

Research Article

Tourism and Recreational Value of Queen Elizabeth Conservation Area

Okello Okello Francis^{1,*} , Nalule Sarah¹ , Ocaido Micheal¹ , Obua Joseph² , Tibaingana Anthony³ 

¹Department of Wildlife and Aquatic Animal Resources, Makerere University, Kampala, Uganda

²Department of Forestry, Biodiversity and Tourism, Makerere University, Kampala, Uganda

³School of Business and Management Sciences, Makerere University, Kampala, Uganda

Abstract

Tourism and outdoor recreation are based on environmental resources therefore, valuation of the resources is vital to determine the economic value of recreational activities that are regarded as non-market goods or services of protected areas. The objectives of the study were to document the characteristics of tourists, examine factors that determine tourists' willingness to pay and determine the economic value of tourism and recreational activities in QECA. The study adopted an exploratory research design with a blend of qualitative and quantitative approaches that are complementary. Data were collected using a structured questionnaire administered to 150 tourists 50 of whom were local residents (East Africans) and 100 were international tourists (non-residents). Data were collected on tourists' profile, travel characteristics motivation to visit and travel cost while secondary were gathered from tourists' visitation records at QECA. Data were subjected to chi-square and t-tests and Zero Truncated Poisson Regression Model to compute consumer surplus as an estimate of the economic recreational value of QECA. Zero-truncated negative binomial regression modelling was used to identify factors that determine tourists' willingness to pay return visit to QECA. Results revealed that About 55.8% of the non-resident visitors were males and 44.2% females while 49.1% of the resident visitors were male and 50.9% were female. Majority (68.4%) of the non-resident tourists were first-time visitors while 49.1% of the resident tourists visited for the first time. On average, they spent about 4-14 hours to travel. Resident visitor paid USD 6 while non-resident visitors paid USD 45 entrance fees. Foreign tourists spent about USD 13,612 while resident tourists spent about USD 4,926. Fewer tourists expressed willingness to revisit due to high travel costs. The annual total recreational value of QECA is about USD 158,900,318.

Keywords

Recreational Value, Travel Costs Method, Zero Truncated Negative Binomial Regression, Protected Area, Willingness to Pay, Environmental Resources

*Corresponding author: fokello_okello@yahoo.com (Okello Okello Francis)

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1. Introduction

1.1. Background Information

Tourism is one of the economic sectors that is growing rapidly worldwide [14]. In recent decades, the sector has expanded and diversified to become one of the largest foreign exchange earners next to oil [37]. As people's income and education improves, the demand for travel outside the usual place of abode also increases. There is a positive outlook to international tourism which presents opportunities for Uganda's tourism sector which has grown significantly over the past 50 years, with international arrivals increasing from 200 million to nearly 1.6 billion and growing at an average rate of 7% per annum [27]. According to the World Tourism Barometer (2024), nearly 790 million tourists travelled internationally in the first seven months of 2024, about 11% more than in 2023 and only 4% less than in 2019. Arrivals in Africa were even stronger, rising by 9% per year since 2010, making it the best performing region in the world. In 2019, Uganda's inbound tourism generated UGX 4,580.4 billion while outbound tourism expenditure was estimated at UGX 1,666.28 billion [30]. Domestic tourism expenditure amounted to UGX 2,965.9 billion in 2019 while domestic tourism expenditure was estimated at UGX 7,546.27 billion. Tourism Direct Gross Domestic Product (TDGDP) was estimated at UGX 5,093.15 billion and contribution to employment was estimated at 14.7% of the total employment implying that at least one in ten persons were employed directly in the tourism sector.

Tourism is characterized by robust prices with minimum fluctuation compared to other commodities on which the economies of most African countries depend. Prices often rise over time as the supply of tourism destinations increases. A number of factors favour growth of tourism sector. For instance, when combined with hospitality, the industry creates employment opportunities in different areas including accommodation, transport, restaurants and other associated services [2]. According to [37], tourism is labour-intensive, fast evolving sector and offers a range of low and high-skilled jobs. More than 270 million workers, or approximately 8.2% of the global workforce, are employed in the tourism sector [17]. Furthermore, the jobs are often created in the rural areas of less-developed countries. As a result, many African countries have comparative advantage in tourism particularly wildlife-based safaris, African culture and historical heritage [14]. In spite of its importance, tourism is sometimes overlooked as a growth sector because its benefits are difficult to measure. As a service, tourism products are not tangible, and it is provided by a wide range of actors that are spread across the country and integrated with other sectors [14]. Service providers in the tourism and hospitality industry serve a broad range of customers including international tourists, domestic tourists and ordinary residents. The services include restaurants, vehicle hire services, tour services

and others. In view of this, there is need to determine annual expenditures of tourists that visit national parks and leave the country in order to inform policy and decision making [30].

Uganda's tourism is wildlife-based and tourist activities take place in protected areas such as national parks, forest reserves, wildlife reserves, hunting areas and sanctuaries. Protected areas, therefore, play a crucial role in nature conservation on which tourism is based. It is evident from literature that nature-based tourism in protected areas has grown to be an important economic activity worldwide in the past decades and it constitutes a large part of the international tourism sub-sector [27]. Over time, national parks have become popular areas for outdoor recreation and tourism activities and progressively attracted an increasing number of tourists [33]. Accordingly, tourism sector uses national parks as commodities and marketing tools for the economy and the country as a tourist destination. One of the arduous challenges faced by national park managers is the need to ensure that the Parks are sustainably managed to conserve nature as tourist attractions [27]. On the other hand, there is need to determine the tourism and recreational value of national parks as an incentive to conserve nature and support tourism and outdoor recreation. This will involve understanding the characteristics of tourists and their expenditure profile which this study has examined.

Despite the role played by protected areas in nature conservation and promotion of tourism in Uganda, there is limited information available on the economic value of touristic and recreational activities in the national parks that is needed to aid policy and decision making, strategy formulation, tourism development, local community support and provide guidance to the actors in the tourism sector. Tourism and outdoor recreation are based on environmental resources. therefore, valuation of the resources is vital to determine the economic value of recreational activities that are regarded as non-market goods or services of protected areas. One of the common methods used is the Travel Cost Method (TCM) [19]. In the TCM, a tourist's travel cost data to an area usually represents the recreational value of that tourist destination. A tourist is a consumer of a tourism service or an outdoor recreation service. In the case of protected areas, willingness to pay (WTP) is computed as the cost of visiting a protected area [43]. It was against this background that this study was undertaken to compute the travel costs of tourists' visits to QECA which included analysis of factors that determine tourists' willingness to pay, the individual travel costs and these were used to derive the economic value of the visits to QECA. The outputs of this study are important in three main ways: firstly, they can be used to inform tourists' decisions and travel plans to QECA. Secondly, they can inform tourism developers and entrepreneurs in the preparation of travel itineraries and marketing of QECA as a tourist destination in Uganda. Thirdly, they form a basis for development of sus-

tainable community-based tourism in QECA given that as the touristic and recreational value of the environmental resources are known.

1.2. An Overview of Willingness to Pay and the Concept of Consumer Surplus

Willingness to pay is a contingent Valuation method of estimating the value that a person places on a good. The approach asks people to directly state their willingness to pay (WTP) to obtain a specified good, or willingness to accept (WTA) to give up a good, rather than inferring them from observed behaviors in regular market places [15]. In tourism, measuring consumers' willingness to pay (WTP) for a product or service is critical for formulating competitive strategies, developing and selling new products also referred to as product development capability [4]. It is also important for implementing pricing strategies such as nonlinear pricing [23], one-to-one pricing [38], and targeted promotions [39]. Several approaches have been developed for this purpose; the primary distinction among the approaches is whether they measure WTP directly or indirectly and whether they determine consumers' hypothetical WTP or actual WTP. Some marketing researchers ask consumers directly to state their WTP for a specific product through, for example, an open-ended question format. Others prefer an indirect approach, such as choice-based conjoint analysis [13], in which WTP is calculated on the basis of consumers' choices among several product alternatives and a "none" choice option. However, neither method is foolproof. Many studies have shown that both direct and indirect approaches can generate inaccurate results for various psychological and technical reasons [8]. WTP measures consumers' hypothetical, rather than actual, WTP and thus can generate hypothetical bias, which the economics literature defines as the bias induced by the hypothetical nature of a task [20].

Measuring accurate willingness to pay (WTP) is essential for designing pricing policies, particularly for pricing new products. Neglecting consumers' WTP may lead to unexploited surplus when prices are set too low or to low demand when prices are set too high. Additionally, information on consumers' WTP serves as valuable input to estimate sales and for use in optimization models, thus, to maximize profit. To date, various approaches to measure WTP exist that differ regarding their elicitation approach (direct vs. experimental) and whether they rely on stated or revealed preferences (hypothetical vs. actual WTP).

This study derived consumer surplus for QECA. Consumer surplus refers to the monetary difference between the price for a product or a service that a consumer is willing to pay

and the price that they actually pay for the quantity of a good purchased. This can be illustrated by considering tourists consumption of a destination (e.g. QECA) as a single product. Assuming that insecurity occurs at QECA at time t_0 , then the change in consumer surplus is given by $\Delta CS = \int_{P_0}^{P_1} Q^d(P) dP$ where the integral uses the observable Marshallian demand function ($Q_p^d \leq 0$) from P_0 and P_1 , which for this case are the equilibrium prices pre-insecurity and post-insecurity, respectively. Practical approximations of consumer surplus can be derived through numerical approximation techniques. Economists have other tools for measuring the well-being of consumers without adopting approximations, such as in general equilibrium (GE) models [22] that uses economic data to simulate how an entire economy might react to policy changes, technological advancements, or other external shocks, by considering interactions between all sectors and agents within the economy, allowing for a comprehensive analysis of potential impacts across different markets and groups.

2. Methods

2.1. Study Area

Queen Elizabeth Conservation Area (QECA) comprises Queen Elizabeth National Park (1778 km²), Kyambura Wildlife Reserve (157 km²) and Kigezi Wildlife Reserve (330 km²). It is located on the equator in the Albertine Rift Valley. QECA is part of an extensive transboundary system that includes Kibale National Park to the northeast and Rwenzori Mountains National Park to the northwest.

Queen Elizabeth National Park was designated as a Biosphere Reserve in 1979 with the implicit goal of integrating sustainable human activities within the objectives of the QECA system. This designation is based on the premise that human activities can have a potentially constructive and supportive role in environmental protection while ensuring that the protected area contributes to human development in the surroundings [30].

QECA receives about 94,500 visitors each year, excluding students. The common itinerary includes a visit to the Mweya Peninsula, making a short launch trip to view wildlife (mostly hippos and birds) along the Kazinga Channel, and a game drive on the north Kazinga Channel plains where elephants and giant forest hog are commonly sighted. The number of tourists visiting Kyambura Gorge for chimpanzee viewing and Iasha sector for tree-climbing lions has increased in the recent past [30].

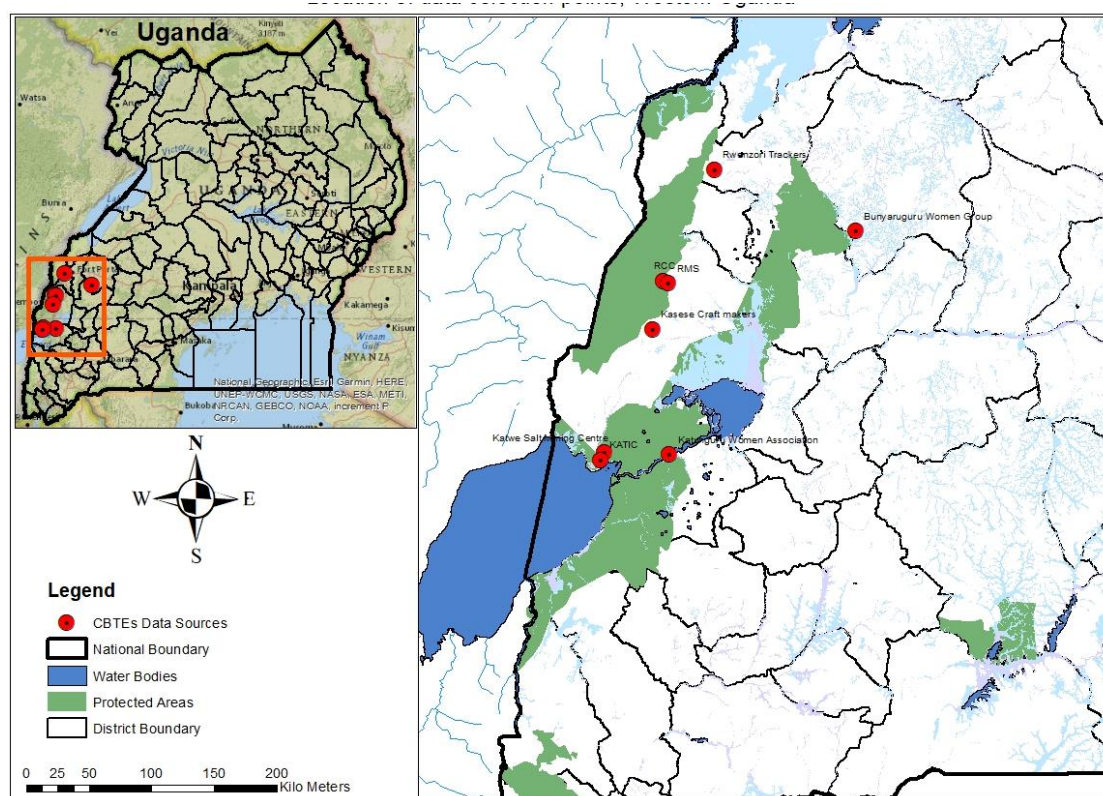


Figure 1. Map showing location of Queen Elizabeth Conservation Area.

Map of the study area showing location of Community-Based Tourism groups in and around QECA.

2.2. Methods

2.2.1. Research Design

The study adopted an exploratory research design [32] involving a blend of qualitative and quantitative approaches that are complementary [7]. Exploratory research design was adopted because it is flexible, evolutionary and historical in nature and rarely involves large sample sizes. A structured questionnaire, which is a primary instrument in survey research, was used to collect data because it facilitates standardized collection of qualitative and quantitative data, it is cost-effective and enables a researcher to reach a broad and diverse range of respondents thereby gathering comprehensive insights into a phenomenon [6]. The instrument was administered to 150 tourists of whom 50 were local residents (East Africans) and 100 were international tourists (non-residents). Resident tourists were Ugandans, Kenyans, Tanzanians, Sudanese and Rwandans while non-resident tourists were from Germany, United States of America, England, Sweden, Finland, Belgium, China and India.

2.2.2. Sample Size and Sampling Technique

A sample size of 150 tourists was determined using the following formula:

$$n = \frac{z^2 x p(1-p)}{e^2}$$

Where n is the sample size, z is the score at 95% confidence interval, p is the standard deviation and e is the margin of error.

The sample size was computed as follows:

I chose to work with 95% confidence level and a standard deviation of 0.5 and a confidence interval (margin of error) of $\pm 8\%$

$$n = \frac{((1.96)^2 * 0.5(0.5))}{(0.08)^2}$$

$$n = \frac{(3.8416 * 0.25)}{0.0064}$$

$$n = \frac{0.9604}{0.0064} = 150$$

The sample size = 150

The tourists were selected systematically by giving a copy of the questionnaire to each of them to answer. The method was selected because it was both practically convenient and efficient to apply given the time and financial resource constraints of the study [47]. The tourists were approached in a hotel where they were seated and the researcher introduced himself to them followed by explanation of the research objective. Tourists who were met in the park upon arrival were

approached and requested to fill the questionnaire. The tourists were informed that their participation in the research was voluntary and any of them was free to turn down the request to be interviewed and free to withdraw from the interview.

2.3. Data Collection Instrument

As already noted above, a semi-structured questionnaire was administered to gather data from tourists. It consisted of five parts: Part 1 collected data on tourists' profile, travel information, visit motivation, travel costs and tourists' perception of the environment in QECA. Part 2 gathered data on tourist's sex, age, and education, country of residence, employment status and monthly income. Part 3 focused on travel characteristics which included hours spent while travelling, days spent within the communities living around QECA, number of dependents travelling with the tourist, mode of transport used, types of accommodation used and knowledge about the QECA. Part 4 gathered information on the motivation to visit QECA, activities participated in such as chimpanzee viewing, wildlife safari, wildlife photography and filming, boat cruise, self-drive tour, adventure activities, bird watching, visit to Lake Katwe salt mine, visit to fishing villages, community walks, volunteer work, educational activities, scientific and academic visits. Part 5 gathered data on travel costs which included expenses on items purchased while visiting QECA, cost of accommodation, food and beverages, park entry fees, sightseeing tours, adventure activities, game drive, domestic transport, craft and souvenirs, shopping, entertainment, guide services, car rentals, communication (telephone calls), internet services and time spent travelling. Part 6 documented tourists' perception of QECA as a destination which included views on environmental status, experience in QECA, visit to other parks, views about the entrance fees charged, willingness to revisit QECA, the number of times he/she has visited QENP and other parks in the country. Transportation time and the means of transport used indicated visitors' transportation costs. The time spent travelling and visiting were also costed. The length of stay, the number of people that each visitor travelled with, and information on the substitute sites that influenced the visitors' recreational demands were also collected. Secondary data from tourists' visitation records at QECA were also gathered.

2.4. Data

Data Processing and Analysis

Data were coded as follows: gender (GENDER), age (AGE), area of residence (AREA), level of education (EDU), personal monthly income (INC), length of stay (LOS), transportation time (TRATIME), and number of dependents travelled with (NIP). Environmental status of QECA was rated on a 5-point scale where 5=excellent, 4=good, 3=satisfactory, 2= poor and 1=very poor. When a tourist opted to visit two sites: QECA was coded as 1 intended to visit site and 0 the other site. Data were subjected to Zero Truncated Poisson Regression Model to esti-

mate economic recreational value of QECA. Tourists' travel cost was taken as a summation of Accommodation Cost (AC), Transportation Cost (TC), Time Cost (TTC) and the Tourists Expenses (TE) incurred during the travel. AC was taken as the total amount of money spent per capita for accommodation expenses in QECA. TC was taken as transport costs to and from QECA using special hire vehicles, chartered planes and private cars. TTC was taken as travel time for a round trip to QECA excluding the time of stay. TE was taken as tourist expenses on food and beverages, park entry fees, sightseeing tour, adventure activities, game drive, wildlife tracking, domestic transport, craft and souvenirs, shopping, entertainment, guide services, local transport including car rental, telephone and internet.

Statistical summary of tourists' characteristics was generated as frequencies and percentages. The zero-truncated negative binomial regression modelling was used to identify significant factors that determine tourists' willingness to return to QECA. Mean of summation of individual tourist travel costs incurred during the tourist stay was generated. Annual recreational value in QECA was taken as the summation of consumer surplus of residential and international tourists. Consumers Surplus (CS) was used to determine the economic recreational value of QECA as a tourist destination [46]. CS represents the value that a tourist attaches to a recreational site such as QECA. It is an additional value above the travel cost that a tourist attaches to the recreational site. It is computed as the difference between the actual price that a tourist pays per visit and the maximum price that he/she is willing to pay other than do without it. It is an additional value beyond travel costs derived from a visit to a recreation site [44, 45]. It is expressed as:

$$CS \text{ per person per trip} = - \frac{1}{\beta_0} \quad (1)$$

Where β_0 is coefficient of total travel cost model predicted using variables based on willingness to pay at $p < 0.05$ significance level using truncated poisson regression model as described by [42, 45]. Coefficient β_0 is a constant value of a tourist's willingness to pay even when no tourist activity is allowed at the site. TC is the mean individual tourist travel cost to QECA which can be predicted using the truncated poisson regression model expressed as:

$$TC = \exp(\beta_0 + \beta_{TC}TC + \beta_{age}age + \beta_{income}income + \beta_{AC}AC) \quad (2)$$

Where β_0 is coefficient of travel costs model.

β_{TC} is travel costs

β_{age} is the age

β_{income} is income and

β_{AC} is accommodation costs.

The total surplus of recreational value per tourist visit to QECA per year was determined by multiplying CS per tourist by the total number of visitors in a year. Data were also subjected to t-test to show differences in proportions of resident and non-resident tourists in the different age ranges.

3. Results

3.1. Characteristics of Tourists

The characteristics and preferences of tourists who visited Queen Elizabeth Conservation Area (QECA) and tourists' motivation to visit QECA are presented in Table 1.

3.1.1. Origin of Tourists

The results show two categories of tourists namely resident and non-residents. Non-resident tourists were persons from Europe, the Americas and Asia while residents were persons from East Africa. Non-resident visitors were 55.8% males and 44.2% females. Male resident visitors were 49.1% while resident female visitors were 50%.

3.1.2. Number of Accompanying Persons (Dependents Travelled with)

The results revealed that both residents and non-resident tourists travelled either with relatives, family members or friends. Thirty four percent travelled with dependents while 65% did not.

3.1.3. Hours spent in the Communities

The longest duration was six hours representing 46.3% and this was spent by non-resident tourists while resident tourists spent an average of 14 hours (25%). This implies that non-resident tourists could have spent longer hours to learn about culture and traditions of the local communities.

The lowest number of hours spent by resident tourists was two and half (20%) and 4 hours by non-residents tourists (4.2%). This implies that resident tourists spent fewer hours at the park. Furthermore, 13.7% of non-residents tourists spent an average of 4 hours 30 mins while resident tourists spent about 6 hours 30 mins (5.5%). About 7.4% of the non-resident tourists spent between 3 hours 30 minutes while residents spent 3 hours 30 minutes (14.5%).

3.1.4. Time Tourists Visited the Park

Majority (68.4%) of the non-resident tourists were first-time visitors to QECA compared to 49.1% of the resident tourists who also visited for the first time. About 15% of the non-resident tourists had visited QECA at least two times while 23.7% of the resident tourists had visited twice. About 6% of the non-resident tourists had visited at least three times compared to 10.9% of the resident tourists.

3.1.5. Entrance Fees

At QECA, the entrance fees charged per resident visitor was USD 6 while non-resident visitors paid USD 45. About 17% of the non-resident tourists stated that the entrance fees charged at QECA was very high compared to 20% of the resident tourists who said the same. Furthermore, 52.6% of the non-resident tourists mentioned that the entrance fees charged was acceptable compared to 60% of the resident tourists who shared a similar view. About 4% of the non-resident tourists said that the amount was low compared to 18% of the resident tourists who shared similar view implying that entrance fees charged at QECA is regarded by tourists as high.

Table 1. Characteristics of tourists who visited QECA.

Variable		None resident		Resident	
		N	%	N	%
Sex	Male	53	55.8	27	49.1
	Female	42	44.2	28	50.9
Days spent with community	One day	21	22.1	14	25.5
	2 days	13	13.7	19	34.5
	3 days	20	21.1	9	16.4
	4 days	12	12.6	4	7.3
	More than 4 days	29	30.5	9	16.4
Travelled with dependents		29	30.5	23	41.8
Visited other parks		34	35.8	17	30.9
Number of times visited QECA	First time	65	68.4	27	49.1
	Two times	14	14.7	15	27.3
	Three times	6	6.3	6	10.9

Variable		None resident		Resident	
		N	%	N	%
Entrance fees	Four times	2	2.1	3	5.5
	More than four time	8	8.4	4	7.3
	Too high	16	16.8	11	20.0
	A little bit high	17	17.9	7	12.7
	Acceptable	50	52.6	33	60.0
	A little bit low	8	8.4	3	5.5
	Too low	4	4.2	1	1.8
	2 hrs to 30 mins	4	4.2	11	20.0
Hours spent with the communities	3 hrs 30 mins	7	7.4	8	14.5
	4 hrs 30 mins	13	13.7	12	21.8
	5 hrs 30 mins	14	14.7	7	12.7
	6 hrs 30 mins	13	13.7	3	5.5
	6 hrs above	44	46.3	14	25.5

Results presented in Figure 2 show the age range of tourists. Resident tourists who were 30-34 years old constituted the largest percentage (21.8%) while those who were 15-19 years old were 3.6%. Those who were 40-44 years old and 50-59 years old were (18.2%) and (16.4%) respectively. The largest proportion (15.8%) of non-resident tourists were in the age range of 40-44 (15.8%) and above 60 years old, (15.8%) followed by those who were 50-59 years old (14.7%).

Generally, the non-resident tourists were significantly ($t=2.26$, $P=0.02$, $df=9$) older (mean age 44 years) than resident (mean age 39 years). There was statistically significant association in age between those who were 39 years old and those who were 44 years old ($p<0.05$, $\chi^2=6.3$). There were more old non-resident tourists (15.8%) above age of 60 who visited QECA than resident tourists (1.8%) who did the same.

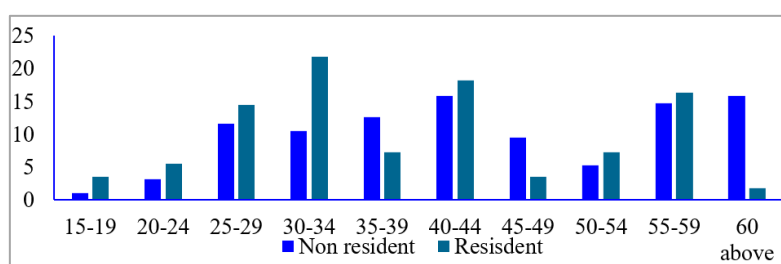


Figure 2. Age range of tourists to QECA.

3.1.6. Education Level

Figure 3 shows that 5.5% of the resident tourists did not go to school compared with 6.3% of the non-resident tourists; 23.6% of the resident tourists and 17.9% of the non-resident tourists were diploma holders. Twenty percent of resident tourists were degree holders compared to 26.3% of

the non-resident tourists; 10.9% of the resident tourists had primary education compared with 8.4% of the non-resident tourists; 5.5% of the resident tourists had O level education compared with 1.1% of the non-resident tourists; 10.9% of the resident tourists had A level education compared with 5.3% of the non-resident tourists.

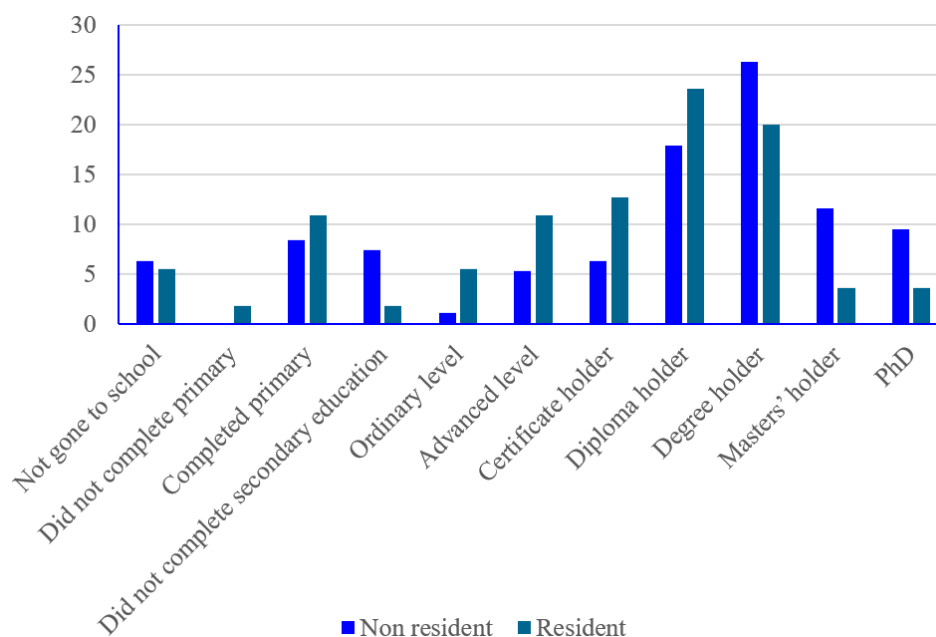


Figure 3. Education background of the tourists.

3.1.7. Employment

Figure 4 shows that 14.7% of non-resident tourists compared to 21.8% of the resident tourists were students and unemployed. At the same time, 42.1% of the non-resident and 40.0% of the resident tourists were employed; 23.2% of the non-resident and 27.3% of the resident tourists were freelancers. Twenty percent of the non-resident tourists and 10.9% of the resident tourists were pensioners.

3.1.8. Monthly Income

Figure 5 shows that majority of resident and non-resident tourists earned less than USD 5,000 per month; 24.2% of the non-resident tourists and 81.6% of the resident tourists

earned less than USD 5,000 per month while 14.3% of the non-resident and 2.0% of the resident tourists earned between USD 10,000 and USD 15,000 per month. Furthermore, 13.2% of the non-resident and 4.1% of the resident tourists earned between USD 15,000 and 20,000, 3.3% of the non-resident and 4.1% of the resident tourists earned between USD 20,000 and 25,000; 9.9% of the non-resident tourists and 2.0% of the resident tourists earned between USD 25,000 and 30,000. About 8.8% of the non-resident and 2.0% of the resident tourists earned between USD 30,000 and 35,000. In addition, 6.6% of the non-resident and 4.1% of the resident tourists earned USD 40,000 to 45,000; 12.1% of the non-resident and none (0%) of the resident tourists earned more than USD 45,000 per month.

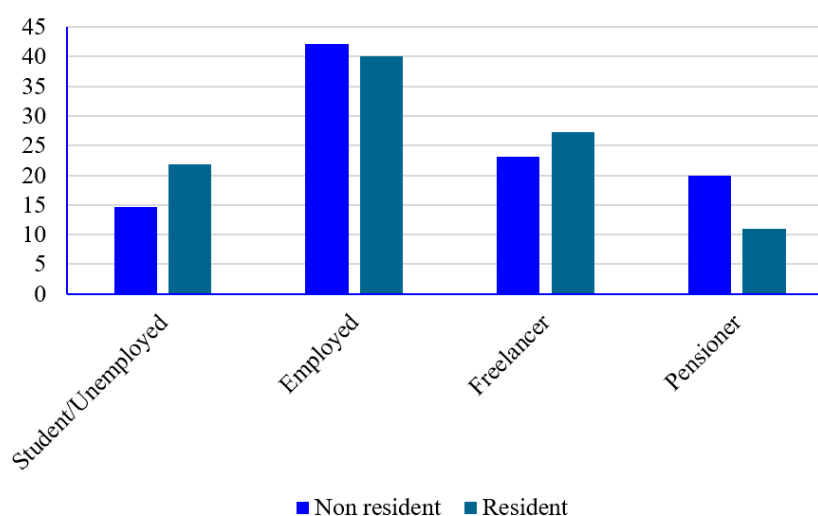


Figure 4. Employment statuses of the tourists.

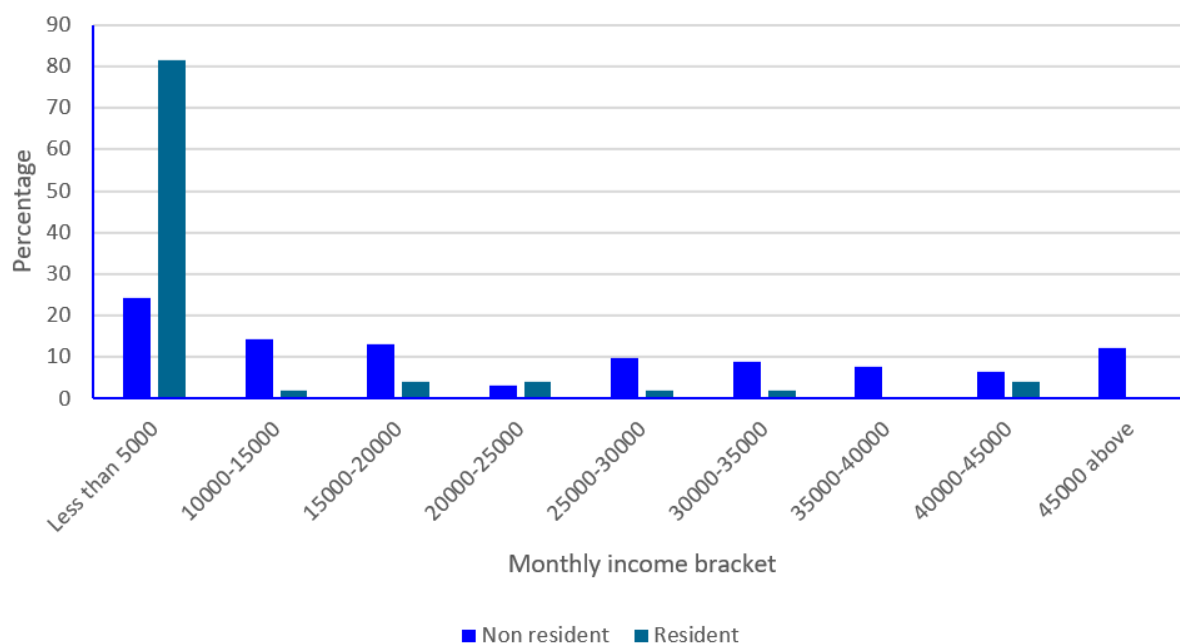


Figure 5. Tourists' incomes.

There is a statistically significant difference between mean monthly income of resident tourists and non-resident tourists ($t_{(131,312)} = 6.217$, $p\text{-value} < 0.05$) with a mean difference of USD 14311.93 (Table 5).

3.2. Means of Transport Used by Tourists to QECA

Results presented in Table 3 revealed that tourists used different means of transport to travel to QECA. It was found

that 52.6% of the non-resident tourists compared to 56.4% of the resident tourists used rented cars. About 26.3% of the non-resident tourists stated that they used chartered planes and none of the resident tourists used it. Furthermore, about 15.8% of the non-resident and 29.1% of the resident tourists mentioned that they used tour minibuses (vans) to visit QECA. Lastly, 4.2% of the non-resident and 7.3% of the resident tourists used motorcycles.

Table 2. Results of *t*-test of differences in monthly incomes of resident and non-resident tourists.

Independent samples test										
		Levene's test for equality of variances		t-test for equality of means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Monthly income	Equal variances assumed	20.525	.000	5.542	138	.000	14311.93093	2582.55993	9205.42603	19418.43583
	Equal variances not as-sumed			6.217	131.312	0.000	14311.93093	2302.02106	9758.08485	18865.77700

3.2.1. Accommodation

Majority (82.1%) of the non-resident tourists and 63.6% of the resident tourists stated that they stayed in hotels (Table 3). About 10% of the non-resident and none of the resident tourists stayed in chattels. About 13% of the resident tourists and 1.1% of the resident tourists provided accommodation for visitors; 6.3% of the non-resident and 9.1% of the resident tourists stayed in other types of accommodation.

3.2.2. How Tourists Got to Know about QECA

Results presented in Table 3 revealed that majority (67.4%)

of the non-resident tourists and 30.9% of the resident tourists learnt about the QECA through internet. About 13% of the non-resident and 29.1% of the resident tourists learnt about QECA as a place to visit from tour companies. Almost an equal percentage of non-resident tourists (9.5%) and resident tourists (9.1%) learnt about QECA as a place to visit from guide books. Very few (7.4%) of the non-resident tourists and 27.3% of the resident tourists stated that they learnt about QECA from tourism offices while 3.2% of the non-resident and 3.2% of residents learnt about QECA from other sources such as friends, social media and international new such as BBC.

Table 3. Mode of travel to QECA, accommodation and source of information about QECA.

Variable		Non resident		Resident	
		N	%	N	%
Mode of transport used to travel to QECA	Tour buses	15	15.8	16	29.1
	Motorcycle	4	4.2	4	7.3
	Rental car	50	52.6	31	56.4
	Air chartered plane	25	26.3	0	0.0
	Others	1	1.1	4	7.3
Accommodation	Home stay	1	1.1	8	14.5
	Hotel	78	82.1	35	63.6
	Chattel	9	9.5	0	0.0
	Relatives	1	1.1	7	12.7
	Others	6	6.3	5	9.1
How tourists got to know about QECA	Internet	64	67.4	17	30.9
	Travel agent	12	12.6	16	29.1
	Guide book	9	9.5	5	9.1
	Tourism office	7	7.4	15	27.3
	Others	3	3.2	2	3.6

3.2.3. Motivation to Visit QECA

Ways in which tourists were motivated to visit QECA are presented in Table 4. Results revealed that the main motivation of non-resident tourists (57.4%) and resident tourists (24.5%) to visit QECA was chimpanzee tracking. Wildlife safari/game drive motivated 48.4% of the non-resident tourists and 37.7% of the resident tourists. About 42% of the non-resident tourists and 43.4% of resident tourists were

motivated to visit Lake Katwe salt mine. About 37% of the non-resident tourists and 24.5% of the resident tourists visited QECA for photography and filming. Furthermore, 42.1% of the non-resident tourists and 32.1% of the resident tourists were motivated by water cruising to visit QECA. Twenty six percent of the non-resident tourists and 20.8% of the resident tourists were motivated by bird watching. Very few tourists (2.1% non-resident and none of the residents) came for academic and educational purposes.

Table 4. Motivation to visit QECA.

Motivation to visit	Non-resident		Resident	
	N	%	N	%
Chimpanzee tracking	52	54.7	13	24.5
Wildlife game safari	46	48.4	20	37.7
Photography and filming	35	36.8	13	24.5
Launch water cruising	40	42.1	17	32.1
Adventure activities	23	24.2	6	11.3
Bird watching	25	26.3	11	20.8
Visit to Katwe salt mine	40	42.1	23	43.4
Visiting fishing villages	27	28.4	14	26.4
Community walks	19	20.0	10	18.9
Academic and education	2	2.1	0	0.0
Others	14	14.7	4	7.5

3.2.4. Tourists Views about the Conservation/Environmental Status of QECA

Conservation/environmental status of the park and type of experience reported by tourists who visited QECA are presented in Table 5. Results of the chi-square test presented in Table 5. shows statistically significant relationship between

non-resident and resident tourists' views expressed as *excellent* ($\chi^2=6$, $p\leq 0.01$) and *good* ($\chi^2=9.02$, $p\leq 0.05$) about the conservation and environmental status of QECA. Similarly, there was a statistically significant relationship between non-resident and resident tourists' views expressed as *good* ($\chi^2=3.85$, $p\leq 0.05$) about their visit experiences at QECA.

Table 5. Tourists' views about conservation / environmental status of QECA and visit experience.

Variable		None resident		Resident		χ^2	Significance
		N	%	N	%		
Conservation/ environmental status of QECA	Very poor	3	3.2	0	0.0	1.5	Ns
	Poor	1	1.1	2	3.6	1.5	Ns
	Satisfactory	11	11.6	10	18.2	2.2	Ns
	Good	40	42.1	33	60.0	9.02	S ($p<0.01$)
	Excellent	40	42.1	10	18.2	6	S ($p<0.05$)
Experience	Very poor	0	0.0	0	0.0	0	Ns
	Poor	2	2.1	1	1.8	0	Ns
	Satisfactory	13	13.7	12	21.8	2.9	Ns
	Good	43	45.3	30	54.5	3.85	S ($p<0.05$)
	Excellent	37	38.9	12	21.8	2.67	Ns

Ns=not significant at $p=0.05$, S=significant at $p\leq 0.05$ and 0.01

3.2.5. Possibility of Return Visit

Forty nine percent of the tourists stated that they come back to visit QECA in the future (Table 6). Several factors influenced the tourists' willingness to return to QECA. Higher total travel costs were associated with a reduced likelihood of returning ($r = -0.0006$, $p = 0.01$). The coefficients of travel cost variables were negative indicating that there was an opposite relationship between the travel costs and the annual number of visits to QECA. Therefore, as the costs increase, fewer tourists would be willing to visit QECA. Results revealed that female tourists were less likely to return to QECA compared to the males ($r = -0.018$, $p = 0.04$). Increase in age had a statistically significant positive influence ($r = 0.015$, $p = 0.002$) on tourists' willingness to return to QECA implying that older tourists are more likely to pay return visits than younger ones.

Results further revealed that conservation and environmental status QECA significantly and positively influenced ($r = 0.011$, $p = 0.01$) tourists' willingness pay return visits. It was found that level of education had a negative effect on willing to return ($r = -0.06$, $p = 0.0493$). This implies that, irrespective of the level of education, tourists were willing to

come on a return visit to QECA if the park's environment is maintained in good condition. Similarly, tourists who were employed were willing ($r = 0.094$, $p = 0.05$) to return to QECA on another future visit. Employed persons tend to have disposable incomes that can be used to take trips abroad to destinations such as QECA. Tourists who came for chimpanzee viewing were willing ($r = 0.006$, $p = 0.02$) to come back to QECA. The number of hours spent in the community also significantly influenced the tourists' willingness to pay return visit in future ($r = -0.041$; $p = 0.036$) while tourists who travelled with dependents were less willing to come back ($r = -0.28$; $p = 0.08$) perhaps based on their experience at QECA.

Those who visited other parks were not willing to return ($r = -0.040$, $p = 0.78$) perhaps based on experiences elsewhere and pensioners were not willing to pay ($r = 0.098$; $p = 0.71$). Freelance tourists were willing to return on a future visit ($r = 0.0494$; $p = 0.05$). Other variables such as participation in safari drive, photography, boat cruising, adventure and cultural walks, fishing and visits to the crater lakes and Katwe salt mines did not significantly influence the tourists' willingness to pay return visits to QECA.

Table 6. Determinants of tourists' willingness to return to QECA.

Determinants of tourists' willingness to pay return visit to QECA	Coef.	SE	Z	P value
Variables				
Log total travel cost	-0.0006	0.044	-0.14	0.01
Sex				
Female	-0.018	0.143	-0.13	0.04
Age	0.015	0.030	0.51	0.002
Education*	-0.006	0.024	-0.25	0.0493
Days spent with community	-0.004	0.048	-0.09	0.93
Hours spent with the community	0.041	0.045	0.92	0.36
Travelled with dependents				
No	-0.028	0.143	-0.2	0.08
Rating of Conservation/ Environmental status of the park	0.011	0.095	0.11	0.01
Experience	0.020	0.110	0.18	0.86
Non-resident				
Resident	0.122	0.146	0.84	0.40
Job status				
Employed	0.094	0.200	0.47	0.05
Freelancer	0.190	0.223	0.85	0.40
Pensioner	0.098	0.267	0.37	0.71
Visit to other parks	-0.040	0.145	-0.28	0.78

Determinants of tourists' willingness to pay return visit to QECA	Coef.	SE	Z	P value
Chimpanzee*	0.006	0.167	0.04	0.02
Safari	0.010	0.166	0.06	0.95
Photography	0.025	0.185	0.14	0.89
Boat cruise	-0.013	0.161	-0.08	0.94
Adventure	-0.048	0.206	-0.23	0.81
Birding*	-0.162	0.184	-0.88	0.04
Craters in Lake Katwe	-0.076	0.152	-0.5	0.62
Experience fishing culture	0.060	0.180	0.33	0.74
Cultural walks	0.025	0.191	0.13	0.90
Constant*	0.426	0.588	0.72	0.01

3.2.6. Travel Cost Per Tourist Visit to QECA

The results presented in Table 7 show the mean expenditure of tourists who travelled to QECA based on their status as residence within or outside East Africa. The non-East African residents spent more money on average (USD 6,806)

than East African residents except on parking, telephone and internet. The total mean expenditure of non-East African residents of USD 13,612, which was almost three times higher than the total mean expenditure of East African residents which was USD 4,926.

Table 7. Total travel cost (USD) based on tourists' expenditures.

Expenditure	East African (resident)		International resident (non-resident)	
	Amount	%	Amount	%
Accommodation costs	745	15.1	1,327	9.7
Food costs	396	8.0	1,400	10.3
Parking fees	94	1.9	86	0.6
Site seeing fees	613	12.4	833	6.1
Adventure costs	347	7.0	1,053	7.7
Tracking fees	121	2.5	201	1.5
Air transport costs	315	6.4	3,588	26.4
Crafts purchase	381	7.7	1,764	13.0
Shopping costs	777	15.8	813	6.0
Entertainment costs	530	10.8	626	4.6
Guide fees	52	1.1	197	1.4
Car rental costs	394	8.0	1,614	11.9
Telephone costs	98	2.0	64	0.5
Internet costs	63	1.3	46	0.3
Total	4,926	100	13,612	100

3.2.7. Annual Total Economic Recreation Value of QECA

Poisson regression coefficient of consumer surplus (CS) was -0.0006, the CS per tourist per trip estimated was $-1/0.0006$ which is equivalent to USD 1,666.7. It was estimated that 95,340 tourists visited QECA in 2022 [17]. This gives the total annual recreational value of QECA to be USD 158,900,318. This value is also the same as the total economic value (TEV) of QECA.

4. Discussion

Tourism is a set of experiences that people live during a trip or stay in a place other than their usual residence of aboard. At the global level, tourism is based on movement of people from their usual environment, which makes interaction between people possible [1]. It creates mutual impact on tourists and the host community by bringing together people of different races, languages, and beliefs. Tourism leads to a beneficial economic impact on the host country and it also increases the socio-cultural exchange between the host and tourist countries [34].

Tourism and recreation are intricately linked, with recreation serving as a key motivator for travel and exploration, while tourism development creates new opportunities for recreational activities within a destination. Tourism and recreation are intricately linked, with recreation often serving as a key motivator for travel and exploration, while tourism development can create new opportunities for recreational activities within a destination. Recreational tourism takes place in QECA. It involves taking trips with the aim of recreation and development of the physical, mental and emotional strength of a person [35]. On top of that, tourism is an economic, social, cultural and geographical phenomenon that takes place in protected areas [1].

PAs are a potent land use strategy to generate multiple and direct economic benefits driven by tourism as the central economic activity. The benefits include income generation, support local livelihoods particularly in rural areas, and maintaining healthy ecosystems that provide valuable ecosystem services like clean water and carbon sequestration [36]. Protected areas, therefore, are important and productive assets, because they provide a flow of economically valuable goods and services that need to be determined. Very little attention has traditionally been paid to these values that are vital to inform policy and decision-making. Environmental planners and policy-makers need to ensure that protected areas are economically-viable conservation units [40] and remain the cornerstone of conservation of biodiversity for a long time [10].

One of the major reasons for under-valuation of protected areas is that many biodiversity and ecosystem services, such as tourism and recreation, are not priced and do not have market values. The travel cost method (TCM) was used in this study because it estimates recreational value based on

tourists' expenditure on visiting sites and other socioeconomic variables [48]. TCM uses questionnaires to gather information on visitors' residence, place, age, marital status and monthly income. The demand function generates demand for recreation and tourism with three essential aspects: order, quantity and substitute sites. Understanding these aspects is crucial for valuing tourism and recreational services. Considering that economic value is more significant than market value, TCM becomes imperative to estimate tourism recreational value in spite of the limitations highlighted in literature [49].

Generally, economic valuation of ecosystem services such as tourism is done to track their contribution to national income [16]. The valuation captures marginal values, i.e. the value of a small incremental change in the quantity or quality of the ecosystem service, which depends on the relative scarcity of the ecosystem service and, thus, its current levels of provision [24]. Over the last two to three decades, a suite of methods has been developed to determine the economic value of protected areas including willingness to pay (WTP), willingness to accept (WTA) and the travel cost method used in this study. Total WTP is made up of actual payment and consumer surplus; it is the maximum amount of money a consumer (a tourist in this case) is willing to spend on a product or service, representing the total perceived value they place on that good, taking into account all its features and benefits. It reflects the highest price a tourist is prepared to pay to visit a destination.

Studies of willingness to pay include the profile of tourists' demographic and socio-economic characteristics [25, 11]. This study examined the demographic and socio-economic characteristics of tourists who were willing to pay to visit QECA. Understanding the characteristics of tourists can help QECA to adapt their services and communication with visitors. Results revealed that the majority of the tourists were non-residents coming outside East Africa region. Knowledge of tourists' characteristics of tourists is vital as it enables a deeper understanding of tourists' behavior including expenditure patterns [26]. For this reason, knowledge of tourists' characteristics and behavior is critical for planning and decision-making, and for managing tourism products, services and experiences in ways that help to ensure the long-term sustainability of tourism in QECA. According to [5], the profile of tourists has changed considerably in recent years. Today, tourists tend to be more complex and experienced and demand authenticity and memorable experiences.

Income, budget, sex, age and education level were determinants of the WTP. Income and budget are associated with the amount tourists are willing to pay. This study revealed that the tourists visiting QECA were willing to pay for the recreational activities and the associated travel costs. According to [18], factors that affect the WTP of visitors depend on the preferences variability of previous and prospective visitors. [12] reported that certain socio-demographic variables and travel characteristics of tourists influence their

willingness and level of payment to improve their experience in the destination.

The phenomenon of return visits is not new in tourism and the subject of tourists revisiting a destination has received continuous attention from the tourism sector and academia because it brings long-term sustainable development benefits to destinations [41]. Other countries have adopted “Welcome back tourism” which is synonymous with return visits as a strategy to attract repeat visitors when a destination is in the recovery stage of crisis or disaster [28]. The strategy aims to persuade potential tourists to return and revisit the destination by evoking good memories of their previous stay at the destination. Studies have also revealed that repeat visitors are more likely to respond if a destination experiences a crisis such as insecurity [29]. In addition, this study revealed that the majority of tourists visited QECA for the first time implying that QECA has the high potential to attract new tourists, but had a low potential to retain repeat tourists. This could be due to distance and travel costs which affects demand for a destination and overall satisfaction [9].

Customer satisfaction can be provided through hospitality in addition to the favorable perception of tourism products [31]. This will have an impact on travelers’ plans to return to a tourist location. In addition, the service quality of travelers affects their satisfaction and repeat visit [31]. For instance, a tourist would be motivated to return to a destination if he/she is satisfied. The tourists also had positive views about conservation and environmental status for QECA hence influencing their willingness to have a return visit. Positive attitudes of tourists are important for promoting conservation of protected area resources and ensuring the sustainability of wildlife-based tourism. One of the main arguments for continuing development of wildlife tourism is that they help to secure long-term conservation of wildlife and wildlife habitats [21]. If carefully designed, managed and delivered, wildlife tourism has the potential to foster environmental and cultural understanding, appreciation and conservation that define sustainable tourism [3]. To sustain wildlife-based tourism in QECA, the value of tourism and recreational activities need to be known to provide an economic justification for re-investment of revenue generated to support conservation of wildlife.

5. Conclusions and Recommendations

The following conclusions are drawn from the study based on the research questions.

- 1) Non-resident visitors were 55.8% males and 44.2% females. Male resident visitors were 49.1% while resident female visitors were 50%.
- 2) The longest duration of visit was six hours representing 46.3% and this was spent by non-resident tourists while resident tourists spent an average of 14 hours (25%).
- 3) Majority (68.4%) of the non-resident tourists were first-time visitors to QECA compared to 49.1% of the resi-

dent tourists who also visited for the first time.

- 4) At QECA, the entrance fees charged per resident visitor was USD 6 while non-resident visitors paid USD 45.
- 5) The tourists earned between USD 5,000 and USD 35,000 per month. Majority of the resident tourists earned less than USD 5,000 per month.
- 6) The tourists participated in wildlife viewing, game safaris, photography, filming, water cruise and adventure activities.
- 7) Majority stated that they would come back to visit QECA in the future based on their impression of the environmental and conservation status of QECA.
- 8) The mean expenditure of non-East African residents was USD 6,806 and the mean expenditure of non-East African residents was USD 13,612. The total annual recreational value of QECA was estimated at USD 158,900,318.

The following recommendations are made:

- 1) Management of QECA should provide cost incentives to increase the number of domestic tourists.
- 2) Tourism and recreational value of QECA should be regularly assessed to generate a trend in tourist expenditures per visit and total annual value based on first time and return visits.
- 3) Future research should examine the factors that determine tourists motivation for return visit and how QECA can harness the opportunity to become a top destination in the country and beyond.

Abbreviations

CS	Consumer Surplus
PA	Protected Areas
QECA	Queen Elizabeth Conservation Area
QENP	Queen Elizabeth National Park
TCM	Travel Costs Method
UGX	Uganda Shillings
USD	United States Dollars
WTP	Willingness to Pay

Author Contributions

Nalule Agnes Sarah: Supervision, Writing – review & editing.

Conflicts of Interest

The authors declare no conflicts of interest.

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