SOCIO-ECONOMIC DETERMINANTS OF WILLINGNESS TO PAY FOR RECREATIONAL VALUE OF GREGORY LAKE IN NUWARA ELIYA

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ISSN: 2772 128X (Online)
ISSN: 2792 1492 (Print)
SLJESIM
VOLUME 05 ISSUE 01
June 2026
sljesim@sab.ac.lk
www.sab.ac.lk/sljesim

Received: *30 November 2025* ***Revised:*** *30 December 2025* ***Accepted:*** *30 June 2026*

How to Cite this Article: Shehara, M.Y., Rasnaka, M.R.R.H.K., Jayasooriya, N.D.H.D., Mendis, P.P.M.J., Jayalath, B.N.A., Kumara, B.G.S. & Shanahara, K.W.A. (2026). Socio-Economic Determinants of Willingness to Pay for Recreational Value of Gregory Lake in Nuwara Eliya. *Sri Lanka Journal of Economics, Statistics and Information Management,* 5(1), 01—16

Abstract

In highly developed nations, urban natural spaces are extremely crucial in the ecological equilibrium, leisure and social well-being. This paper looks at socio-economic factors of the willingness to pay (WTP) to recreational value of Gregory Lake, Nuwara Eliya in Sri Lanka. The convenience sampling technique was used to sample 158 respondents comprising of local residents and visitors. Descriptive statistics, chi-square analysis, and binary logistic regression analysis were used to assess the factors that have a significant effect on WTP. Study findings indicate that 85 percent of the participants were ready to invest in lake conservation as it is an important area of the environment and recreation. Age, gender, employment, income, familiarity, and distance had a positive effect on WTP, whereas education had a negative effect. The WTP was higher in older, employed and moderately familiar people. Results highlight the importance of the socio-economic and spatial in the valuation of urban natural resources. The paper suggests the adoption of fair payment-of-ecosystem-services programs, participatory and community-based planning, focused awareness creation and sustainable tourism policies to help in conserving and managing Gregory Lake and other urban ecosystems like those in Sri Lanka in the long-term.

Keywords: *recreational value, socio-economic factors, sustainable urban planning, urban natural spaces, willingness to pay*

1.INTRODUCTION

According to Julian Dobson, John Henneberry, Kirsten Mcewan and Miles Richardson 'paper (Dobson et al., October 2020) "The Magic of the Mundane: The Vulnerable Web of Connections between Urban Nature and Wellbeing," more and more urban dwellers are using nature for recreation, physical activity, and mental health. Because intimate relationships with natural environments provide opportunities for social interaction, leisure, and psychological well-being, urban nature is a crucial element of sustainable cities.

Urban natural spaces like lakes, parks, and gardens are essential for improving the quality of urban life because they offer recreational opportunities, improve mental and physical health, and promote community involvement. With the growth of cities and populations, the sustainability of cities in terms of maintaining and financing such areas has become the concern of the sustainable urban planning. Successful policymaking and management therefore require meaningful knowledge of the economic worth that individuals attribute to these natural landscapes, in particular, as quantified by their Willingness to pay to protect these landscapes.

Willingness to pay is the sum of money that individuals are ready to pay in terms of sustaining, bettering or preserving recreational and environmental resources. It can be used as a measure of what appears beneficial to people through such environments and it is a measure of both use values such as leisure and relaxation and non-use values such as existence and bequest incentives. Investigating the determinants of WTP, the scientists are able to determine the effects of socioeconomic and geographic variables on the population opinion concerning environmental protection.

One of the best-known natural features in urban areas found in Sri Lanka is Gregory Lake, which was formed in the British colonial period, near the Nuwara Eliya. It has several functions, including recreation, tourism, and aesthetic enhancement and supports local livelihoods and urban ecosystems. Nevertheless, growing urbanization, demand in tourism, and environmental destruction have raised questions on its sustainability in the long run.

Finding the socioeconomic factors influencing visitors' willingness to contribute to Gregory Lake maintenance is crucial to the success of community-supported conservation efforts.

Thus, the purpose of this study is to investigate the ways in which demographic, socioeconomic, and geographic factors such as age, gender, education, income, type of employment, familiarity, and distance affect people's Willingness to Pay for Gregory Lake's recreational value. The results will boost the preferences of the people, support the planning of resources, and offer policy implications on the funding and conservation of the urban natural environment in Sri Lanka.

1.1 Research Problem

Although the recreational and ecological significance of the urban natural spaces has gained more and more importance, their non-market value is underestimated and less studied in Sri Lanka. Specifically, Gregory Lake, one of the main urban natural

attractions in Nuwara Eliya, is also under pressure due to urbanization, tourism and environmental degradation and this is a threat to the long-term sustainability of the lake. There is however little knowledge on the role played by socio-economic and spatial factors in shaping the willingness of people to pay (WTP) to maintain and conserve it. This fact of absence of empirical research limits the creation of effective, community-based, and economically viable management plans to maintain the recreational and environmental significance of the geographical gap.

1.2 Research Question

What are the socio-economic and spatial factors that determine individuals' Willingness to Pay (WTP) for the recreational value of Gregory Lake in Nuwara Eliya, Sri Lanka?

1.3 Objectives of the Research

The main aim of the proposed research paper is to establish the socio-economic and spatial factors that affect the willingness to pay (WTP) of people in Nuwara Eliya, Sri Lanka, to have the recreational value of the Gregory Lake. In particular, the research will focus on the impact of demographic factors, such as age, gender, education, employment, and income, and location familiarity and proximity on the willingness of individuals to provide funds to the conservation and sustainable management of the lake.

2. LITRATURE REVIEW

2.1. Theoretical literature

Lakes, parks, wetlands, green corridors, and other urban natural spaces are vital sources of cultural ecosystem service which benefit the human health, social interaction, and recreation. The Ecosystem Services Theory holds that nature is not merely a source of provisioning and regulating, but also non-material advantages that include recreation, aesthetic pleasure, sense of place, etc. (Sarathchandra et al., 2021). This model places urban natural environments as an important resource in the realization of sustainable urban living, especially in fast urbanizing environments such as that of Sri Lanka. In this theoretical perspective, Gregory Lake in Nuwara Eliya is a good example of an urban ecosystem that is in balance to serve several cultural and recreational purposes. It draws the attention of residents, domestic and foreign tourists in need of relaxation, family time and enjoying the environment. The Place Attachment Theory goes further to reinforce this realization and how emotional and psychological attachments can be developed between people and particular places. Wickramaarachchi et al. (2022) hold that high levels of attachment towards the natural features of cities encourage conservation -oriented behavior and lead to a higher level of satisfaction among people. Within the setting of the Gregory Lake, the interaction with the lake context is recurrent and shapes the community engagement and identity, which impacts their perceptions of the lake in terms of its recreational value.

The Recreational Value Theory is also another economic approach to the way people carry out an evaluation of natural spaces. Under this theory, perceived value is based

on direct use (e.g. picnicking, boating) and indirect benefits including scenic beauty, relaxation that leads to the overall well-being (Ratnayake, 2017). Economic means of operationalizing this theory include Travel Cost Method (TCM) and Contingent Valuation Method (CVM) that are used to estimate the willingness to pay of the people to maintain or enhance natural recreational spaces. Human-Environment Interaction Model stresses that physical characteristics of the recreational areas like cleanliness, accessibility, biodiversity and socio-cultural issues like heritage, social norms and community values are what shape the perception of the people about the recreational areas. The main point made by this model is that to comprehend how people perceive Gregory Lake, it is essential to study the interaction of environmental quality and community features to form individual experiences. A combination of these theoretical frameworks forms a premise to analyze perceptions of the community and recreational value among the Gregory Lake, which can be categorized as an ecological, economic and social entity in a dynamic urban natural space.

2.2. Empirical literature

Empirical research in Sri Lanka is progressively recognizing the role played by urban green and blue spaces in improving quality of life. However, most of the research has centered on coastal and urban wetlands, while inland lake ecosystems have been relatively less studied. Ratnayake (2017) analyzed public attitude in the perception of urban water bodies in Sri Jayewardenepura Kotte and reported that citizens value such environments for recreational purposes, family outings, and physical exercise. The study also revealed a great willingness among the visitors to pay for improved amenities and nature protection, reflecting the economic component of recreational value. Besides, Sarathchandra et al. (2021) consolidated nation – wide ecosystem service research and found that studies unevenly focus on provisioning and regulating services with little investigation of cultural and recreational services in urban ecosystems. In the central highlands, Ranagalage, Dissanayake, and Morimoto (2019) investigated landscape change and land surface temperature in Nuwara Eliya and found that deforestation and urbanization have reshaped the natural surroundings of Gregory Lake. These changes affect not only ecological health but also citizens' perceptions of its recreational and aesthetic benefits. Shirantha (2010) echoed the same environmental concerns like pollution, siltation, and invasive plant species threatening the lake ecosystem. This kind of degradation may negatively affect the perception of the area's beauty and utility for recreational purposes.

Wickramaarachchi et al. (2022) conducted a study of user perceptions of urban walking avenues in Colombo, in which it was revealed that cleanliness, accessibility, and beauty were the greatest determining factors of satisfaction. These findings are in harmony with observations in Nuwara Eliya, where one of the frequent complaints among tourists is waste disposal and congestion in areas surrounding Gregory Lake. Additionally, Bandara and Gunawardena (2020) examined the utilization of urban parks in Kandy and found that recreational spaces significantly enhance social cohesion and the mental health of urban dwellers. Some studies have addressed the social dimension of natural space perception. For instance, Samarasinghe (2018)

examined the role of the local community in conserving Colombo's wetlands and noted that increased public participation equals a higher level of ownership and positive perception of urban ecosystems. This echoes the idea that the recreational value of Gregory Lake is determined not just by its physical condition but also by how much communities are involved in its management and upkeep. While these studies collectively illustrate a growing appreciation of recreational and community values of urban nature in Sri Lanka, highland lake ecosystems remain under-researched, particularly from an environmental, social, and economic integrative point of view.

2.3. Methodological literature

They are useful in the evaluation of direct and indirect natural area benefits and act as evidence in decision-making for sustainable management of resources and tourism. Structured questionnaires and Likert – scale surveys have also been applied in recent studies to evaluate public satisfaction, environmental consciousness, and behavior intentions of urban parks (Wickramaarachchi et al., 2022). Statistical techniques such as regression analysis and factor analysis are widely used to identify the determinants of perception of recreational value, for instance, age, education, frequency of visits, and satisfaction with amenities. Qualitative approaches such as in – depth interviews, focus group discussions, and participant observation allow researchers to find out the emotional and cultural significance of natural settings. As example, Samarasinghe (2018) utilized focus groups to capture how community members conceptualize their connection with urban wetlands, revealing social and cultural values beyond monetary assessment.

Addition to, spatial analysis and GIS mapping are becoming standard practices to evaluate land – use changes and environmental pressures around urban natural places (Ranagalage et al., 2019). An integration of spatial data with perception surveys provides a rich overview of physical and psychological aspects of urban nature. For Gregory Lake as a case, a multi – dimensional approach is required to perceive the interaction between environmental quality, recreational use, and community perception.

2.4. Literature Gap

Despite the accumulating literature regarding urban environmental perception and recreational valuation in Sri Lanka, there are a number of gaps that remain.

- Geographical gap - The studies have been mainly on the Colombo or coastal wetlands and the highland urban lakes such as Gregory Lake have not been well researched.
- Integrated perspective gap - Not many studies analyze the community perception, recreational value, and environmental quality together within one analytical framework.
- Methodological gap - Although there are common techniques of economic valuation, there is strong integration of the qualitative findings regarding why people attach emotional and social importance to these spaces.

- Policy gap - Scanty empirical evidence is rarely translated into practical policy of sustainable urban lake management.

The proposed research is expected to fill these gaps by examining the community and recreational value perceptions of Gregory Lake through an integrated theoretical and methodological framework, which entails the use of both economic valuation and socio-cultural interpretation.

3. METHODS

3.1. Type of Data

The research premises on primary data, which comes as a field survey.

3.2. Data Collection Method

Face-to-face interviews using a structured questionnaire were used to administer the study. This questionnaire contained questions concerning socio-economic factors, knowledge about the lake, distance travelled and readiness to pay in the conservation of the lake. Contingent Valuation Method (CVM) was applied to elicit WTP.

3.3. Sampling Technique

The sampling was based on a convenience method because of the lack of a sampling frame and temporality of visitors. A total of 158 respondents aged 18 years and above were surveyed.

3.4. Variables and Hypotheses

The dependent variable is willingness to pay (Binary willing/not willing). The independent variables are age, gender, education, employment, income, use of familiarity with the site and distance travelled.

Hypothesis: There will be a significant effect of socio-economic and spatial variables to the willingness of people to pay on the recreational value of Gregory Lake.

3.5. Analytical Tools

Descriptive statistics, chi-square, and multicollinearity diagnostics (VIF) and binary logistic regression were used to analyze data.

Table 1

Column Description

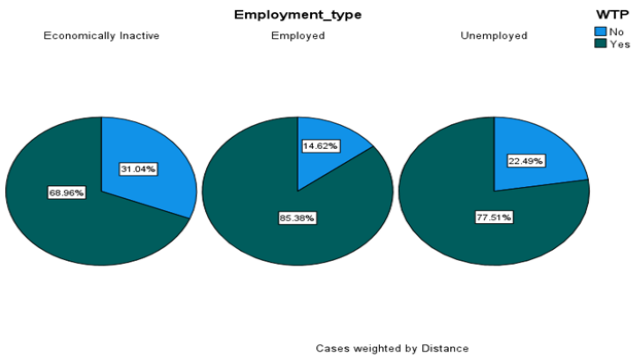
Attribute	Variable Type	Description
Willing to pay	Nominal	Describes the type as 0 = Willing to pay 1 = Not Willing
Age	Scale	Age in years
Gender	Nominal	Describes the type as 0=Male 1 = Female
Education	Scale	Education in Year

Employment Status	Nominal	Describes the type as 0 = Employed, 1= Unemployed, 2 = Economically Inactive
Monthly Income	Nominal	Describes the type as 0 =Less than Rs.50000, 1 =Between Rs.50,000-100,000, 2 = Between Rs. 100,000-150,000 3 =More than Rs. 150,000
Familiarity (years)	Nominal	Describes the type as 0 =Less than a year, 1 = 1-2 years 2 = 3-5 years 3 = More than 5 years
Distance to the place	Scale	Distance in km

Source: Developed by author

3.6. Data Presentation

Figure 1
WTP for Gregory Lake Recreational Worth by Employment Status



Source: Survey Data, 2025

Among used a sample of respondents where most of them (85.38%) were willing to pay the recreational worth of Gregory Lake and only 14.62% were not willing. This demonstrates that job occupation and a consistent income have a positive impact on WTP.

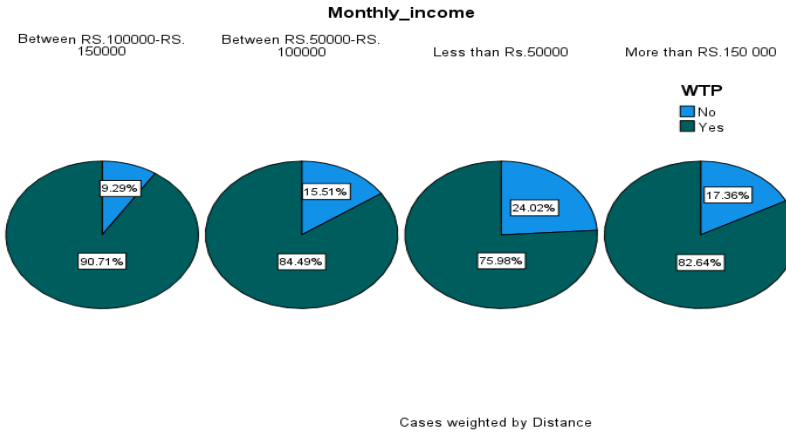
In the case of unemployed respondents, the willingness to pay is 77.51 per cent and it is lower than in the employed group but the response indicates high positive attitude towards environmental conservation.

Of all the economically inactive population (students, retirees, homemakers), 68.96% were willing, and 31.04% were not willing to pay.

This implies that the people who are not directly employed are also not to be considered as insignificant in how much the recreational and environmental importance of Gregory Lake is appreciated.

Figure 2

Comparison of WTP Across Monthly Income Brackets



Source: Survey Data, 2025

WTP is the lowest among the income group of less than Rs. 50,000 at 24.02%. This is a notable observation that contradicts the general assumption that the WTP would directly be proportional to the increased disposable income.

The group of 100,000-150,000 has the lowest WTP of only 9.29%. This could be a group of people who have serious financial obligations (e.g. mortgages, loans) in comparison to their earnings and so they are the most reluctant to accept an extra payment.

Highest Income Group (More than Rs. 150,000) has the second-highest WTP of 17.36%, which is nevertheless significantly less than the lowest income group has.

The general tendency is that it is not only the raw income that is playing an important role in the willing to pay factor, since it may be the perceived value of the product/service, the availability of alternative to this service, or certain priorities in various life stages that align with these income brackets.

4. RESULTS & DISCUSSION

Table 2

Descriptive Statistics

Variable	Sample Size (N)	Minimum	Maximum	Mean	Std. Deviation	Variance Statistic
Age	158	15	67	35.57	12.31	151.546

Education Years	158	5	27	15.59	3.82	14.588
Distance	158	1.00	1210.00	149.48	112.59044	12676.606

Source: Survey Data -2025

There was a total of 158 respondents to be analyzed. The table has three important continuous variables: Age, Education Years and Distance.

Age - The respondents are within the (age) span of gave ages of between 15-67 years with an average (mean) age of 35.57 years. The standard deviation is 12.31, which means there is a moderate range of the age distribution. The variance is 151.546.

Education Years - The education of the respondents is between 5 and 27 years old. The average years of education is 15.59 which indicates that the participants are generally highly educated. The mean standard deviation is =3.82 and the variance is = 14.588 which implies low to moderate variance in the level of education.

Distance - The distance variable (probably the distance that the respondents travel or their distance to a location) has a variable that ranges between 1 -1210 units with a mean of 149.48. There is a large spread in the data as the standard deviation is relatively large at 112.59 and the variance is 12,676.606.

4.1 Frequency Tables

Table 3.1
Frequency Table for Gender

Gender	Frequency	Percent	Cumulative present
Female	72	45.6	45.6
Male	86	54.4	54.4
Total	158	100.0	100.0

Source: Survey Data -2025

The majority of the respondents are made up of the male respondents which constitute 54.4% of the total sample. Female respondents have a representation of 45.6. The cast is quite even, with a male majority (in slight percentage). This could indicate that the survey or study included the input of both genders in relatively equal proportions with males having a slight advantage over the females.

Table 3.2
Frequency Table for Familiarity

Familiarity	Frequency	Percent	Cumulative present
1-2 years	23	14.6	14.6
3-5 years	29	18.4	32.9
Less than a year	30	19.0	51.9
More than 5 years	76	48.1	100.0

Total	158	100.0

Source: Survey Data -2025)

A large proportion of the respondents (48.1%), have known it over a period of more than 5 years, which means that they have been severely exposed in the long-term. 19% are familiar within less than a year indicating some new users or recent interest. 18.4 % said they knew it between 3 and 5 years. 14.6% of them have already heard about it in 1-2 years only.

First of all, check the relationship between the dependent variable and each independent variable. For that used a chi-square test. If one independent variable becomes significant, we accept that one. If it becomes insignificant, we must remove that one.

Table 4
Chi – Square Tests

Independent Variable	Pearson Chi-Square (X^2)	df	Asymptotic Significance (2-sided)	Significance Level
Employment Type	326.244	2	< .001	Significant
Monthly Income	436.343	3	< .001	Significant
Familiarity	376.811	3	< .001	Significant
Distance	8513.935	64	< .001	Significant
Age	7163.086	46	< .001	Significant
Education Years	5579.720	17	< .001	Significant
Gender	400.088	1	< .001	Significant

Source: Survey Data -2025

In all the outputs, we can see that the P value is less than 0.05. Therefore, all the independent variables are significant with the dependent variable. Because of that, we carried out all the Variables for the next analysis.

Table 5
Baseline Model (Step 0) - Null Model Performance

Measure	Statistic	Result
Overall Classification Accuracy	-	82.9%
Correct Classification: WTP "Yes"	-	100%
Correct Classification: WTP "No"	-	0%
Constant (B)	1.576	-
Odds Ratio [$Exp(B)$]	4.836	-
Wald Statistic	-	Significant ($p < .001$)

Source: Survey Data -2025

This is the null model with no predictors. It predicts all cases as yes, the majority class 82.9%. Correctly classifying 100% of Yes but 0% of No cases, with overall accuracy of 82.9%. This baseline shows the model without predictors is poor for No cases, highlighting the need for predictors.

The constant log odds are 1.576, the odds ratio is 4.836, is significant (p-0000), meaning the baseline odds of Willingness to Pay are significantly different from 1.

Table 6
Score Test for Predictor Suitability (Variables not in the Equation)

Predictor Variable	df	Significance (p)
Employment Status	2	.001
Education Years	1	.001
Monthly Income	3	.001
Years of Familiarity	1	.001
Distance to Site (km)	1	.001
Overall Statistics	-	.001

Source: Survey Data -2025

Based on the results of the Score test, it is evident that the predictor variables, which are employment status, years of education, monthly income, years of familiarity, and distance to the location, are significant at the 1% level both individually and jointly ($p = 0.001$). This affirms that all the variables provide useful predictive data and warrant their inclusion in the binary logistic regression model to explain willingness to pay in the recreational value of Gregory Lake.

Table 7
Model Fit and Explanatory Power of the Binary Logistic Regression

Test / Measure	Value	Significance (p)
Omnibus Test of Model Coefficients	—	.000
Cox & Snell R Square	0.096	—
Nagelkerke R Square	0.160	—
Hosmer and Lem show Test	—	.001

Source: Survey Data -2025

The Omnibus test ($p < 0.001$) is a confirmation that the final model has a statistically significant improvement over the null model. The values of pseudo- R^2 (Cox = 0.096; Nagelkerke = 0.160) suggest that the choice of the included predictors, i.e. the employment status, the years of education, the monthly income, familiarity with the site, and the distance travelled, can explain the fact that the willingness to pay varies between 9.6% to 16%. The explanatory power is low to medium; however, the findings indicate that these social-economic and spatial factors are significant predictors of the intention of paying the recreational value of Gregory Lake.

In Hosmer and Lem show's test, the goodness-of-fit test compares observed and expected frequencies. Tie significant p = 0.001 (<0.05).

Table 8
Binary Logistic Regression Results for Willingness to Pay

Predictor Variable	B	Odds Ratio (Exp(B))	95% CI for Exp(B)	p-value
Age	0.045	1.046	1.041 – 1.050	<0.001
Gender (Male = 1)	-0.379	0.685	0.633 – 0.741	<0.001
Familiarity (1–2 years)	0.673	1.959	1.724 – 2.227	<0.001
Familiarity (3–5 years)	0.611	1.843	1.651 – 2.057	<0.001
Familiarity (>5 years)	-0.253	0.777	0.706 – 0.855	<0.001
Distance to Site (km)	0.006	1.006	1.006 – 1.007	<0.001
Employment: Unemployed	-2.807	0.060	0.048 – 0.076	<0.001
Employment: Economically Inactive	-0.810	0.445	0.380 – 0.520	<0.001
Education Years	-0.056	0.945	0.936 – 0.955	<0.001
Income (Rs. 50k–100k)	0.500	1.649	1.469 – 1.850	<0.001
Income (Rs. 100k–150k)	-0.254	0.775	0.656 – 0.917	0.003

Source: Survey Data -2025

$$\text{Logit}(WTP) = \beta 0+\beta 1(\text{Age}) + \beta 2(\text{Gender1}) + \beta 3(\text{Familiarity1}) + \beta 4(\text{Familiarity2}) + \beta 5(\text{Familiarity3}) +\beta 6(\text{Distance}) + \beta 7(\text{Employment Type1}) + \beta 8(\text{Employment Type2}) + \beta 9(\text{Education Years}) + \beta 10(\text{Monthly income1}) + \beta 11(\text{Monthly income2}) + \varepsilon$$

Where:

- **WTP** = Willingness to Pay (dependent variable)
- $\boldsymbol{\beta_0}$ = constant term
- $\boldsymbol{\beta_1}$**–β11**= regression coefficients for each independent variable
- **ε** = error term

Age

The B value (0.045) indicates that the more the age, the more the probability of willing to pay. The odds ratio is 1.046 giving the comprehension that older respondents are expected to pay 4.6 percent more frequently. The confidence interval (1.041-1.050) is not equal to 1 which is a confirmation that the two variables age and willing to pay are significantly associated ($p < 0.001$).

Gender (Male = 0)

The B value (-0.379) means that being a male reduces the chances of willingness to pay as opposed to being female. The odds ratio (0.685) indicates that males are 31.5 less likely to pay compared to females. The 95% confidence interval (0.633- 0.741) does not include 1, which is used to confirm that the relationship between male gender and willingness to pay is -significant ($p < 0.001$).

Familiarity 1 – (1-2 years)

The B (0.673) indicates that the familiarity in 1 - 2 years has higher log odds of willingness to pay compared to familiarity in less than a year (reference). With reference to familiarity in less than a year, the odds ratio for a willingness to pay for familiarity in 1 - 2 years is 1.959. The confidence interval 1.724 to 2.227 excludes 1, confirming significance ($p < 0.001$).

Familiarity in years 2 – (3 - 5 years)

The B (0.611) indicates that the familiarity in 3 - 5 years has higher log odds of willingness to pay compared to familiarity in less than a year (reference). With reference to familiarity in less than a year, the odds ratio for a willingness to pay for familiarity in 3 - 5 years is 1.843. The confidence interval 1.651 to 2.057 excludes 1, confirming significance ($p < 0.001$).

Familiarity in years 3 – (More than 5 years)

The B (-0.253) indicates that the familiarity in more than 5 years has lower log odds of willingness to pay compared to familiarity in less than a year (reference). With reference to familiarity in less than a year, the odds ratio for a willingness to pay for familiarity in more than 5 years is 0.777. The confidence interval 0.706 to 0.855 excludes 1, confirming significance ($p < 0.001$).

Distance in km

The B (0.006) indicates that the distance to the place in km has higher log odds of willingness to pay. The odds ratio for a willingness to pay for the distance to the place is 1.006. The confidence interval 1.006 to 1.007 excludes 1, confirming significance ($p < 0.001$). Overall, these coefficients show that all predictors significantly contribute to the model, with a substantial effect. The model is significant, well-fitting, and accurate (82.2%), with all above predictors predicting willingness to pay likelihood to a substantial extent.

Employment type 1 – Unemployed

The B (-2.807) indicates the unemployed have lower log odds of willingness to pay compared to Employers (reference). With reference to employers, the odds ratio for a willingness to pay for the unemployed is 0.060. The confidence interval 1.006 to 1.007 excludes 1, confirming significance ($p < 0.001$).

Employment type 2 – Economically Inactive

The B (-0.810) indicates the economically inactive have lower log odds of willingness to pay compared to Employers (reference). With reference to employers, the odds ratio for a willingness to pay for the economically inactive is 0.445. The confidence interval 0.380 to 0.520 excludes 1, confirming significance ($p < 0.001$).

Education Years

The B (-0.056) indicates that education years have lower log odds of willingness to pay. The odds ratio for a willingness to pay for the education years is 0.945. The confidence interval 0.936 to 0.955 excludes 1, confirming significance ($p < 0.001$).

Monthly Income 1 - Between Rs. 50,000 - 100,000

The B (0.500) indicates that the monthly income between Rs. 50,000 - 100,000 has lower log odds of willingness to pay compared to less than Rs. 50000 (reference). With reference to monthly income less than Rs. 50000, the odds ratio for a willingness to pay for the monthly Income between Rs. 50,000 - 100,000 is 1.649. The confidence interval 1.469 to 1.850 excludes 1, confirming significance ($p < 0.001$).

Monthly Income 2- Between Rs. 100,000 - 150,000

The B (-0.254) indicates that the monthly income between Rs. 100,000 - 150,000 has higher log odds of willingness to pay compared to less than Rs. 50000 (reference). With reference to monthly income less than Rs. 50000, the odds ratio for a willingness to pay for the monthly income between Rs. 100,000 - 150,000 is. The confidence interval 0.656 to 0.917 excludes 1, confirming significance ($p < 0.001$).

The findings validate the assumption that willingness to pay is greatly dependent on age, gender, employment, education, income, familiarity and distance.

The respondents that exhibited higher WTP were older, moderately familiar, and employed. On the other hand, unemployed and economically inactive and male respondents had lower chances of contributing. Interestingly, education level was negatively related to WTP, thus more educated individuals might think of other conservation responsibility or probably already play a part indirectly. On the whole, the logistic regression model gives excellent support to the hypothesis that socio-economic and spatial variables are both useful at explaining the Willingness to pay the recreational and conservation value of Gregory Lake.

5. CONCLUSION

The study on the Socio-Economic Determinants of Willingness to Pay (WTP) for the Recreational Value of Gregory Lake illustrates how the willingness of tourists to pay for the preservation and maintenance of Gregory Lake is significantly conditioned by a combination of socio-economic and spatial determinants. The finding reveals that 85% of the respondents were willing to pay, an implication of high public appreciation of the environmental and recreational value of Gregory Lake. The study also confirmed that age, gender, employment type, education level, income, familiarity, and distance travelled to the location are all statistically significant determinants of WTP. The willingness to pay was higher in older people denoting that age results in greater awareness and appreciation of natural and recreational locations. Another important factor was gender because female respondents had higher readiness to pay compared to men, which may also be due to their greater environmental awareness or social responsibility. Employment status and income both positively influenced WTP, with employed and high-income groups being willing to pay more. Nevertheless, the high percentage of the willing to contribute was observed even among the low-income groups, which allows concluding that environmental values are not limited to the income groups. Quite unexpectedly, education was negatively related to WTP, where it can be understood that the more educated perceive environmental conservation as a collective or governmental

concern, rather than individual. WTP also showed an effect of familiarity with the site with familiarity on a medium level (1 5 years) going up and very long-term familiarity (more than 5 years) going down willingness, perhaps because of the effects of habituation. There was a positive correlation between distance to the site and WTP and this means that people who are more distant appreciate the quite recreational and scenic attributes of Gregory Lake.

In conclusion, the study establishes that Gregory Lake is very socially and environmentally significant to various demographic groups. The decision-makers must increase public participation, create awareness, and formulate equitable payment mechanisms to ensure sustainable management of Gregory Lake as a valuable urban recreational and ecological asset in Sri Lanka.

Acknowledgements: We would like to express our gratitude to the Department of Economics and Statistics, Faculty of Social Sciences and Languages, Sabaragamuwa University of Sri Lanka, and all the individuals of this department who provided support and encouragement during this research. We also enjoy the precious help of colleagues and friends who assisted us in this study. We also recognize that the supervisor's Professor A.M. Indika Gunarathne and Lecturer K.W.A. Shanahara have made important intellectual contributions to this paper; hence, we would like to acknowledge these two as co-authors of this paper.

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