(\alpha + \beta_1 A + \beta_2 Y + \beta_3 S)}} \end{aligned} \quad (2.4)$$

The cumulative distribution function is the intercept that represents the coefficients of the variable ticket price offer, income, and demographic conditions. Since 1, 2, and 3 are estimated coefficients, it is expected that and vice versa.

The logit model in equation (2.4) above, then estimated using the maximum likelihood (ML) method, which is a technique commonly used to estimate logit models. Furthermore, the parameters that have been estimated using the ML method, the expected WTP value is calculated through numerical integration, in the range 0 to the maximum ticket price offer, as can be seen in the following equation:

$$\begin{aligned} E(WTP) &= \int_0^{MaxA} F\pi(\Delta V) dA \\ &= \int_0^{MaxA} (\alpha^* + \beta A) dA \end{aligned} \quad (2.5)$$

Where  $E(WTP)$  is the expected value of  $WTP$ , and \* is the adjusted intercept obtained by entering the mean value of each independent variable into the regression model equation to then calculate the utility difference. The form of equation (2.5) above is often referred to as the truncated mean  $WTP$ . According to Duffield & Patterson (1991) in Lee & Han (2002) and Lee & Mjelde (2007), it was calculating  $WTP$  with numerical integration techniques with a range of 0 to Max (bid is the best method because it is consistent with theory, statistical efficiency, and its ability to generate aggregated).

Next, travel cost model in this study assumes that individual demand for recreation to tourism objects is influenced by travel costs, individual preferences, and socioeconomic characteristics or socioeconomic or demographic characteristics. So, the general form expressed in the form of a mathematical notation function of the model to be estimated is as follows:

$$VISITS = f \{ TC, EXPER, PREF, SOCECON \} \quad (2.6)$$

The number of visits of each individual, which is a proxy for individual demand for recreation to tourism objects, is influenced by travel costs, individual preferences, and socioeconomic characteristics. Econometrically, equation (3.6) above can be rewritten as follows:

$$VISITS_i = \alpha + \beta_1 TC_i + \beta_2 EXPER_i + \beta_3 SOCECON_i + \beta_4 PREF_i + \varepsilon_i \quad (2.7)$$

The travel cost model above tries to estimate the dependent variable of the number of visits on the independent variables in travel costs, visiting experience, socioeconomic characteristics, and respondents' preferences. The technique used to estimate is ordinary least square.

Method Choice model based on the assumption of random utility. The utility function ( $V_{ij}$ ) is influenced by individual characteristics ( $Z_i$ ) and the attributes that affect utility ( $X_{ij}$ ). Assuming these two components follow the extreme value of type I (independently distributed throughout  $U_{ij}$ ), then the probability of choosing an option can be written as follows:

$$U_{ij} = V_{ij} + \varepsilon_{ij} \quad (2.8)$$

$$V_{ij} = X_{ij} + Z_{ij} \quad (2.9)$$

Prob  $U_{ij} > U_{iq}$  for each  $j \neq q$  is

$$P(y_i \neq j) = \frac{\exp(V_{ij})}{\sum_q^q \exp(V_{iq})} \quad (2.10)$$

The  $V_{ij}$  a component is an indirect utility function assumed to be linear so that attributes and other demographic components influence the respondent's average utility. Then the form of the econometric model is

$$V_{ij} = AUR_{ij} + \sum \beta_k X_{jk} + \mu_{jk} \quad (2.11)$$

Where  $AUR$  is the respondent's mean utility,  $X$  is the demographic, perception, and attribute components, and is the error. The technique used to estimate is the conditional logit.

## RESULTS AND DISCUSSION

### Respondent Demographics Profile

The survey conducted in this study succeeded in obtaining 64 adult respondents who became the target of the study who were considered to represent regional visitors Sangiran site, as presented in table 3.1. From the survey results, it can be seen that the majority of respondents in this study are 34 years old on average with an age range of 16 years to 25 years by 31.25 percent, while the percentage of the smallest respondent's age range is above 55 years at 4.69 percent. Respondents with male sex amounted to 68.75 percent and 31.25 percent with the female sex. Most married respondents and those who are not far apart are 43.75 percent of married respondents and 56.25 percent of unmarried respondents, respectively. The education level of the most significant respondents has completed high school or the equivalent of 42.19 percent; then the second largest is the completion of diploma IV or undergraduate by 25.00 percent.

Table 3.1 Demographic Profile of Respondents

Characteristics	Sangiran Site Area	
	Frequency	Percentage (%)
<b>Gender</b>		
Girl	20	31.25
Man	44	68.75
<b>Status</b>		
Single	36	56.25
Married	28	43.75
<b>Age (years)</b>		
16 – 25	20	31.25
26 – 35	17	26.56
36 – 45	10	15.63
46 – 55	14	21.88
>55	3	4.69
<b>Education</b>		
Not completed in primary school	2	3.13
Graduated from elementary school or equivalent	0	0.00
Graduated from junior high school or equivalent	12	18.75
Graduated from senior high school or equivalent	27	42.19
Graduated Diploma III	3	4.69
Graduated Diploma IV / Bachelor	16	25.00
G Graduated S2 / S3	4	6.25
<b>Profession</b>		
Student	11	17.19
Civil Servants / Armed Forces	12	18.75
Private employes	11	17.19
Pensionary	10	15.63
Entrepreneur	17	25.56
Other	3	4.69
<b>Respondent Origin</b>		
Sragen Regency	20	31.25
Outsite Sragen Regency	44	68,75

Characteristics	Sangiran Site Area	
	Frequency	Percentage (%)
<b>Income (Rp)</b>		
0.5 – 0.75 million	19	29.69
0.751 – 1.5 million	5	7.81
1.51 – 2.25 million	15	23.44
2.251 – 3.0 million	11	17.19
3,01 – 4.0 million	7	10.94
>4.0 million	7	10.94
<b>Travel Budget Allocation Per Month</b>		
Not	37	57.81
Yes	27	42.19
Value (Rp)		
10 – 100 thousand	2	7.41
101 – 200 thousand	9	33.34
201 – 300 thousand	2	7.41
301 – 400 thousand	5	18.51
401 – 500 thousand	6	22.22
> 500 thousand	3	11.11

Source: Data Processing Results

### Research Analysis

This section will describe and describe the analysis of the estimates obtained from the survey. The explanation of the research analysis in this chapter includes four things: estimation & analysis of travel cost methods, consumer surplus, estimation & analysis of contingency valuation methods, value of willingness to pay, and value of benefits of natural tourist destinations Sangiran Site Area.

Table 3.2. Factors that affect the number of tourist visits

Dependen	I 1														
I 1	Model 1			Model 2			Model 3			Model 4			Model 5		
Independen	Coef.	Std.Err	Sign	Coef.	Std.Err	Sign	Coef.	Std.Err	Sign	Coef.	Std.Err	Sign	Coef.	Std.Err	Sign
I TC	-7.E-06	4.E-06	*	-6.E-06	4.E-06		-1.E-05	4.E-06	**	-1.E-05	4.E-06	**	-1.E-05	4.E-06	***
III_1				-0.008	0.028					-0.042	0.029		-0.054	0.031	*
III_2				-1.237	0.771					-1.553	0.773	**	-1.423	0.779	*
III_3													0.789	0.695	
III_4							3.E-07	3.E-07		8.E-07	3.E-07	**	8.E-07	3.E-07	**
III_5							0.114	0.108		0.043	0.107		0.049	0.107	
cons	2.9403	0.459	***	3.962	0.937	***	1.275	1.191		3.671	1.408	**	3.682	1.404	**
Number Obs	64			64			64			64			64		
F-Stat	3.352			2.400			2.300			3.290			2.970		
Prob F-Stat	0.072			0.077			0.087			0.011			0.014		
R-Squared	0.051			0.107			0.103			0.221			0.238		
Adj. R-Sq	0.036			0.062			0.058			0.154			0.158		

Based on Table 3.2, the following results are obtained:

The total travel variable has a negative effect on the number of tourist visits to the Sangiran Site area and significantly = 10% in model 1, in models 3 and 4 it is significant at = 5%, in model 3 it is significant at = 1%, but in model 2 it is not significant. Model 1, model 3, model 4, and model 5, while in model 2, there is no significant effect. This shows that the more expensive the total travel costs, the



fewer respondents who visit the Sangiran Site area, Sragen Regency, and if the total travel cost is cheap, the more respondents visiting the Sangiran Site area in Sragen Regency.

The age variable has a negative effect on all models on the number of tourist visits, and in model 5, it is significant at  $\alpha = 1\%$ . For models 1 to model 4, it has no significant effect. As with the total travel cost variable, the age variable has a negative coefficient value. This means that the older the visitor, the less frequently they visit the Sangiran Site area. In other words, visitors to the Sangiran Site area are mostly young or are students. The Sangiran Site area is a place to store archaeological objects that contain much history, so students and students need to visit to enrich their knowledge about archaeological objects.

The gender variable has a negative effect on the number of tourist visits, and the model is significant at  $\alpha = 5\%$ , and in model 5, it is significant at  $\alpha = 1\%$ , but in models 1, 2, and is not significant. So this shows that both male and female respondents who visited the Sangiran Site area, Sragen Regency, that the more expensive the total travel cost, the fewer respondents visited the Sangiran Site area, Sragen Regency and if the total travel cost was cheap, the respondents who visited the Sangiran Site area. So Sragen Regency is getting more and more.

The marital status variable for all models was not significant, and in model 5, it was positively related to the number of visits. This shows that respondents, whether married or unmarried, do not influence visiting the Sangiran Site area, Sragen Regency.

The monthly income variable positively affects the number of tourist visits in models 3, 4, and 5. Models 4 and 5 are significant at  $\alpha = 5\%$ , while in models 1 and 2, there is no effect. This shows that when the respondent's monthly income is more significant, the tendency to visit the Sangiran Site area, Sragen Regency is higher, but the respondent's income is getting smaller, the tendency to visit the Sangiran Site area, Sangiran Regency is also lower.

The education level variable in 3, 4, and 5 models is not significant and has a positive relationship with the number of visits, while in models 1 and 2, it does not affect. This shows that respondents with high and low education do not influence visiting the Sangiran Site area, Sragen Regency.

R value<sup>2</sup> for model 1 is 5.1% which means that 5.1% of the variation in tourist visits can be explained by variations in the total travel costs, age, gender, marital status, monthly income, and education level. In comparison, the remaining 94.9% of the variation in the number of tourist visits is explained by variations in factors or other variables outside the model. With a low R<sup>2</sup> value of 5.1%, the quality of the model is not good because it cannot explain the relationship between the dependent and independent variables.

The R<sup>2</sup> value for model 2 is 10.7%, which means that 10.7% of the variation in tourist visits can be explained by variations in the total travel costs, age, gender, marital status, monthly income, and education level. In contrast, the remaining 89.3% of the variation in tourist visits is explained by variations of factors or other variables outside the model. Therefore, with a low R<sup>2</sup> value of 10.7%, the



quality of the model is not good because it cannot explain the relationship between the dependent and independent variables.

R value<sup>2</sup> for model 3 is 10.3%, which means that 10.3% of the variation in the number of tourist visits can be explained by variations in the total travel costs, age, gender, marital status, monthly income, and education level. In contrast, the remaining 89.7% of the variation in tourist visits is explained by variations in factors or other variables outside the model. Therefore, with a low R<sup>2</sup> value of 10.3%, the quality of the model is not good because it cannot explain the relationship between the dependent and independent variables.

The R<sup>2</sup> value for model 4 is 22.1%, which means that 22.1% of the variation in tourist visits can be explained by variations in the total travel costs, age, gender, marital status, monthly income, and education level. In comparison, the remaining 77.9% of the variation in the number of tourist visits is explained by variations in factors or other variables outside the model. Therefore, with a low R<sup>2</sup> value of 22.1%, the quality of the model is not good because it cannot explain the relationship between the dependent and independent variables.

The R<sup>2</sup> value for model 5 is 23.8%, which means that 23.8% of the variation in tourist visits can be explained by variations in the total travel costs, age, gender, marital status, monthly income, and education level. At the same time, the remaining 76.2% of the variation in the number of tourist visits is explained by variations in factors or other variables outside the model. Therefore, with a low R<sup>2</sup> value of 23.8%, the quality of the model is not good because it cannot explain the relationship between the dependent and independent variables.

## CONCLUSION

The Sangiran site area is one of the tourist destinations in Sragen Regency, Central Java Province. This tourist destination has always been one of the mainstays of engaging historical tourism activities because it is a tourist destination containing educational elements. Moreover, the Sangiran Site area is expected to capture the shifting interests of actors who are starting to vary, such as tourists looking for vacations with special or particular interests.

In addition, the conclusions obtained from this discussion are as follows. First, the factors that influence the number of visits to the Sangiran Site Area are travel costs, age, gender, and monthly income of respondents related to visiting the Sangiran Site Area. Second, the factors that influence the respondents' willingness to accept ticket offers in the market hypothesis scenario in the Sangiran Site Area are the nominal price of entrance tickets to a market hypothesis given to respondents, age, gender, monthly income of respondents, education level of respondents, and origin of the respondent

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