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## Estimating the Surplus of the Tourist Consumer that the Visitors of the Chibayish Marshes Get in the City of Nasiriyah

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### Abstract

The marshes of Iraq are among the beautiful and rare water bodies in the world and the richest in their biodiversity, which made them a magnet for local and foreign tourists. To enjoy the quiet tourist atmosphere, bird hunting and fish, and water and land trips organized by residents for inbound tourists. This paper seeks to estimate consumer surplus for tourists arriving in the Chibayish Marshlands by using the CVM model that is based on surveys. To extract users evaluation of their resource activities including but not limited to (visit The Marshes of Chibayish), To collect demographic information or information related to activities that can be used as a predictor of these assessments. As a group of questions were directed to users, with the options of dichotomous double-border offers, this study helps in the possibility of the local administration of the Chibayish region managing the volume of tourists' arrival to the area through the price mechanism. The assessment is based on estimates of tourists' willingness to pay through a sample survey of inbound tourists, from which estimates of consumer surplus are derived.

**Keywords:** Tourist consumer; Consumer surplus; The Marshes of Chibayish; dichotomous double-border offers.

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## **1. Introduction**

The marshes of Iraq are one of the unique regions in the world because of their biological diversity of different plants and animals, including fish, birds. In addition to its possession of national heritage and an ecological system characterized by diverse and distinct life characteristics, of great importance for the natural and human life in the areas where the shelter is located and multiple sources of income for the population, The marshes region is characterized by a special social climate that represents a form of Iraqi heritage, Moreover, the marshlands region is a diverse world of wild, animal and plant life, and along with the human factor and other complementary components, it has formed the elements of the special and distinguished tourism product. And after the success of the national efforts in obtaining the approval of the United Nations Educational, Scientific and Cultural Organization (UNESCO) to include the Iraqi marshes on the World Heritage List as a mixed heritage site that combines the environment, antiquities and cultural landmark It is expected that the number of tourists wanting to visit these areas and get to know them closely. The difference in the prices of using boats that boat owners impose on tourists and the prices that tourists want to pay in exchange for enjoying wandering the marshes generated what is called consumer surplus. If the increase in boat prices will generate additional revenues by acquiring a percentage of the current consumer's surplus, this may be provided. An important financial contribution to improving the management of this tourist destination area. To pursue this way of thinking, it is important to know the value of the benefits visitors derive from visiting and appreciate the consumer surplus that they get. The research is divided into several sections. The first section introduces the conceptual dimensions of tourism consumer surplus. The second section deals with estimating consumer's surplus for visitors to Marsh Chibayish, analyzing the results and an explanation of the results. The research concludes with recommendations on how to use this data to manage inbound tourists' visits to the Chibayish Marshlands, as well as the conclusions reached by the research and the recommendations it recommended to the local government in the city of Nasiriyah.

## **2. Research objective**

The research described in this study aims to measure the recreational use value that tourists who visit the Chibayish marshes in the city of Nasiriyah derive and the amount of consumer surplus that they can obtain.

## **3. The problem of research**

The research raised the following question: Will increasing the prices of tours for boats in the Marshes of Chibayish generate additional revenues by obtaining a percentage of the current consumer surplus, and can it make an important financial contribution to improve the management of this tourist destination?

## **4. Research Hypothesis**

The increase in the prices of tours for boats in the Marshes of Chibayish creates additional revenues by acquiring a percentage of the current consumer surplus, as well as providing important financial contributions that contribute to the improvement of the tourist destination.

## **5. Research Structure**

To achieve the goal of the research, it was divided into two main parts. The first dealt with the conceptual dimensions of the surplus tourism consumer, and this in turn was divided into -1 defining the tourism consumer. 2- Tourist consumer behavior. 3- Consumer surplus, while the second section dealt with estimating consumer surplus for visitors to Chibayish Marshlands, and it was divided into 1- Brief on Chibayish Marshlands, 2- Estimating consumer surplus obtained by Chibayish Marshes visitors, 3- Analyzing the data results, as well as the introduction, conclusions and recommendations.

## **6. Conceptive dimensions of the surplus of the tourist consumer**

Before taking place in eating the subject of consumer surplus and measuring mechanisms, we see it necessary to deal with the concepts of tourist consumer, its behavior, different types of consumer behavior, consumer characteristics.

### **6.1. Definition of the tourist consumer**

The tourist consumer is not different from the normal consumer who is using tangible goods and non-tourism services in terms of the purpose of purchase and consumption, but there is a difference between them in terms of the nature of consumption and purchase style. The tourist consumer is defined as individuals or groups who choose, use, offer or buy ideas, experiences, products and services to meet their desires and tourism needs [3], or that he is “that tourist person who purchases various tourism products to use and benefit from them within the tourist destination area before and during the tourist visit, whether he is a tourist. Locally or internationally [4] , Of the above:

- 1-1. A tourist consumer is a natural person who purchases the tourist product to take advantage of it and not a representative person in a company such as overall trekkers and tourist agents who purchase tourism products from tourism companies.
- 2-1. The tourist consumer representative in the tourist is permanently located within the country exporter of tourists and does not move to the receiving state of tourism or tourist destination only after purchasing the tourist product to take advantage of it.
- 3-1. Purchase of tourist services is through the tourist trip which begins from the tourist state to the tourist destination and returns to the state of residence.
- 4-1. Tourism consumer is the final consumer of the commodity or tourist service, which is conducting the payment and purchase to consume and use the tourist product for a specific period not to be permanent.
- 5-1. Tourism consumer may be an international tourist to travel to another non-national country, which is permanently living for any purpose for the exception of gain and permanent accommodation for an at least 14 hours and not more than a year, as well as possible The tourist consumer can also be a local tourist that is moving within the borders of the permanent residence.

## **6.2. Tourist consumer behavior**

Consumer behavior (CB) means the various emotional, mental, and observable processes related to consumer behavior during the search, purchase, post-purchase, and use of products and services that are directed to achieving certain goals. We cannot imagine behavior without a clear goal [2]. The American Marketing Association (AMA) defined consumer behavior as A set of dynamic interactions of behavior, perception, and environmental events in which humans manage the exchange aspect of their lives with a different set of psychological and social variables [1]. The actual behaviors of the discretionary tourist within the tourism consumption systems focus on the set of ideas, decisions, and behaviors that the tourist practices before, during and after the trip through a causal chain of activities that can be observed before and during the travel decision, as the motives behind a recreational trip are likely to have significant effects on the behavior of the tourist who visits Friends or relatives, he is more likely to rely on the advice of his host, or he tends to search for information and do more activities, excitement and adventure [14], From the above, several results can be reached, the most important of which are:

1-2. The conduct of tourist consumer is associated with tourist agents (either in the form of people, groups or companies) and is intended by the group responsible for administrative decisions about the sale of the various tourism services required at the corporate work of these companies or agencies or agencies.

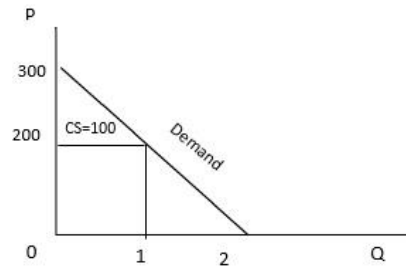
2.2 Consumer with different goods and services.

3-2. The mutual relationship between consumer and society. Consumer behavior is also associated with a range of questions relating to when, why and how and where some tourist products are purchased without others, as well as some sizes of the purchase, of course, include many ingredients and psychological and social and economic factors related to Which requires the need to examine purchase decision-making processes and groups, as various factors and properties of end customers such as demographic characteristics and behavioral variables are studied as serious attempt to study the wishes and needs of consumers, as well.

## **6.3. Consumer surplus**

Consumer surplus is an economic measure used to measure the benefits obtained by the consumer. His idea is related to the theory of demand and consumer equilibrium, first mentioned by J.A. Dupuit, a French economist engineer in 1844. He then developed this unique concept by Marshall in his book "Principles of Economics" (1890) [5]. The idea is that we usually find that the benefit or satisfaction that we get from a good or service exceeds the price we pay to buy that good, meaning that our evaluation of the good or service measured by the price of personal demand is higher than the market assessment of that good or service measured at the price specified in the market (Equilibrium price) and the difference between the two estimates is a surplus or additional saturation, which is termed as consumer surplus. Consumer surplus occurs when the price that consumers pay for a product or service is lower than the price they wish to pay, so it is a measure of the additional benefit that consumers get because they pay for something Less than what they were willing to [6], or it is the difference between the total utility of the commodity and its total value in the market, or the amount of

the difference between the total amounts that the consumer is willing to pay to obtain a certain amount of goods and services and the total amounts paid by him. The total sums paid by the consumer of the good or service represent the total revenue of the product and the total expenditure of the consumer, which is equal to the product of multiplying the quantity by the price. It is also known as the monetary measure that measures the difference between what is Individuals paid him for the consumption of a commodity or service and the amount he is willing to pay, given his income and the prices he faces For example, suppose that a tourist bought an airline ticket for a trip from Baghdad to Beirut during the week of vacation for \$ 200, but he was expecting and willing to pay \$ 300 for one ticket, \$ 100 representing his consumer surplus. Figure (1) shows the tourist demand curve for a plane ticket, which shows the case of a tourist who wants to buy a plane ticket to Beirut, the price of the ticket was \$ 200, knowing that the consumer is willing to pay \$300 to buy the ticket, so that the tourist gets a consumer surplus of \$ 100, from The diagram, represents the triangle below the demand curve: Consumer Surplus, CS = 100



**Figure 1:** Consumed surplus curve

From the above definitions the concept is translated into the following equation [15]: -

$$CS = \int_0^{Q^*} f(Q_D) dQ - (Q^* \cdot P^*)$$

$P^*$  = Equilibrium price

$Q^*$  = Equilibrium quantity

Before estimating the value of a consumer's surplus, the inverse function of the market demand function must be found:

$$f(Q_D)$$

The demand function equation

$$\partial P f(P) \rightarrow f(P) = A - Q_D$$

A = Balance point ( $P^*$ ;  $Q^*$ )

Accordingly, the inverted demand function is written as follows: -

$$f^{-1}(P)=f(Q_D) \Leftrightarrow f(Q_D) \frac{A-Q_D}{\partial}$$

Note: In the absence of slope of the demand function ( $\partial = 0$ ), the resultant expresses the value of the surplus sacrificed by the consumer upon the change in price from the agreed (equilibrium) price, by the amount of

$$CS= [P- (Q^*, P^*)]$$

## **7. Estimating consumer surplus for visitors to Marsh Chibayish**

We have previously indicated that the essence of the concept of consumer surplus is that the consumer usually obtains a benefit from the consumption of a good or service that exceeds the price he pays for its consumption, as people are willing to pay more for goods and services than they pay for them. This additional satisfaction that the consumer gets came from the purchase of a good or service, so it is important here to know the value of the benefits that visitors to the Chibayish Marshlands can derive from their visit to the Marshlands and enjoy a tour in these picturesque natural areas by estimating the consumer's surplus that they can get on him.

### **7.1. About the Marshes of Chibayish**

It is a group of marshes (Hammar, Abu Zark, safe, and central marshes) located east of the city of Nasiriyah, southern Iraq, these marshes feed on the Euphrates and the Tigris, as they are large water bodies that usually shelter many and large types of local and migratory birds, As many as (134-158) species reach the marshes of Iraq, coming from Siberia and Southeast Asia, including pelicans, Iraqi Babbker, Basra Reed Warbler and other rare and endangered species. as well as There are many different types of fish and there are aquatic plants, and reeds [8], These marshes are among the large areas of the marshes of Iraq registered within the World Heritage area of UNESCO, these marshes are located 70 km to the east of the city of Nasiriyah and about 360 km from the capital Baghdad by road, the area attracted great interest after it was registered within the World Heritage [9] Most of the people visit the region on a one-day trip, either by an organized tour in the form of groups or the form of a family trip or individually. Most of the day's visitors stay in the hotels of Nasiriyah, the center of Dhi Qar Governorate, as they represent the main tourist accommodation centers there. The Marsh Chibayish from the capital, about four hours. There is no tourism management system responsible for the maintenance, management, and movement in the marshes, as the responsibility rests with the local municipality. As for the management of internal movement boats in the marshes, it is managed by the local population in an unorganized manner, as the price mechanisms are controlled by supply and demand, as prices increase at peak time. If the increase in the prices of navigation boats in the Marshlands will generate additional revenues by acquiring a percentage of the current consumer surplus, this may make an important financial contribution to improving the management of this tourist destination area, to follow this method of thinking, it is important to know the value of the benefits that visitors derive from visiting Marsh Chibayish.

### **7.2. Estimating the consumer surplus that visitors to the Chibayish Marshlands can get**

Economic assessments of travel and tourism options are one of the beneficial means for the potential to maintain and better manage tourist destinations, while the “double-border” CVM approach provides a preference

framework defined through Respondents' willingness to pay (WTP), Reference [10] and their willingness to accept the quotations presented them, this includes hypothetical "what if" questions about the amount and fees that a tourist can pay. There is a debate about the biases inherent in the use of the CVM model in estimating [11], For this study, the CVM model is used to extract the value of one tour in the Chibayish Marshlands – the recreational value of visiting the Marshlands to obtain sound and appropriate decisions for managing area and enable it to set appropriate prices for the numbers of tourists coming to this area. The CVM is one of the standard forms used in evaluating non-marketed resources such as wildlife, entertainment and environmental quality. This form provides an additional important evaluation of the continuous current, for example, if an individual agrees to pay the initial amount, the follow-up question assumes a higher value, on the contrary. If the initial amount is rejected, a lower bid level must be submitted. The CVM model relies on surveys to extract users' assessment of their resource activities (including but not limited to a visit to the Marshlands of Chibayish), and to gather demographic or activity-related information that can be used as a predictor of these assessments. A group of questions is directed to the users, in a dichotomous option, and the amount in Iraqi dinars (IQD) is treated as a unit of measurement. If the value of the service provided to tourists is higher than the minimum amount of the offer, the person answers with "Yes", otherwise he answers "No". this model is easy for the respondent, but statistically, it is less efficient as it requires a large sample of respondents to achieve a certain level of accuracy. This model is ideally suited for the case of self-driving and family tours of the Chibayish Marshlands, provided that riding in boats (almashhuf) is a way to tour the marsh waterways and enjoy their landscapes, and the amount of money that tourists are willing to pay for tours in almashhuf It provides a way to appreciate this aspect of the recreational value of the area. The prerequisites for the accuracy of the method are fulfilled in that the respondents are aware of the service being evaluated, and the tourists are accustomed to making appropriate decisions in it. In this paper, a combination of dichotomous selection was chosen. Respondents were offered an initial choice as to whether or not they were prepared to pay a specific amount to use a boat and sightseeing tours of the waterways of the Hor. Four "price options" were randomly offered (IQD 25,000, IQD 40000, IQD 50,000, IQD 70,000 and IQD 100.000), boat fare for sightseeing in the Marshlands. If the respondents refused, they were offered a second offer for half the initial amount, as was asked. All the sample population surveyed for the upper limit of the amount that they would be willing to pay. The questionnaire was conducted at the Chibayish Center by way of a face-to-face interview with the tourists, when they arrived at the resting place, starting to enter the marshes area before they set out on tours between the waterways of the Marshlands. Two survey periods were conducted for each of them in April of 2019. May of the same year, yielding a total of 500 valid answers. The range and proportion of the different types of tourists interviewed can be considered as representative of the total number of tourists. Evaluation questions were asked that included a set of variables, (the duration of their stay in the city center or the Chibayish area, and whether their tours through the lagoon waterways were a one-day trip, the nature of the tour program for the trip, the profession of tourists, their timing of the trip).

### ***7.3. Analysis of the questionnaire results***

The data collected in the questionnaire allows the use of statistical models of open offers to estimate consumer surplus quantities. The data also used dichotomous questions. Through the available data, the model was estimated from the bilateral responses to the amount of the first offer provided to the tourists, as well as the

possibility of determining the time interval data from the dataset, and the specific models estimated from this information. The model results were shown as follows:

### 7.3.1. Tobit Regression analysis of open quotations

The demand function was estimated using open quotations. As shown in Table (1), a very small percentage of the responding tourists are willing to accept high price offers, as all respondents are willing to pay IQD7 for the costs of a boat tour in the Al-Chibayish Marshes, (the current price level). The open-ended questions are limited to learning about whether the responses are systematic functions of covariates or sampling splitting or other aspects of the questionnaire or individual. Typically one would have an individual's response as  $WTP_i$  and the sample mean would be  $(\sum_{i=1}^T WTP_i / T)$ . One might want to estimate a model such as  $WTP_i = f(z_i, \epsilon_i)$ , [12]. The results of the average asking price are 27.250 IQD, with a standard deviation of 25.250 IQD. The average price offered is 20 IQD, for local tourists from Nasiriyah, the average price is 25.500 IQD, while the average price for those coming from Baghdad and other cities is 29.750 IQD. To estimate the amount of consumer's surplus, the supply function must be estimated. Regression analysis was used to estimate many offers on different statistical grounds, the linear logarithmic equation was used to estimate the relationship as follows:

$$\text{Offer amount} = -25.750 * \text{Log}(X) + 115.781 \quad (\text{adjusted } R^2 = 0.937)$$

Where (X) is the percentage of tourists willing to pay the bid amount.

The average value of the amounts requested from tourists according to this model is IQD 19.750, while the average bid amount is IQD 39.500. This form of model estimation is not very accurate because it allows the inclusion of unrealistic values for widths in the model. These are bid values lower than IQD7000, and those that are negative. To avoid this problem, it is common to truncate bid values in some way. In this case, the lowest truncation should be IQD7000, while a higher truncation of IQD 99.999 is chosen to represent the estimated level of income available to each respondent. The Tobit Regression Model [13] can be used to estimate which display functionality is truncated in this way. Table 1 illustrates this.

The form shows that the place of residence has affected the amounts of the willing to pay program and that the tourists coming from Baghdad and other cities who make short trips are willing to pay higher amounts than the tourists residing in the area and those close to it, the groups of families surveyed indicated their willingness to pay higher sums. Participants who indicated their desire to visit the area because of enjoying the beauty of nature and staying away from people were also willing to pay more. According to the Tobit model estimated for the sample of local tourists, the average supply to local tourists was estimated at 17.500 IQD, while the average estimated models for the sample of tourists from Baghdad and other cities was IQD 18.750.



**Table 1:** Tobit model with maximum the minimum truncations

	Coefficient	Mean of X	Standard Error
Proportion prepared to pay amount	0.56*		0.01
Region of residence( local respondents)	0.19*	2.00	0.01
Duration of stay in the city of Nasiriyah ( tourists from Baghdad and other cities	- 0.11*	1.13	0.02
Days in Chibayish	0.19*	1.39	0.02
The area you stayed in last night	0.07*	2.05	0.02
The number of people in the boat	0.09*	2.67	0.02
Group type	- 0.06*	2.09	0.01
The reason for the visit-to the marshes	0.27*	0.85	0.05
The reason for the visit-to get away from people and noise	0.13*	0.24	0.04
Disturbance standard deviation	0.05**	1.52	0.03
Sigma	8.62		1.08
Responders	500		
Possibilities	- 3624.806		

\* = significant at the % 10, \*\*= significant at the %5

**7.3.2. Using Double Bounded Dichotomous Choice Contingent**

**Valuation (CVM):**

**Table 2:** Presentation of the preliminary results of the dichotomous selection in the questionnaire.

Survey form	A	B	C	D	E
Display value	ID 30000	ID 40000	ID 50000	ID 70000	ID 100000
Number of respondents	103	100	103	98	96
% Yes	0.39	0.32	0.28	0.20	0.15

To analyze the results of the questionnaire, the dichotomous CVM model was chosen, using the first choice answers provided to the sample tourists, the data are summarized in Table (2).

Since the number of days to stay in the area and the planned number of days to stay in the marshes represent two important variables, obtained through previous forecasts of tourists wishing to stay for a longer period, the cost of charter boats for the tours will be a percentage lower than their total budget [11].

Table (3) reviews Logit model for the first presentation (dichotomous selection)

\* = significant at the %5 Level, \*\*= significant at the %1 Level.

**with standard normal distributions are squared and summed.**

**Table 3:** Presents a logarithmic model for the supply value as a dependent variable

	Mean in sample	Standard error	Coefficient
constant		0.738	**3.088
Place of residence	2.005	0.029	*- 0.097
Days in region	2.474	0.073	*0.163
The reason for the visit-to the marshes Ghibayish	0.740	0.173	*0.391
The reason to visit the marshes - to get away from people	0.241	0.165	*0.349
The profession of tourists	2.808	0.048	*- 0.156
Bid level list		0.183	*- 1.187
Chi-Square Test $X^2$			90.74
Median WTP			ID 19.100
Mean WTP			DI 105.531

The sample community was asked to list the sources of income for each tourist as an alternative variable of income. The inbound tourism profession is classified into four levels of different job categories, while the fifth level represents the non-employed (including students, housewives, and retired categories). The rating was "reverse", the tourist who had a higher income job was also classified, the low-income tourist was classified as low-income, while the non-income tourist represented the majority of the tourists. High-income tourists are willing to pay more for luxury.

**7.3.3. The options available for dichotomous dual-border offers by time intervals limitation**

Another option for estimating is to fit the double-border CVM model in which the time periods that limit respondents' offers, this model is accompanied by some ambiguity because the respondents who answered yes to the first question of dichotomous selection were not offered the option to pursue this option, but we note that the open question of the 500 answers to the questionnaire, 135 of them answered yes to the first of the questions

presented to the surveyed sample, as we have seen in Table (2). The double-border model was analyzed through a minimization procedure, as the role of the main variables in it is to reveal the upper and lower limits of the tourist's desire to pay the amounts. In order to obtain appropriate data, the open answer method was used to determine how that group of respondents could answer the second question of the questionnaire. The default bid levels used were twice the first bid value. If respondents answered yes to the second bid, the upper limit has been set at 100,000 Iraqi dinars (one of the estimated income restrictions). If they answer "no" to the second bid, the upper limit will be set at the default bid amount. Table (4) shows the sample maximum and minimum offers for tourists

**Table 4:** maximum and minimum the offer to tourists.

First offer responders	Second offer responders	Maximum level coded	Minimum level coded	Number of responders
NO	NO	Second offer	IQD I 7000	250
	YES	First offer	Second offer	124
YES	NO	Second offer	First offer	120
	YES	IQD 100000	Second offer	6

From the questionnaire data, models were obtained with important variables illustrated in Tables (5, 6). Average values for non-offer variables have been used to generate average offer estimates.

**Table 5:** The option of a dichotomous model for the studied sample population:

	Mean in sample	Standard error	Coefficient
constant	***8.510	0.501	
Offer price list	***-2.648	0.109	
Occupation	***0.065	0.024	2.809
Nasiriya/Overseas	*0.238	0.127	1.405
Nights in Gabayesh	***0.180	0.058	2.473
Nights in Nasiriyah	***0.193	0.059	1.391
Log-likelihood	-1195.38	0.500	
Median	ID 28500	0.108	
Mean	ID 36.500	0.024	

\*\*\*= significant at the %1 Level. \*\*= significant at the %5 Level. \*= significant at the %1 Level.

**Table 6:** A dichotomous selection model for the research sample population

	Mean in sample	Standard error	Coefficient
constant	***8.806	0.602	
Offer price list	***-2.553	0.141	
profession	** -0.058	0.026	3.030
Nights in Gabayesh	*0.152	0.078	2.470
Nights in Nasiriyah	0.068	0.075	1.380
Log-likelihood	-713.65	0.601	
Of observations	626	0.143	
Median	ID 26.000	0.108	
Mean	ID 35.001	0.161	

\*= significant at 1% level \*\*= significant at 5% level, \*\*\*= significant at 1% level

**Analysis of the results of tables (5,6):**

- In Tables (5,6), models with important variables were obtained, as the average values of the variables not related to the offers were used to generate estimates of the average value offers.
- Double-forked double-border selection forms include maximum information of willing to pay.
- Another option for model estimation is to incorporate the open bid amount wherever possible in the two-pronged selection data to determine the highest willingness to pay as it is necessary for this to provide a more accurate estimate of maximum career readiness, however, there is difficulty in replacing the maximum bid amount disclosed. Reported with the results of the open presentation.
- It appears that many respondents have shown a consistent effect in nominating a willing-to-pay offer equivalent to the first offer amount They accepted, this means that many respondents do not have any desire to pay an additional amount to the first offer amount, which makes it difficult to fit this estimation function, because the maximum and minimum disclosed bid amounts are the same amount, in order to avoid this duplication problem. This open offer result was replaced by the highest willingness to pay when it became clear that the respondents showed stabilization effects, as this happened because respondents were not supposed to disclose the true upper limit on the offers they were willing to accept. As for the respondents who answered yes to the first question. From the first presentation, it is noticed that they act in a way that appears to be planned by giving the same value to the open question, as the maximum amount of the offer amount is set at.
- It appears that many respondents have shown a consistent effect in nominating a willing-to-pay offer

equivalent to the first offer amount they accepted, meaning that Many respondents did not want to pay any amount higher than the first bid amount, which made it difficult to fit this estimation function, as the upper limit of the amounts of the advertised bid is the same amount, in order to avoid this duplication problem, the open bid result was replaced by During the highest willingness to pay when it was noticed that the respondents had been affected by the confirmation, this happened because the respondents were not supposed to disclose the true maximum of the offers they would like to accept. As for the respondents who answered yes to the first question of the first offer, it was noticed that they were behaving in a planned manner by giving them the same The value of the open question, by specifying the maximum bid amount of (100,000) Iraqi dinars

#### ***7.3.4. The implications of self-driving access management on consumer surplus***

The increase in traffic during peak times to the Al-Chibayish Marshlands in the city of Nasiriyah caused incidents of environmental, social and economic problems, which required the management of the tourist destination and the city's municipality to address these problems. A CVM model was used for the surveyed community of (500) tourists during the year 2019, which represents about 5% of the total arrivals to this region. The price of one trip for tourism and wandering in the marshes in boats at the time of the survey was 7,000 Iraqi dinars per person at the time of the survey in 2019, approximately 110,000 paid marshland tours were conducted. Based on the results of the CVM model for visitors visiting the marshes family or individually, the annual total of consumer surplus for the self-driving recreational visit to the Lagoons of Chibayish is estimated at 2.2 million IQD based on the dichotomous double-border model, as this constitutes a large total surplus for the consumer, as the average surplus is estimated The consumer per capita ranges between 20,000 DI and IQD 37,500 per family trip or between IQD 7,250 or IQD 13,500 per single passenger.

### **8. Conclusions and recommendations**

#### ***8.1. Conclusions***

- 1- Most people visit the Chibayish area on a one-day trip, either through an organized tour or in the form of family groups, due to the lack of shelter services provided to tourists in the marshes area, as most of the day's visitors stay in hotels in Nasiriyah, the center of Dhi Qar Governorate, as they represent tourist accommodation centers. The main ones, which are about 60 km from the marshes.
- 2- The absence of a tourism management system in the marshes area responsible for the maintenance and management of roads and movement in the marshes. As the responsibility for managing the area rests with the local municipality, while inland transportation boats in the marshes are managed by the local population in an unorganized manner, as price mechanisms are controlled through the mechanism of supply and demand at peak time.
- 3- Increasing the prices of boats designated for transportation in the Marshlands will generate additional revenues through the acquisition of a percentage of the current consumer surplus.
- 4- The Tobit model shows that the place of residence has affected the sums of those willing to pay and that

tourists coming from Baghdad and other cities who take short trips are willing to pay higher amounts than tourists residing in the area and those close to it.

- 5- Groups of families surveyed and participants who expressed their desire to visit the area because of enjoying the beauty of nature and distancing themselves from people showed their willingness to pay higher sums, which represents an increase in consumer surplus.
- 6- According to the Tobit model estimated for the sample of local tourists, the average supply to local tourists was estimated at 17,500 Iraqi dinars, while the average estimated models for the sample of tourists from Baghdad and other cities was 18,750 Iraqi dinars.
- 7- A CVM model survey of 500 tourists for independent gatherings was conducted during 2019, which represents about %5 of the total estimated visits of the visitor segment.
- 8- Based on the results of the CVM model, the visitors who visit the marshes with their families or individuals, the annual total consumer surplus of the self-driving leisure visit to the Marsh Shabaysh is estimated at 1.1 billion Iraqi dinars based on the double-bifurcated borders.

## **8.2. Recommendations**

- 1- Most of the Tourists visit the Chibayish area on a one-day trip, because of the lack of shelter services provided to tourists in the marshes area, and to ensure a longer stay period, those responsible for the Chibayish area must establish shelter areas that are consistent with the nature of the marshes area.
- 2- The necessity for the marshes region to be subject to a tourism management system responsible for the maintenance and management of roads and internal movement in the marshes.
- 3- Advertising and promoting the importance and beauty of the marsh areas to attract more tourists to these areas.
- 4- The necessity of the tourism authorities responsible for the Marshlands of Chibayish to adopt the process of managing the transport in the marshes by establishing specialized tourism companies to transport tourists inside the marshes with modern tourist boats.
- 5- The management of the marshes area must achieve additional revenues through the acquisition of a percentage of the current consumer surplus through a controlled price system to use these sums in developing the marshes area.

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