

**ASSESSMENT OF THE SOCIAL-ECONOMIC CONTRIBUTIONS OF MGAHINGA
NATIONAL PARK TO LOCAL COMMUNITIES IN MURAMBA SUB-COUNTY,
KISORO DISTRICT, SOUTH-WESTERN UGANDA**

BY

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**A RESEARCH REPORT SUBMITTED TO THE DEPARTMENT OF
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OF THE REQUIREMENTS FOR THE AWARD OF
BACHELORS DEGREE IN ENVIRONMENTAL
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DECEMBER, 2020

DECLARATION

I, **Mahoro Shallon**, declare to the best of my knowledge that this Research Report is my original work and has never been presented by anyone in any University or any other Institution for an academic award.

Sign

Date

.....

.....

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APPROVAL

This Report titled “*assessment of the social economic-contributions of Mgahinga National Park to local communities in Muramba sub-county, Kisoro District Southwestern Uganda.*” has been done under my supervision and is now ready for submission.

Sign

Date

.....

.....

Dr. FIONA PROSCOVIA MUTEKANGA
(ACADEMIC SUPERVISOR)

DEDICATION

This Research Report is dedicated to my parents Mr. **Ngabirano John Chris** and Mrs. **Elizabeth Caroline** who have supported me socially, economically, spiritually and cognitively in terms of finance, moral and support.

ACKNOWLEDGEMENT

I want to first thank Almighty God who has helped me and for the gift of life and wisdom He has given me.

Special thanks go to my parent Mr. **Ngabirano John Chris** and Mrs. **Elizabeth Caroline** for their great support they have given me and their parental love they have shown me.

An appreciation goes to my supervisor Dr. **Fiona Proscovia Mutekanga** who is not a supervisor only but a parent and on a special note I credit her for her guidance, moral and support. God bless them.

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ABBREVIATIONS

EU: European Union

MDGs: Millennium Development Goals

UBOS: Uganda Bureau of Statistics

ABSTRACT

National parks like Mgahinga National Park contribute various socio-economic goods and services to the local communities around them and therefore contribute to improvement of livelihoods. Parks do not only provide food, medicine, fodder, fuel wood, and poles to local communities but also parks offer job opportunities, educative programs, and other community services to local people. The purpose of this study was therefore assessment of the social-economic contributions of Mgahinga National Park to local communities in Muramba sub-county, Kisoro District. The study was guided by the specific objectives which include investigating the contributions of Mgahinga National Park to the development of local communities, establishing the challenges faced by people living near Mgahinga National Park, and assessing the possible solutions to the challenges faced by communities near Mgahinga National Park in Muramba sub-county, Kisoro District. The study employed descriptive cross-sectional survey design utilizing both qualitative and quantitative data collection and analyses methods. Using simple random and purposive sampling techniques, a total of 109 respondents were selected to participate in the study. Questionnaires, observation and interviewing methods of data collection were used in the study. The social-economic contributions of the National Parks to the development of local communities were provision of employment opportunity, poverty reduction, carbon sequestration, water catchment areas, rainfall formation, community development and management of related land use activities. The challenges faced by people living near the National Parks were limited livelihood alternatives, increased competition on other development initiatives, inadequate innovation and human capital, crop animal raiding, prostitution and lack of mass education on conservation. The possible solutions to the challenges faced by communities near Mgahinga National park were community's involvement in conservation activities, community-based natural resource management, ensuring environmental sustainability, practical field-based monitoring of illegal activities, use of wildlife friendly products and implementation of policies. Based on the findings of this study, it was recommended that there should be mass education on conservation to local communities in Muramba sub-county Kisoro district to ease conservation. The local residents should be trained on sustainable land management activities and better farming methods to ease conservation.

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Globally, the increase in the extent of protected area coverage highlights the attention that biodiversity conservation has received in the past few decades. But conserving biodiversity by setting aside large tracts of land for strict protection necessitates that other land use options are sidelined (Tusingwire, 2007), which affects land-based livelihoods. Over the years, global conservation strategies have shifted in nature (Ahebwa, 2013), mainly to respond to pressures that natural resources face in an ever dynamic world. Earlier, challenges such as declining biodiversity populations and habitat transformation, attracted attention and support to the creation of protected areas that separated humans from nature (Alemu, 2009). It appears however to have been only a quick fix to the problem.

In Africa, rural people in developing countries depend heavily on natural resources and derive a significant portion of their income and livelihoods from them. This has increased global attention towards biodiversity management in the last decades (Ferraro 2001). Some believe the “fortress approach” to managing natural resources is no longer tenable, due to its disadvantages especially in relation to human cost but also the difficulty in enforcing established protected areas in face of growing local opposition. A new “community conservation” paradigm later emerged that emphasized conserving biodiversity hand in hand with satisfaction of human needs (Hutton *et al.*, 2005). Saarinen (2007) identified three drivers behind tourism-related regional development in Northern Europe: the project-driven EU policy; the growing trend for nature-based tourism; and, the real or perceived lack of alternatives to tourism. While the notion of tourism as a panacea for rural and peripheral areas has been debunked by researchers (Hall, 2005), and by the experience of many communities, tourism remains “an important policy tool dedicated to the change, development and reconstruction of the social and physical environment” (Saayman, 2003). It is the growing awareness of the economic role of tourism which has made it a social and political issue (Saayman, 2003), even if the economic contribution is unevenly distributed. In, Muramba sub-county, Kisoro district tourism is an invisible export, does not escape this process either and the question has been raised as to whether tourism in rural and peripheral regions is just another staple (Carson, 2010). The same approach is necessary for tourism development in remote regions (Natukunda, 2019). Mgahinga National Park encompasses bamboo forest, Albertine Rift montane forests, Rwenzori-Virunga montane moorlands with

tree heath, and an alpine zone at higher altitudes; and its neighboring Muramba sub-county in four parishes of Bunagana, Sooko, Gisozi and Muramba respectively (Pasanchay,2019).

1.2 Statement of the Problem

National parks like Mgahinga National Park contribute various socio-economic goods and services to the local communities around them and therefore contribute to improvement of livelihoods. Parks do not only provide food, medicine, fodder, fuel wood, and poles to local communities but also parks offer job opportunities, educative programs, and other community services to local people. The Uganda Wildlife Authority management has implemented a program of revenue sharing and direct funding to local communities to increase benefit flow from the park. However, there has not been a systematic study to assess the socio-economic contribution of Mgahinga National Park to the local communities in Muramba sub-county, Kisoro district.

1.3 General Objective

To assess the social-economic contributions of Mgahinga National Park to local communities in Muramba sub-county, Kisoro District.

1.3.1 Specific Objectives

- i. To investigate the contributions of Mgahinga National Park to the development of local communities in Muramba sub-county, Kisoro District.
- ii. To establish the challenges faced by people living near Mgahinga National Park in Muramba sub-county, Kisoro District.
- iii. To assess the possible solutions to the challenges faced by communities near Mgahinga National Park in Muramba sub-county, Kisoro District.

1.4 Research Questions

- i. What are the contributions of Mgahinga National Park to the development of local communities in Muramba sub-county, Kisoro District?
- ii. What are the challenges faced by people living near Mgahinga National Park in Muramba sub-county, Kisoro District?
- iii. What are the possible solutions to the challenges faced by communities near Mgahinga National Park in Muramba sub-county, Kisoro District?

1.5 Significance of the Study

Results of this study served to enlighten the tourists of Mgahinga National Park on the status of the forest resource. The study results contributed to knowledge that aided in formulating policies to ensure sustainable use and management of protected areas. The results of this study assisted the authorities in designing appropriate strategies to ensure that forest resources are protected in Kisoro District. The study also contributed to the body of knowledge on forest resources management with reliable information to help the local communities in conservation.

CHAPTER TWO: LITERATURE REVIEW

2.1 The Contributions of National Parks to the Development of Local Communities

Socio-economic impacts of national parks are an integral part of conservation (Tusingwire, 2019). He suggested that the alleviation of poverty and marginality in residents of Uganda especially around Queen Elizabeth National Park in Western Uganda should be based on consensus building and participation by all stakeholders. Therefore, the community should play an important role in the conservation process of the national park in an area; for example, in Kisoro district, local communities encourage conservation as it's their source of social economic income.

The socio-economic importance of tourism in communities around Kisoro District like in Muramba sub-county has created new opportunities for entrepreneurs to create value where previously there was none (Pasanchay, 2019). Creative development is seen as one pathway to regional prosperity. Studies on the shift towards creativity in development have focused on metropolitan areas (Natukunda, 2019). However, it is also important that any such shift towards creativity could be traced to other space settings (Christ, 2003). Studies on creativity in tourism have focused on creative clusters, the creative class, and creative industries. However, in a broader sense creative development in rural and peripheral communities is closely aligned with community economic development of creative processes required to improve local quality of life and thus local economic development (Day, 2012). The creativity conundrum for rural and peripheral regions is not so much why they should be interested in creative development but how to make it work for their particular situation. Hence tourism, has led to community economic development in Bunagana, Sooko and Gisozi parishes all in Muramba sub-county, Kisoro District as a result of Mgahinga National Park and this has greatly improved the standards of living of local communities as majority of people have started up small business like art craft to earn a living (Hutton, 2015).

Mgahinga National Park provides ecological functions such as watershed protection, breeding habitat for migratory animal species, climatic stabilization and carbon sequestration. There is also provision of natural services, such as habitat for insects which pollinate local crops or for raptors which control rodent populations and these are of economic benefits to the local communities around Muramba Sub-county, Kisoro District (Kwitegetse, 2019).

In Muramba sub-county Kisoro District, tourism has been seen as one way of overcoming barriers to regional development by operationalization of local creativity leading to community development and proper standards of local people in an area. Tourism innovation allows those involved in the cultural or creative sectors to connect with innovative people in the local institutions, as well as the tourism entrepreneurs. The tourism demand present in rural and peripheral communities then becomes resource for innovation that locals can capitalize on and develop (Bernhard et al., 2019).

Community development is urgently needed in most rural and peripheral areas, but the particular type of development which should be pursued is not easily agreed upon (Ghimire, 2009). Economic development has been the main stay, but recently the 'triple-bottom-line' of economic, environmental and social development has found its place in community planning (Oke, 2019). For rural and peripheral communities, development paths will always have a strong exogenous influence, at least in terms of large investments coming their way. This has meant that rural areas engaged in primary production for export markets are subject to the staples thesis—when their staple product is experiencing a boom, so does their community, but when it experiences a bust; so, too, does the community. Thus, by relying on one main product, communities make themselves vulnerable to fluctuations within tourism sector (Dum, 2013).

In communities around National Parks like Muramba sub-county in Kisoro, tourism as an invisible export, does not escape this process either and the question has been raised as to whether tourism in rural and peripheral regions is just another staple (Carson, 2010). One solution to the staples quagmire is to add value to the products that there is more than just an extractive element and to diversify the economy so that the community is less vulnerable to cycles in one sector. The same approach is necessary for tourism development in remote regions (Noakes, 2009). The challenge for rural and peripheral areas is how best to capitalize on tourism-related opportunities while not becoming overly dependent on the sector since over-dependence exposes the local economy to acute exogenous pressure through fluctuations in demand. However, what communities do have some control over are the endogenous elements in the tourism system so that local social capital becomes a primary resource in the coping strategies of peripheral communities and tourism is one catalyst which allows that resource to flourish. Thus, while rural communities increasingly look outside find new customers, they must also look inside to activate their positive local

social capital and tie economic development goals to other community goals (Jóhannesson, 2011).

Telfer, (2002) argued that “it is illogical to claim that tourism is an effective vehicle of development without defining the desired outcome that is, ‘development’”. This thesis examines both the economic and the social elements which allow communities to survive and to thrive and shows that tourism, in fact, makes a subtle yet substantive contribution.

2.2 The Challenges Faced by People Living near National Parks

Most of the communities who are living around protected areas in developing countries often have limited livelihood alternatives. Even the existing livelihood alternatives are carried out by traditional means that can degrade resources of protected areas. Degradation of protected areas resources can be caused by different ranges of human activities and environmental trends. If they are not managed sustainably, the long term benefit of protected areas to the current and future generations will be under doubt (Archibald, 2001).

Despite the opportunities presented by tourism development, the reality is that most communities have not managed to embed tourism as part of their general development strategy especially in Kisoro District due to ignorance of the local communities. There are a number of general challenges to peripheral communities which have a knock-on effect on small business formation and survival like the restrictive circumstances make it less likely that someone will start a new business and if they do start a business these circumstances will condition the range of possibilities for survival and the limits to economic development (Blomley, 2013).

There are challenges facing National Park areas, which also affect tourism development initiatives: (i) lack of local control over decision-making—communities try to focus on endogenous growth to reduce this dependence on external actors;(ii) weak internal economic linkages and information flows making individual economic development more directly tied to the core or other regions rather than encouraging local cooperation; (iii) geographical remoteness from markets and poor infrastructure a growing issue of concern for peripheral tourism, particularly in the context of climate change and carbon budgets for travel; (iv) ageing societies with decreasing population figures most peripheral communities face this trend and it puts pressure on local businesses and public services but tourism has some potential to help stem this decline by creating demand locally and even leading to in-

migration; and,(v) lack of innovation and human capital which makes positive change less likely and this is common around Mgahinga National Park in communities hence low levels of development (Ghimire, 2019).

A more positive challenge faced by local communities in Kisoro is the management of protected areas since large tracts of peripheral areas are often included in national strategies as reserve locations for certain natural resources. In Northern Sweden, as in many other peripheral regions, the establishment of protected natural areas has created an expansive resource for outdoor recreation and tourism. The management of these areas is a particular challenge to northern communities. For example, the value of pristine nature is only realized at certain times of the year since tourism is highly seasonal in peripheral areas while other competing resource uses offer greater stability across the year (Bennett,2010).

Nature-based tourism firms generally require free and open access to the land (Brockington, 2006) but, whether it is due to increasing regulations in protected areas or competing land-uses in the northern regions, guaranteed open access for commercial tourism activities is not certain in the long-term. In addition to the above, there are potential gains from special designation of protected areas as national parks while world heritage status may not have as strong an effect on most tourists. There has been a large increase in protected area designation in the study area in the 20th century and gradually increasing endogenous innovation in visitor management in these protected areas.

Tourism development must be considered in a long-term perspective with the underlying aim of engaging in tourism in Kisoro District which is not damaging to local landscapes and communities and instead links local culture to the local environment (Coadet *al.*,2008). The rationale for supporting tourism in rural areas is that it helps to keep communities buoyant by maintaining the commercial viability of local shops; by adding to local social capital and by supporting a more diversified regional economy. Thus, tourism has potential even if it is difficult to live up to this potential in practice thus call for an integrated approach to rural tourism development while remaining aware that tourism is more often than not emergent and dynamic, making management of development ore challenging (Pasanchay, 2019).

2.3 The Possible Solutions to the Challenges Faced by Communities Near National Parks

A united effort: In order to be truly effective, prevention of human-wildlife conflict has to involve the full scope of society: international organizations, governments, NGOs, communities, consumers and individuals. Solutions are possible, but often they also need to have financial backing for their support and development (Frantzeskaki, 2019).

Land-use planning: Ensuring that both humans and animals have the space they need is possible. Protecting key areas for wildlife, creating buffer zones and investing in alternative land uses are some of the solutions to ease conservation and community well-being in Muramba sub-county Kisoro District (Kwitegetse, 2019).

Community-based natural resource management: The local community is important and key since they are the ones who may wake up in the morning with a tiger or bear in their back yard. But they are also the people who can benefit the most from this. If people are empowered to manage their relationship with wild animals, these "unwanted" neighbors can become allies in bringing income and promoting a better quality of life for all (George, 2009).

Compensation: Compensation or insurance for animal-induced damage is another widely accepted solution. There are different ways this can be done. Kisoro, for example, community-based insurance systems exist for damage done by livestock to local communities. The Uganda Wildlife Authority pays compensation in areas around national parks due to the effects of crop animal raiding like mountain gorillas and monkeys from Mgahinga National Park hence reduced poverty and increased household's income among local farmers (Alemu, 2009).

Payment for Environmental Services: Payment for Environmental Services (PES) is a concept that has recently gained popularity in the international development and conservation community. The most popular of these is financial reward for the sequestering of carbon, but it is also seen as a potential solution for human-wildlife conflict (Ahebwa, 2013).

Wildlife friendly products: Consumers in distant countries also have a role to play. Always look for products that are environmentally friendly and recognized by serious organizations (Ahebwa, 2013).

Field based solutions. There are a number of practical field-based solutions that can limit the damage done both to humans and human property, and to wildlife, by preventing wildlife from entering fields or villages. However, such solutions can only be applied on a case by case basis. What people see as solution in one place, they may resist in another. And what works in one place, may have the opposite effect somewhere else (Azage, 2013).

To make local communities friendly with the protected areas, different conservationist and development practitioners use a livelihood enhancement and diversification strategy. In this sense, it is important to understand the impact of protected areas on livelihoods of local communities. The Sustainable Livelihood Approach is the usually used framework for such situations as it is a useful multi-dimensional tool to analyze the main factors that affect the community's livelihood in relation to natural resource base (Schreckenberg *et al.*,2010).

Community involvement in conservation activities in different forms is considered as an important step for sustainable resource management. According to Munt (2009), participation of local people is one of the essential criteria of sustainability and development phrases. The involvement of local people in tourism marketing and political governance is essential to ensure the benefit of tourism to them (Mitchell, 2008). This is related with access to tourism marketing activities and benefit sharing which are important components of tourism development programs and in support to this; Munt (2003) stated that active participation of local people ensures equitable benefit that plays its role to reduce the existing poverty and this indicates that local community's participation in tourism activities both in decision making process as well as benefit sharing leads to improvement in their livelihoods.

Poverty eradication and ensuring environmental sustainability are part of the Millennium Development Goals (MDGs). The establishment of nature based tourism in areas where nature is immense and local people are under poverty is considered as viable option to address both goals. Neto (2003) stated that environmentally oriented tourism in low-income areas provides employment opportunities, creates linkage with different sectors that generate positive multiplier effects and at least natural capital on which most of them depends. Even though nature based tourism gives emphasis to conservation of biodiversity, it is still considered as a tool for socio-economic development of local communities (Neto, 2003).

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Scope of the Study

The study assessed the socio-economic contributions of Mgahinga National Park to local communities in Muramba sub-county, Kisoro District. The study investigated the contributions of Mgahinga National Park to the development of local communities in Muramba sub-county, Kisoro District, established the challenges faced by people living near Mgahinga National Park and assessed the possible solutions to the challenges faced by communities near Mgahinga National Park.

3.1 Research Design

The study employed descriptive cross-sectional survey design in gathering information about the social-economic contributions of Mgahinga National Park to local communities in Muramba sub-county, Kisoro District. The study utilized both quantitative and qualitative data collection and analysis methods.

3.2 Study Area

Mgahinga Gorilla National Park is located in Kisoro's Virunga Mountains and encompasses three inactive volcanoes, namely Mount Muhabura, Mount Gahinga, and Mount Sabyinyo. The park is about 15 kilometres by road south of the town of Kisoro and approximately 55 kilometres by road west of Kabale, the largest city in the sub-region. Muramba sub-county has a population of 8,457 people (UBOS, 2014). Muramba Sub-county is found in Kisoro District in the Kigezi Sub-Region of Western Uganda. The Sub-county has 3 Parishes namely; Bunagana, Sooko and Gisozi and 44 villages. The Sub-county has over 25 schools currently with 3 Nursery Schools, 20 Primary Schools, 2 Secondary Schools and from Muramba sub-county to Mgahinga National Park is approximately 25 Kilometers (Kwitegetse, 2019).

3.3 Target Population

The study population was selected from a population of 8,457 people in Muramba sub-county Kisoro district (UBOS, 2014). The researcher considered the sex, age, marital status, geographical location, educational levels and nationality of respondents. To get the sample size, the Glenn formula of 1992 was used.

$$\text{WHERE } n = \frac{N}{1 + N(e)^2}$$

n = Sample size

N= Population size

1 = constant

e = Level of precession 10% (0.1)

Therefore

N=8457

1= constant

e= 10%

10/100= (0.1)²

=0.01

$$n = \frac{8457}{1 + 8457(0.1)^2}$$

n= 99

Therefore, 99 respondents were selected using simple random sampling.

Purposive sampling was further used to select 10 key informants. These were Park wardens (04), and Local leaders (06). This category of respondents was used to acquire specific data and information since they were believed to be more knowledgeable and skilled with the content of the study.

Table 1: Study population and sample size Determination and Selection

Category of Respondents	Population	Sample	Sampling Method
Population	8457	99	Simple Random Sampling
Key informants			Purposive Sampling
a) Park wardens	04	04	
b) Local leaders	06	06	
Total		109	Respondents

3.4 Data Collection Methods

Both primary and secondary data were collected. Primary data was collected using questionnaire, observation and interviewing methods. While secondary data was collected by

extensive review of government reports, newsletters, and books/publications from different libraries and websites.

3.4.1 Questionnaire Method

A questionnaire is a research instrument that gathers data over a large sample (Archabald, 2001). With this method, a number of relevant questions basing on the study objectives were distributed to the local communities in Muramba Sub-County.

3.4.2 Observation method

This was used to perceive and understand the experience of interest to the local communities. It helped in observing the contributions of the Park to the development of the local communities.

3.5 Research procedure

In order to ensure acceptance, a formal permission to conduct the study was sorted from the relevant department at the University. Prior to conducting the exercise, the subject matter and aim of the study was introduced to the respondents and local leadership in the selected community. Study tools; especially questionnaires were distributed to selected respondents. Alongside the questionnaires, observation and interview checklist field dairies were used and kept to record important events that were important in interpretation and analysis of the results.

3.6 Data Analysis

The data collected was processed and analyzed both quantitatively and qualitatively. During processing, the data was edited, coded and tabulation of data proof read. This ensured clear and easy presentation of research findings. After thorough sorting, the data was entered into the computer software Microsoft Excel for analysis. From this software, I obtained basic statistical parameters such as frequencies.

3.7 Limitations to the Study

Cost for logistics during data collection is anticipated to constrain the study. However, the limited funds were used with high degree of efficiency to capture the required data.

There is also fear of respondents withholding information due to fear of being victimized as a result of confidentiality of Mgahinga's data but this was overcome by assuring the respondents of utmost good faith by explaining to them the importance of the contributions of

Mgahinga National Park to Muramba community and other neighboring communities at large to ease economic development in an area.

There was a problem of data inaccessibility which the researcher faced as a result of some local communities being hesitant to return the questionnaires.

Some respondents were not co-operative and not willing to give the researcher required information especially in filling in the questionnaire. However, the researcher got the other information through observation.

3.8 Definition of Operational Terms

The following terms are defined in the specific sense in which they are used in this study.

National parks: These are areas with several ecosystems not materially altered by human exploitation and occupation, where plant and animal species, geomorphological sites and habitats are of special scientific, educational, and recreational interest or which contain a natural landscape of great beauty (Simon, 2008).

Local community: This is a group of interacting people sharing an environment like in human communities, intent, belief, resources, preferences, needs, risks, and a number of other conditions which may be present and common, affecting the identity of the participants and their degree of cohesiveness (Bennett,2010).

CHAPTER FOUR: RESULTS AND DISCUSSION OF THE FINDINGS

4.0 Introduction

This chapter presents the results and discussion of findings from the field survey conducted in Muramba sub-county, south-western Uganda. Results on the contributions of Mgahinga National Park to the development of local communities, challenges faced by people living near Mgahinga National Park and possible solutions to the challenges faced by communities near Mgahinga National Park in Muramba sub-county, Kisoro District South-western Uganda are discussed in this chapter.

4.1 Demographic characteristics of Respondents

A total of (109) respondents were selected for the study. The researcher considered the sex, age, marital status, geographical location, educational levels and nationality of respondents. These characteristics were selected because they influence the management of forest resources. The findings are presented and discussed in the subsequent sections.

4.1.1 Sex of the Respondents

Out of 109 respondents that were selected to participate in the study, 67% were male respondents and 33% were female respondents (Figure 4.1). The study findings indicated that the number of males was bigger than that of their female counterparts. The conclusions from this study was therefore mostly based on male's point of view.

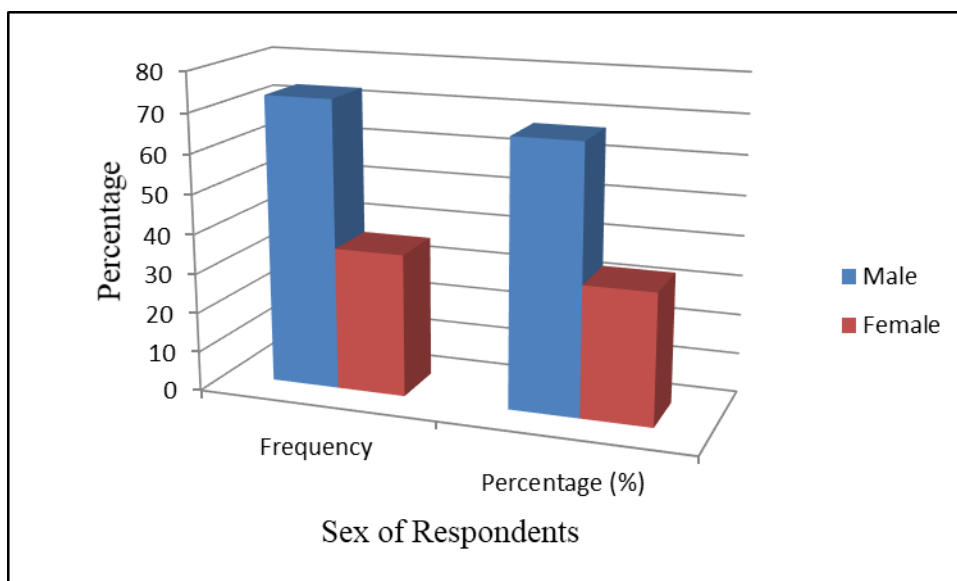


Figure 4.1: Bar graph showing the sex of the respondents

4.1.2 Age of the Respondents

As shown in figure 4.2, majority of the respondents (36%) were in the age bracket of 36- 44 and 8% were aged 45 years and above. The researcher considered the age of respondents in order to acquire their knowledge based on their life time experience with the conservation of the National Park ecosystem in Kisoro District for example formulation of local committees to keep monitoring crop animal raiders and regular monitoring of the Park boundaries to ease on sustainable conservation.

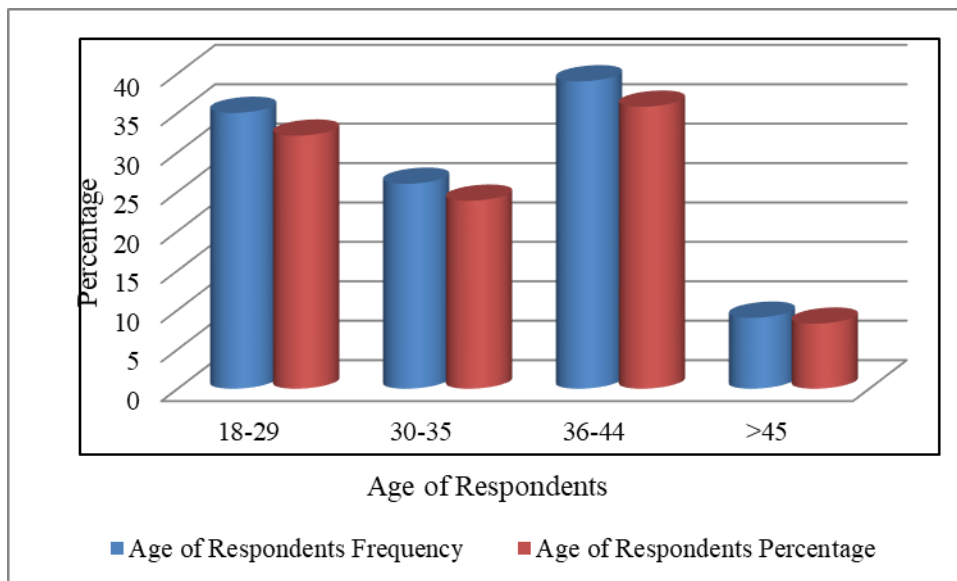


Figure 4.2: Bar graph showing Age of Respondents

4.1.3 Marital Status of the Respondents

As shown in Figure 4.3, 56% of the respondents were married, 32% single whereas 12% were widowed. The researcher considered the marital status of respondents in order to document justified information from categories of varying understanding in line with their day to day life time conservation duties and responsibilities in forest ecosystem conservation in the study area. The study considered the marital status of respondents due to the fact that the majority of respondents were still young and were the ones that were involved in tourism and community monitoring of the Park to ease on proper conservation, reporting of illegal activities like hunting taking place in the Park and participating in gorilla habituation hence conservation.

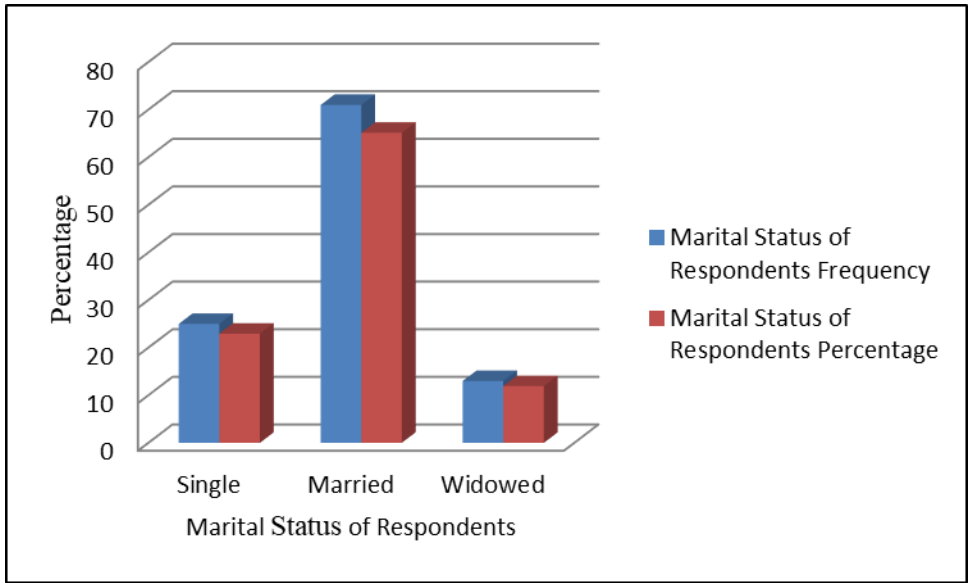


Figure 4.3: Bar graph showing the marital status of the respondents

4.1.4 Educational Levels of Respondents

As shown in Figure 4.4, 47% of the respondents had completed their University level of education, followed by 31% with education level of Secondary. Only 6% of the respondents had not attained formal education (Figure 4.4). The researcher’s main reason for considering the highest levels of education attained by respondents was to ensure that data collection tools were planned and used appropriately in reference to respondents’ literacy levels. The majority of the respondents had completed University level. Due to this, they could adopt to better methods of farming and new technology techniques involved in Mgahinga National Park conservation.

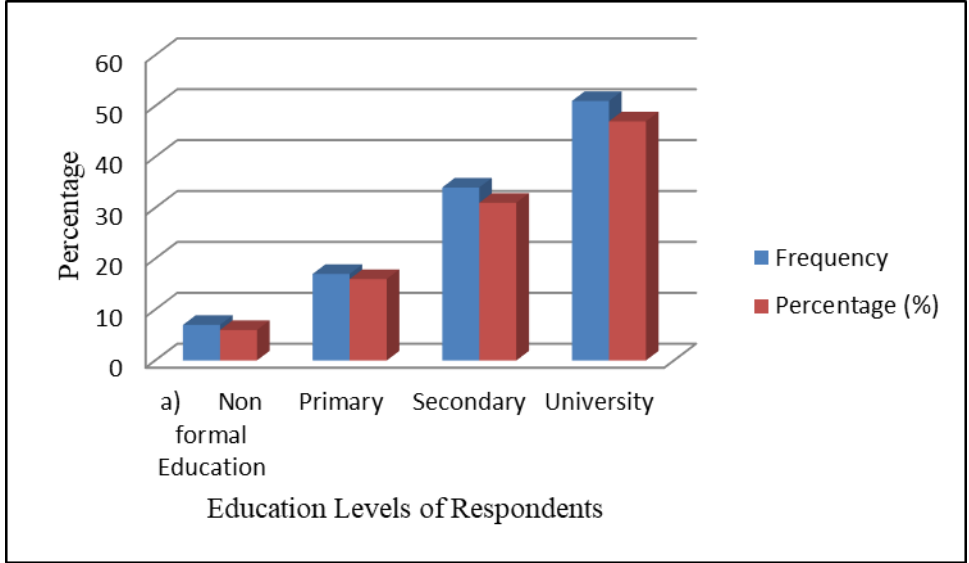


Figure 4.4: Bar Graph Showing Educational Levels of Respondents

4.2 The social economic contributions of Mgahinga National Park to the development of local communities

Table 4. 2: The social economic contributions of Mgahinga National Park

Contributions	Frequency	Percentage
Management of related land use activities	8	7
Community development	9	8
Rainfall formation	10	9
Water catchment areas	12	11
Carbon sequestration	16	15
Poverty reduction	21	19
Employment opportunities	33	30
Total	109	100

Source: Primary Data 2020

Table 4.1 shows the social economic contributions of Mgahinga National Park to the development of local communities in Muramba sub-county, Kisoro District. Majority of respondents (30%) reported employment opportunities. Respondents revealed that restoration of the degraded Park ecosystem had been done on the areas where they used to grow Irish potatoes encroaching the protected areas. This was as a result of tourism activity that is in the study area. As a result, the community members in addition to other stakeholders such as NEMA and Nature Uganda decided to adopt means of conservation of the park to ease community development. This is in line with Page (2007) who reported that National Parks have led to the creation of new employment opportunities and improvements to the structure and balance of economic activities in the locality which is the main attitudes of residents towards tourism development in Kisoro district.

For example, one of the Mgahinga National Park administrators in Kisoro district had this to say:

...“Mgahinga National Park has greatly improved the standards of living of local communities as majority of people have started up small business like art craft to earn a living ...” (Warden tourism and community development, interviewed in August, 2020).

The study further revealed that poverty reduction (19%) was among the factors important for conservation of the National Park in the study area. It was further reported that community members in the study area participate in conservation by reporting illegal activities through their various forums within their communities. This is in line with Buchary (2002) who suggested that the alleviation of poverty and marginality in the case of residents of the Kepulauan Seribu Marine Park, Del Este in the Dominican Republic, should receive priority, and that park management should be based on consensus building and participation by all stakeholders.

From the field survey conducted, 11% of the respondents mentioned water catchment as the importance of conserving the National Park in the study area. Respondents reported that community members get water from the Park for domestic use and for irrigation which is safe while 9% of the respondents mentioned rainfall formation.

Table 4.2 Respondents’ views on the challenges faced by people living near the Mgahinga National Park

Challenges	Frequency	Percentages (%)
Lack of mass education on conservation	05	05
Prostitution	07	06
Crop animal raiding	17	16
Lack of innovation and human capital	20	18
Increased competition on other development initiatives	25	23
Limited livelihood alternatives	35	32
Total	109	100

Source: Primary Data 2020

From the field survey conducted on the challenges faced by the people near Mgahinga National Park, 32%, the highest number of respondents, mentioned limited livelihood alternatives, 5%, the lowest number of respondents talked of lack of mass education on conservation, 23% mentioned increased competition on other development initiatives like tea planting along the park and, 18% mentioned lack of innovation and human capital, 16% mentioned mountain gorillas other 06% mentioned prostitution. The results showed the challenge of limited livelihood alternatives as the highest percentage by 32% of the

respondents, suggesting an indication that this was the biggest challenge faced by people living near Mgahinga National park (Table 4.2).

In an interview with one of the local leaders in Muramba sub-county, he had this to say:

“...degradation of protected area resources is caused by human activities like illegal hunting and wood harvesting and if these are not managed sustainably, the long term benefit of protected areas to the current and future generations will be under doubt in Kisoro district (**Interviewed, October 2020**)”

” *There was a challenge of conflict illegal tree cutting and timber around the Mgahinga National Park by local communities and this was due to weak monitoring groups in Muramba sub-county, Kisoro district (Observation, October 2020)*”

4.3 The possible solutions to the challenges faced by communities near Mgahinga National Park

The researcher also attempted and sought for the concerns of research question three with the aim of documenting the possible solutions to the challenges faced by communities near Mgahinga the National Park.

Table 4.3 Respondents views on the possible solutions to the challenges faced by communities near Mgahinga National park

The possible solutions	Frequency	Percentages (%)
Implementation of policies	05	5
Use of wildlife friendly products	05	5
Practical field-based monitoring of illegal activities	15	14
Ensuring environmental sustainability	25	23
Community-based natural resource management	29	27
Community’s involvement in conservation activities	30	28
Total	109	100

Source: Primary Data 2020

From the respondents’ views on the possible solutions to the challenges faced by communities near Mgahinga National park as contained in Table 4.3, 28%, the highest

number of respondents, mentioned community involvement in conservation activities of the Park which is a tool for sustainable conservation for future generations.

In addition to the above, 5%, the lowest number of respondents mentioned the use of wildlife friendly products and implementation of policies to ease conservation, 27% mentioned community-based natural resource management which is in relation with George (2009), who said that if people are empowered to manage their relationship with wild animals and the park, the "unwanted" neighbors can become allies in bringing income and promoting a better quality of life for all.

The field survey also found out that 23% of the participants mentioned of ensuring environmental sustainability which ensures conservation of biodiversity for socio-economic development of local communities in Muramba Sub-County, Kisoro District.

The study findings also indicated that 14% of the participants mentioned implementation of practical field-based monitoring of illegal activities to limit the damage done both to humans and human property, and to wildlife, by preventing wildlife from entering the fields of local communities. This is in relation with Godwinet *al* (2001), who said that solutions can only be applied on a case by case basis of what people see as solutions in one place and what works in one place, may have the opposite effect somewhere else hence these would help to reduce on the challenges faced by communities near Mgahinga National Park.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter contains summary of the findings, conclusions and recommendations based on analysis of the results and in the same order according to the study objectives.

5.1 Summary of Findings

The study findings on demographic characteristics of respondents revealed that 67% of the respondents were males (Figure 4.1), 36% were aged between 36-44 years (Figure 4.2), and 65% married (Figure 4.3). Majority of respondents (47%) had completed their University level of education (Figure 4.4).

Importance

From the study findings, the social-economic contributions of the National Parks to the development of local communities were provision of employment opportunity, poverty reduction, carbon sequestration, water catchment areas, rainfall formation, community development and management of related land use activities (Table 4.1).

Challenges

The challenges faced by people living near the National Parks were limited livelihood alternatives, increased competition on other development initiatives, inadequate innovation and human capital, crop animal raiding, prostitution and lack of mass education on conservation (Table 4.2).

Solutions

The possible solutions to the challenges faced by communities near Mgahinga National park were community's involvement in conservation activities, community-based natural resource management, ensuring environmental sustainability, practical field-based monitoring of illegal activities, use of wildlife friendly products and implementation of policies (Table 4.3).

5.2 Conclusion

The following conclusions are presented basing on the study findings and in line with the study objectives respectively.

Importance

From the study findings, 33 of the participants represented by (30%) indicated that provision of employment opportunities to local people was the major social economic contribution of National Parks to the development of local communities like in Bunagana, Sooko and Gisoziin Muramba sub-county Kisoro district. National Parks have led to the creation of new employment opportunities and improvements to the structure and balance of economic activities in the locality which is the main attitudes of residents towards tourism development in Kisoro district and this has reduced on poverty hence better standards of living of people.

From the field survey conducted in Muramba sub-county Kisoro district, 35 of the participants represented by (32%) indicated that inadequate livelihood alternatives like brick making, farming due to tourism activities in an area was the major challenges faced by the people in Muramba sub-county Kisoro district. This is because all young men who never went to school act as potters and cleaners leaving other income generating activities where they could earn more living.

It was also concluded that community's involvement in conservation activities was the major possible solution to the challenges faced by communities near the Mgahinga National Park.

5.3 Recommendations

The following recommendations were drafted in the line with study findings and the objectives of the study.

There should be provision of employment opportunities to local community members to reduce on poverty. The Uganda Wildlife Authority should give jobs to people neighboring the Park other than those far away from the Park to enhance conservation and rural development in an area.

There should be mass education on conservation to local communities in Muramba sub-county Kisoro district to ease conservation. The local residents should be trained on sustainable land management activities and better farming methods to ease conservation.

The government should also put strong policies and laws governing conservation to reduce on Park encroachment.

5.4 Areas for further study

The study recommends the following areas for further study basing on study findings.

- Assessment of forest conservation and people's social-economic wellbeing in Muramba sub-county Kisoro district.
- An economic valuation of the forest ecosystem in Kisoro district.
- The impact of animal crop raiding on human livelihoods in Muramba sub-county in Kisoro District.

REFERENCES

- Ahebwa, W.M., & van der Duim, R. (2013). Conservation, livelihoods, and tourism: A case Study of the buhoma-mukono community-based tourism project in Uganda. *Journal of Park and Recreation Administration*, 31(3), 96-114.
- Alemu, W. (2009). Population Ecology and habitat Association of Grant's gazelles in the Plains Of Nech-Sar National Park, Ethiopia (MSc). Addis Ababa University.
- Archabald, K., & Naughton-Treves, L. (2001). Tourism revenue-sharing around national parks in Western Uganda: early efforts to identify and reward local communities. *Environmental conservation*, 135-149.
- Ashley, C. (2000). *The impacts of tourism on rural livelihoods: Namibia's experience*. London: Overseas Development Institute.
- Bennett, N. (2010). Sustainable livelihoods from theory to conservation practice: an extended annotated bibliography for prospective application of livelihoods approaches in protected area community research.
- Bernhard, K., Sabuhoro, E., Nyandwi, E., Munanura, I. E., & Smith, T. E. (2019). Effects of integrated conservation-development projects on unauthorized resource use in Rwanda's volcanoes national park: a mixed-methods spatiotemporal approach. *Oryx*.
- Blomley, T. (2003). Natural resource conflict management: the case of Bwindi Impenetrable and Mgahinga Gorilla National Parks, southwestern Uganda. *CARE International Uganda*, 231-250.
- Brockington, D., & Igoe, J. (2006). Eviction for conservation: a global overview. *Conservation and society*, 424-470.
- Meduna, A. J., Ogunjinmi, A. A., & Onadeko, S. A. (2009). Biodiversity conservation problems and their implications on ecotourism in Kainji Lake National Park, Nigeria. *Journal of Sustainable Development in Africa*, 10(4), 59-73.
- Oke, C. (2019). Nature-based solutions for urban climate change adaptation: linking science, policy, and practice communities for evidence-based decision-making. *BioScience*, 69(6), 455-466.
- Ghimire, P. (2019). Analysis of Human Wildlife Conflict in Buffer Zone Area: A Study from Chitwan National Park, Nepal. *Journal of Natural Resource Ecology and Management. Special Issue: Forest and Wildlife Management. Vol, 4(6)*, 164-172.
- Haruna, K. K., & Rusoke, T. (2019). Evaluation of Man-Lion Conflicts on Conservation

Status of Lions (*Pantheraleo*) in Queen Elizabeth National Park (QENP), Kasese district western Uganda.

- Hutton, J., Adams, W. M., & Murombedzi, J. C. (2005, December). Back to the barriers? Changing narratives in biodiversity conservation. In *Forum for development studies* (Vol. 32, No. 2, pp. 341-370). Taylor & Francis Group.
- Kwitegetse, P. (2019). *Enhancing a sustainable Safe Water Supply for Rural Communities of Mabungo Parish, Kisoro District* (Doctoral dissertation, Kyambogo).
- Kwitegetse, P. (2019). *Enhancing a sustainable Safe water Supply for Rural Communities of Mabungo Parish, Kisoro District* (Doctoral dissertation, Kyambogo).
- Natukunda, S. (2019). *Determinants and Socio-economic Impacts of Crop raiding around Bwindi Impenetrable Forest in Kayonza Sub County, Kanungu District* (Doctoral dissertation, Makerere University).
- Pasanchay, K. (2019). An Examination of Rural Homestay Operations through the Lens of the Sustainable Livelihood Framework: A Case Study of Phou KhaoKhouay National Park Community-Based Tourism (PKK NP CBT), Lao PDR.
- Saayman, A., & Saayman, M. (2004). Economic impact of cultural events. *South African Journal of Economic and Management Sciences*, 7(4), 629-641.
- Tusingwire, A. (2019). *The Effectiveness of Local Strategies for Managing Human Wildlife Conflicts around Queen Elizabeth National Park in Western Uganda* (Doctoral dissertation, Makerere University).

APPENDICES

APPENDIX I: QUESTIONNAIRE FOR RESPONDENTS

I am **Mahoro Shallon**; a student of Kabale University. I am doing this study as a partial fulfillment for the award of a Bachelor of Environmental Science. This questionnaire was drafted by the researcher in exploring the contributions of Mgahinga National Park to local communities in Muramba sub-county, Kisoro District South-western Uganda.

Please answer all the questions with honesty. The information given is purely academic and it shall be treated with a lot of confidentiality. I am requesting you to kindly participate in this study by responding to the following questions.

SECTION A: BIO DATA OF RESPONDENTS

1. Age

- a. > 20 c) 31-40
b) 21-30 d) 41-50 e) 51 <

2. Sex

- a) Female
b) Male

3. Marital Status

3. Single
4. Married
5. Separated
6. Widows

7. Highest level of Education attained

- a) Non formal Education
b) Primary
c) Secondary
d) University

SECTION B

8. What are the contributions of Mgahinga National park to the development of local communities?

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SECTION C

9. What are the challenges faced by people living near Mgahinga National park?

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SECTION D

10. What are the possible solutions to the challenges faced by communities near Mgahinga National park?

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Thank you for your cooperation

APPENDIX II: INTERVIEW GUIDE FOR KEY INFORMANTS

- ❖ What do you understand by the term National Park?
- ❖ What are the contributions of Mgahinga National park to the development of local communities in Muramba sub-county, Kisoro District South-western Uganda?
- ❖ What are the challenges faced by people living near Mgahinga National park in Muramba sub-county, Kisoro District South-western Uganda?
- ❖ What are the possible solutions to the challenges faced by communities near Mgahinga National park in Muramba sub-county, Kisoro District South-western Uganda?

Thank you for your cooperation

APPENDIX III: WORK PLAN OF THE STUDY

ACTIVITIES	PERIOD (2020)	
	January-March	April- May
Proposal Writing		
Data collection and Analysis		
Dissertation compilation		
Submission		

APPENDIX IV: STUDY BUDGET

ITEM	AMOUNT (SHS)
Transport	100,000
Stationary	50,000
Typing, printing and binding	50,000
Contingency	100,000
Stapling machine and wires	20,000
Grand total	320,000