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Master of Geo-Information Science for Environment and Sustainable development (GI-ESD)

**APPRAISING THE EFFECTS OF TOURISM REVENUE
SHARING SCHEME ON LOCAL COMMUNITIES LIVING
AROUND VOLCANOES NATIONAL PARK, RWANDA.**

Case study of Kinigi and Gataraga Sectors, Musanze District.

A dissertation submitted in partial fulfilment of the requirements for the degree of **Master of Science in Geo-Information for Environment and Sustainable Development**

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October, 2024

DECLARATION

I **Mireille UWERA**, do hereby declare that this thesis is my original work and has never been submitted or examined at any University as an academic requirement for any award.

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APPROVAL

It is hereby confirmed that this thesis, entitled “Appraising effects of Tourism Revenue Sharing scheme on local communities living around volcanoes National Park in Rwanda: A Case Study of Kinigi and Gataraga Sectors in Musanze District” submitted by Mireille UWERA was assessed in relation to the fulfilment of the requirements for the award of the Degree of Master of Science in Geo-Information for Environment and Sustainable Development, in the School of Architecture and Built Environment.

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ABSTRACT

Rwanda's Tourism Revenue Sharing (TRS) program, designed to redistribute tourism income to local communities near Volcanoes National Park, has had a significant impact on the livelihoods of residents. This study evaluates the effectiveness of the TRS initiative through a mixed-methods approach, incorporating both quantitative and qualitative data. The research sample included 192 participants, equally divided between Gataraga and Kinigi sectors, providing a comprehensive assessment of the program's outcomes. Findings indicate that the majority of local residents have a strong understanding of the TRS program and view it positively, particularly regarding its contributions to community development. However, some concerns were raised about limited involvement in conservation activities, despite receiving program benefits, suggesting a need for deeper community engagement in conservation efforts. The study also documented substantial improvements in local infrastructure and services as a result of TRS investments. In both sectors, respondents highlighted enhanced educational facilities, with 53% in Kinigi and 47% in Gataraga attributing new school construction to TRS. Similarly, improved access to clean water was noted by 51% of respondents in Kinigi and 46% in Gataraga. Access to electricity increased as well, reported by 57% of respondents in Kinigi and 48% in Gataraga. Additional improvements were observed in transportation infrastructure and conservation initiatives. Overall, 90% of respondents acknowledged the positive impact of TRS on their livelihoods, with many reporting increased participation in conservation activities. The study recommends that efforts be strengthened to raise awareness of TRS projects across all park-adjacent communities, ensuring equitable benefit distribution and promoting greater community involvement in conservation activities. This would help address existing concerns and enhance local support for the program.

Keywords: Tourism; Tourism Revenue Sharing; Local community & Conservation.

LIST OF ABBREVIATIONS

ANP:	Akagera National Park
ASSOFERWA:	Association de Solidarité des Femmes Rwandaises
AWF:	African Wildlife Foundation
CBC:	Community-Based Conservation
CBD:	Community- Based Development
CBNRM:	Community-Based Natural Resources Management
CBT:	Community-Based Tourism
CC:	Community Conservation
EM:	Environmental Management
GIS:	Geographic Information System
GoR:	Government Of Rwanda
IGCP:	International Gorilla Conservation Programme
KOKAPA:	Koperative Kabeho Parike
LC:	Local Community
NGOs:	Non-Governmental Organizations
NNP:	Nyungwe National Park
NP:	National Parks
ORTPN:	Rwanda Office of Tourism and National Parks
PAs:	Protected Areas
RDB:	Rwanda Development Board
REMA:	Rwanda Environment Management Authority
RGB:	Rwanda Governance Board
SACOLA:	Sabyinyo Community Livelihood Association
SD:	Sustainable Development
SGF:	Special Guarantee Fund
TRS:	Tourism Revenue Sharing
TRSS:	Tourism Revenue Sharing Scheme
UNWTO:	United Nations World Tourism Organization
VNP	Volcano National Park

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Chapter One: INTRODUCTION

1.1. Background of the Study

Tourism stands as a critical economic asset for development countries, playing a pivotal role in international and national development while contributing to environmental preservation. Governments across the continent are increasingly focused on maximizing the economic benefits of tourism destinations, effectively managing tourist sites, and improving both communities living conditions and environmental (Adeola et al., 2020).

In the context of protected areas (PAs), IUCN (2020) defines them as "a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values"(Kalulu, 2016). This definition underscores the dual role of PAs in safeguarding biodiversity and supporting local communities, highlighting the importance of well-managed tourism in sustaining both conservation and socio-economic benefits (MacKinnon et al., 2020).

Rwanda's Protected areas (PAs) are about 8.5% of the country and are categorized into national parks, such as Akagera National Park (ANP), Volcanoes National Park (VNP), Nyungwe National Park (NNP), and Gishwati-Mukura National Park; important cultural forests (Buhanga forest); and wetlands, such as Rugezi wetland (Iwacu, 2017).

VNP was the first Rwandan national park established in 1925, and its boundaries were defined on November 26, 1934 (Rwanyiziri & Mugabowindekwe, 2020). The park was characterized by a stronghold conservation attitude that kept out participants from park governance; this approach has made park management less effective due to the high exclusion costs associated with information, monitoring, and enforcement. Poverty, typical small farm sizes, and increased soil erosion rates have led to human-wildlife conflicts in areas around protected areas (Musafili et al., 2016).

Rwanda Development Board (RDB) has adopted a Tourism Revenue Sharing (TRS) program; this scheme was initiated in 2005, to encourage community to support for VNP biodiversity

conservation and ecotourism support while also providing unique opportunities for better economic situations (Nyaga, 2017). The Tourism Revenue Sharing (TRS) scheme is an effective global strategy designed to mitigate human-wildlife conflict by leveraging wildlife tourism to benefit communities living near national parks. This approach not only provides direct financial support to these communities but also enhances local conservation practices. By redistributing a portion of tourism revenue, TRS aims to foster coexistence between humans and wildlife while promoting sustainable development.

Tourism's economic impact extends beyond immediate revenue generation; it creates jobs, supports infrastructure development, and contributes to broader economic growth. The TRS scheme thus plays a crucial role in aligning conservation efforts with community benefits, ensuring that both environmental and socio-economic objectives are met.

1.2. Problem Statement

Previous studies at Volcanoes National Park (VNP) have examined various aspects related to the park's conservation and development efforts. These studies have addressed the consequences of human-wildlife conflicts on biodiversity, the impact of household poverty and forest dependence, the effects of community conservation interventions, the role of ecotourism in conservation, the socio-economic status of local communities, and socio-ecological issues affecting the park. While these studies generally recommend tackling food insecurity as a means to reduce human pressure on park resources, none have specifically investigated the relationship between biodiversity conservation and food security within local communities (Nyiratuza et al., 2024).

Despite long-standing recognition of these issues, efforts to involve residents have either been superficial or inadequately implemented, leading to ongoing illegal activities such as poaching and timber harvesting within the park boundaries (Ampumuza, 2021). These illicit activities are not merely symptomatic of regulatory failures but also reflect the desperation of impoverished households around the park, who face acute food insecurity and crop destruction by wildlife, further entrenching them in poverty (Kalulu et al., 2016).

Although the Rwandan government has ostensibly committed to allocating a 10% share of tourism revenues to community projects under Tourism Revenue Sharing (TRS) scheme, this measure is

critiqued for its inadequacy and failure to address the fundamental issues of land rights and compensation for environmental degradation (Musafili et al., 2016).

Furthermore, Tourism Revenue Sharing (TRS) program, although designed to foster wildlife conservation and reduce benefit disparities, is hampered by a significant research void. There exists a critical lack of the official studies or data regarding the contrast between the livelihood of the population living around the parks before and after the inauguration of the TRS scheme, as well as the lack of a formal plan for the distribution mechanisms of tourism revenues and their positive impacts on the communities residing near VNP (Munanura et al., 2016).

This gap undermines the program's potential efficacy and raises concerns about its ability to foster long-term conservation and community well-being. Addressing these shortcomings is crucial to enhance the program's impact and ensure that it fulfils its intended goals of supporting both environmental sustainability and the livelihoods of local communities.

This study aims to critically evaluate the Tourism Revenue Sharing (TRS) program's impact on local communities, with a focus on uncovering the complexities of revenue distribution and its broader implications for both conservation and community livelihoods. By exploring these dynamics, the study seeks to initiate a paradigm shift in park management and conservation strategies, emphasizing the need for approaches that truly prioritize sustainable development, environmental integrity, and social equity.

The findings are intended to be a crucial resource for decision-makers in conservation and park management. They will advocate for a comprehensive re-evaluation of the TRS approach to ensure that it effectively benefits the communities it is designed to support and contributes to the long-term sustainability of Rwanda's natural heritage.

1.3. Objectives

1.3.1. General Objective

The main objective of this study was to assess the impact of tourism revenue sharing on local communities living near Volcanoes National Park and its neighbourhoods.

1.3.2. Specific Objectives

1. To assess the impacts of tourism revenue sharing on the livelihoods of local people living near VNP;
2. To assess which are the socio-economic development projects that are shared with the community living around VNP;
3. To identify constraints and challenges facing tourism revenue sharing and distribution in the local community around VNP.

1.3.3. Research Questions

Based on the above specific objectives of this study, the following three questions were answered:

1. What are the positive and negative impacts of how tourism revenue sharing contributes to the community's livelihood living around VNP?
2. How are tourism revenues shared for social-economic development projects with the community living around VNP?
3. What are the constraints and challenges facing tourism revenue sharing distribution in the local community living near VNP?

Chapter Two: LITERATURE REVIEW

This chapter presents a detailed literature review on the evolution of national parks from their early focus on biodiversity preservation to the contemporary integration of community-based conservation practices. It explores the impact of Tourism Revenue Sharing (TRS) on the economic well-being of communities living near conservation areas, emphasizing how TRS has facilitated local development through the redistribution of tourism revenue. The review highlights the complex relationship between local residents' perspectives on conservation and their engagement with park management, noting challenges such as fund distribution transparency and community involvement. Further, it examines the operational dynamics of TRS schemes and identifies gaps in current research, including the need for more studies on the long-term sustainability of TRS projects, the effects on different demographic groups, and the effectiveness of various TRS models in diverse contexts. By synthesizing these elements, the chapter provides a comprehensive foundation for understanding how tourism revenue sharing can enhance both conservation and community development efforts.

2.1. Community Participation in Conservation and Tourism Revenue Sharing Scheme

Community participation in conservation and the implementation of Tourism Revenue Sharing (TRS) schemes are increasingly recognized as critical strategies for sustainable development and poverty alleviation. Studies have identified tourism as a powerful tool for poverty eradication, with the REMA, 2016 highlighting its potential to significantly impact economic development. Developing countries, in particular, have adopted targeted measures to ensure the sustainability and effective management of tourism while integrating it into broader economic programs. This approach is viewed as crucial for achieving economic growth and enhancing food security, as noted by (Munanura et al., 2016).

In the context of Rwanda, national parks offer numerous opportunities for local communities, emphasizing the importance of community conservation in the global conservation agenda. (REMA, 2016) underscore the growing significance of community conservation efforts in protecting biodiversity while fostering local involvement. One of the key benefits for communities living near protected areas (PAs) is the income generated through TRS schemes. This income serves as a vital financial resource, supporting local development and enhancing livelihoods.

The participatory conservation approach centres on actively involving local communities in all stages of conservation efforts, ensuring that they are integral to decision-making, policy implementation, and conservation actions. This approach values the input of local people, who contribute their unique perspectives and traditional knowledge to shape conservation strategies, adapt and apply policies effectively, and engage in hands-on activities such as monitoring wildlife and managing resources(Ndayisaba, 2020). By including local voices and leveraging their intimate understanding of the environment, participatory conservation fosters more relevant, accepted, and sustainable outcomes, ultimately enhancing the effectiveness of conservation initiatives.

By integrating community participation into conservation strategies and leveraging TRS as a financial tool, there is potential to enhance the effectiveness of conservation efforts while providing tangible benefits to local communities. This approach not only supports biodiversity conservation but also contributes to the overall well-being and economic stability of communities living in proximity to protected areas.

2.2. Sustainable Livelihood Activities Around Volcanoes National Park (VNP)

Tourism Revenue Sharing (TRS) has emerged as a widely recognized and effective strategy for integrating conservation efforts with poverty reduction, particularly across many African countries. Like many other African nations, Rwanda has aligned its development agenda with global sustainability goals by integrating environmental considerations into its strategic planning. This commitment is evident in initiatives such as the national strategy for climate resilience and green growth and the Rwanda Vision 2050. Both of these frameworks highlight the crucial interconnections between environmental protection, biodiversity conservation, food security, and economic growth (Rispoli et al., 2019).

The climate resilience strategy focuses on enhancing the country's ability to adapt to climate change while promoting sustainable practices, whereas Rwanda Vision 2050 outlines a long-term developmental path that balances ecological preservation with economic advancement. Together, these strategies emphasize that safeguarding the environment and biodiversity is essential for achieving food security and fostering sustainable economic progress (Nyiratuza et al., 2024).

In response to the challenges of low livestock ownership and land scarcity, the Rwandan government has implemented the 'One Cow per Poor Family' program. This initiative aims to improve the livelihoods of impoverished families by providing them with heifers, which are then kept under a zero-grazing system. In this system, cows are fed using fodder and feed provided by the program rather than grazing on pastureland, which helps conserve land and resources. The program has been well-received and praised by experts from developed countries for its innovative approach to addressing both livestock and land management issues, demonstrating a practical solution to improving rural incomes while managing limited land resources (Nzaburahaheza & Nyiramugwera, 2017).

The TRS scheme has, however, made a substantial impact on enhancing the livelihoods of communities around VNP. In particular, the Kinigi sector of Musanze District has seen significant improvements due to TRS funds. The Sabyinyo Community Livelihood Association (SACOLA) supports local communities around Volcanoes National Park by facilitating various development activities aimed at enhancing their livelihoods while also promoting conservation. SACOLA provides essential services and resources such as clean water, agricultural loans, and scholarships to help improve the quality of life for local residents. Additionally, the association distributes livestock like goats and sheep and supplies agricultural inputs to boost productivity and economic stability. At the same time, SACOLA's initiatives are designed to mitigate threats to the park's conservation efforts, particularly those aimed at protecting the endangered mountain gorillas. By addressing both community needs and conservation goals, SACOLA helps create a harmonious balance between improving local livelihoods and preserving the park's natural resources (Munyanziza J, 2021).

Moreover, TRS has contributed to the enhancement of local infrastructure and overall well-being through the development of roads, bridges, water tanks, schools, and health centers. These improvements are crucial for facilitating better access to services and supporting small local businesses. The TRS approach has also supported community associations, which can lead to transformative changes in local livelihoods by promoting entrepreneurship and employment (Irabona & Ngamata, 2019).

Despite the positive impacts of tourism-related activities, there are growing concerns about the fairness of the benefits derived from these initiatives. Some local residents feel that the advantages of Tourism Revenue Sharing (TRS) programs are not evenly distributed, with a disproportionate share of the benefits going to a select few individuals. This perception is particularly strong among those who are not affiliated with cooperatives or groups that have direct connections with the Rwanda Development Board (RDB). Many community members believe that the TRS-funded projects should be designed to benefit the entire community, rather than favoring specific groups or individuals. They argue that the allocation of TRS funds often reflects the priorities of local leaders and their development plans, which may not always align with the broader needs and expectations of the entire community. This discrepancy raises concerns about whether the benefits of tourism are truly reaching and positively impacting all members of the community equally (Tushabe, 2020)

In summary, while TRS has significantly contributed to improving livelihoods and supporting local development around Volcanoes National Park, challenges remain regarding equitable distribution and the alignment of benefits with community-wide needs. Addressing these issues is crucial for ensuring that TRS continues to serve as an effective tool for both conservation and community development.

2.3. RDB Revenue Sharing Scheme

In 2005, Rwanda implemented a tourism revenue sharing policy aimed at ensuring that local communities benefit directly from tourism activities within protected areas, thereby strengthening trust between the Rwanda Development Board (formerly the Rwanda Office of Tourism and National Parks) and these communities. The policy was also intended to incentivize the conservation of wildlife and protected areas by demonstrating tangible benefits from tourism. A comprehensive study conducted over the past 15 years evaluated the effectiveness of this program through both primary and secondary data. This involved interviewing more than 300 community members living near three national parks, as well as engaging with various relevant stakeholders. The findings reveal that the tourism revenue sharing program has successfully established a positive connection between national parks and local development, providing substantial benefits to surrounding communities and supporting ongoing conservation efforts (Deng et al., 2023).

Rwandan tourism is deeply rooted in the country's natural environment, with three national parks standing out as major attractions: Volcanoes National Park (VNP) in the north, known for its mountain gorillas; Nyungwe National Park (NNP) in the south, renowned for its diverse montane rainforest and primate species; and Akagera National Park (ANP) in the east, celebrated for its savannah wildlife and classic safari experiences. These parks not only draw significant numbers of tourists but also play a vital role in supporting the local communities around them. Revenue generated from tourism in these parks is channeled into community development projects, including infrastructure improvements, health and education programs, and livelihood enhancement. This integration of tourism and community support helps to ensure that the benefits of conservation and eco-tourism are shared with local residents, fostering a sustainable balance between preserving Rwanda's natural heritage and advancing local well-being (Nsabimana et al., 2021).

A substantial portion of the TRS funds designated for VNP has been invested in social infrastructure projects. These investments include the construction of schools, healthcare facilities, roads, and water supply systems, which have played a crucial role in enhancing the living conditions of local residents. (REMA, 2016) highlight that these infrastructure improvements are vital for supporting community development and fostering a positive relationship between local populations and conservation efforts.

Several studies have been conducted to assess the impact of the TRS scheme on the livelihoods of people living near protected areas. These studies have indicated that the scheme has had a significant positive impact on local communities. Research efforts, supported by RDB and local governments, show that the TRS scheme has increased awareness among local residents about the benefits of tourism and its role in supporting biodiversity conservation. This increased awareness has contributed to a greater appreciation of the value of conservation efforts and has fostered stronger community support for the protection of natural resources.

Overall, the TRS scheme has been instrumental in bridging the gap between conservation goals and community development. By redistributing tourism revenue to fund local projects, the scheme not only supports the preservation of Rwanda's natural heritage but also enhances the quality of life for those living near national parks. This approach demonstrates a successful model of

integrating economic benefits from tourism into conservation strategies, thereby promoting sustainable development and fostering a harmonious relationship between conservation efforts and local community needs.

2.4. Constraints to Tourism Revenue Sharing Program

A significant portion of the TRS funds directed towards VNP has been invested in various social infrastructure projects aimed at improving the quality of life for local residents. These investments include the construction of essential facilities such as schools, healthcare centers, roads, and water supply systems. highlight that these infrastructural enhancements are crucial for fostering community development. By providing access to education, healthcare, and improved transportation and water resources, these projects contribute to elevating living standards and promoting a positive relationship between local populations and conservation initiative(REMA, 2016).

In Bwindi Impenetrable National Park in Uganda, there are significant concerns about the fairness and transparency of the Tourism Revenue Sharing (TRS) process. Local residents have reported that the distribution of TRS funds is often skewed, with Community Protected Area Institutions (CPIs) representatives and village leaders allegedly spending the revenue to benefit individuals within their own villages as a form of reward for their electoral support. This practice has led to accusations of favouritism, where funds are not equitably shared among all communities affected by the park. The result is a growing sense of injustice among residents who feel that the benefits of tourism are not reaching everyone equally, undermining trust in the TRS system and highlighting the need for more transparent and fair management of tourism revenues(Akbar & Yang, 2022).

In the Maasai communities of Tanzania, the management of tourism revenues has led to significant issues, including misuse of funds and internal conflicts. Many villagers are unaware of the actual amount of revenue generated from tourism, creating a situation where village leaders can manipulate or misappropriate the funds without scrutiny. This lack of transparency has resulted in accusations that leaders are using the money for personal gain or to benefit specific individuals or groups, rather than for broader community development. The resulting disputes have eroded trust within the community and highlighted the need for improved financial transparency and

accountability in the management of tourism revenues to ensure that the benefits are equitably shared and effectively used for the community's advancement(Akbar & Yang, 2022).

The revenue-sharing program of the Rwanda Development Board (RDB) has notably improved community involvement in park protection by providing incentives for former poachers to become park guardians, fostering a positive shift toward conservation. However, the program encounters several challenges, including bureaucratic delays that hinder the timely disbursement and management of funds, and issues with project selection that may not address the most urgent community needs. Additionally, there is no clear evidence linking the revenue-sharing contributions directly to a reduction in illegal activities within the parks. Despite its benefits in encouraging community engagement, the program's impact on decreasing poaching and other illicit activities remains unclear, indicating a need for more effective and transparent strategies to achieve its conservation goals(Akbar & Yang, 2022).

Overall, the TRS scheme has proven to be an effective mechanism for bridging the gap between conservation objectives and community development. By redistributing tourism revenue to fund local projects, the scheme not only supports the preservation of Rwanda's natural heritage but also enhances the well-being of those living in close proximity to national parks. This approach exemplifies a successful model of integrating economic benefits derived from tourism into broader conservation strategies, thereby fostering sustainable development and cultivating a harmonious relationship between conservation efforts and local community needs. The success of the TRS scheme in Rwanda serves as a valuable example of how tourism revenue can be leveraged to support both environmental and socio-economic goals.

Sabyinyo, Gahinga, and Muhabura making it a focal point for both geological and ecological interest. The area is especially renowned for its significant population of mountain gorillas, which attract numerous tourists to Rwanda. Musanze Town, the district's capital, serves as a central tourist hub, playing a crucial role in the local economy by supporting various tourism-related activities that generate substantial economic benefits for the region.

Musanze District is internationally renowned for its large population of mountain gorillas, which draw thousands of tourists annually. The presence of these endangered primates makes VNP a focal point for wildlife tourism in Rwanda. This influx of visitors significantly impacts the local economy, providing revenue and employment opportunities related to tourism.

The district's capital, Musanze town, plays a central role as a tourist hub. It serves as the primary gateway for visitors to the park and is equipped with various amenities, including lodgings, tour operators, and information centers. The town's economic activities are heavily influenced by tourism, which drives local businesses and contributes to regional development. Thus, Musanze District's strategic location within the Virunga Mountains and its association with gorilla tourism make it a significant area of interest for studying the effects of tourism revenue sharing and conservation strategies.

3.1. Data collection technique

3.1.1 Secondary data

Secondary data refers to information that has been previously collected, analyzed, and published by other researchers or organizations before being used in new studies. This includes data from sources such as research reports, academic journals, government publications, and statistical databases. Secondary data can encompass various types of information, including historical records, survey results, and case studies. It is valuable for researchers as it allows them to build on existing knowledge, compare with new data, and inform their studies without the need to gather primary data anew. While secondary data can be cost-effective and time-saving, it is essential for researchers to critically evaluate the reliability, relevance, and validity of the data to ensure it meets the needs of their research objectives and supports accurate conclusions (Idode & Bangura, 2019)

In this study, secondary data was pivotal in analyzing the impacts of the Tourism Revenue Sharing (TRS) strategy on local communities around Volcanoes National Park (VNP). By drawing on existing sources such as governmental reports, prior academic research, and statistical databases, the study was able to access a wealth of information on revenue allocations, community projects funded by TRS, and socio-economic conditions of the affected areas. This data provided a historical and contextual framework for evaluating how the TRS strategy has influenced local livelihoods, including improvements in income, education, and basic services. Additionally, secondary data allowed for benchmarking the VNP TRS strategy against similar programs elsewhere, offering a comparative perspective on its effectiveness. The careful assessment of these pre-existing sources was crucial for ensuring that the findings accurately reflected the current impact of the TRS strategy and contributed to a comprehensive understanding of its role in community development and conservation.

3.1.2. Primary data

Primary data refers to information collected directly by the researcher from the field, ensuring that it is both relevant and up-to-date for the specific objectives of the study. This data is obtained through methods such as surveys, interviews, and observations, allowing researchers to gather firsthand insights and data that directly address their research questions (Idode & Bangura, 2019).

In this research, a mixed-methods approach was utilized to gain a thorough understanding of the Tourism Revenue Sharing (TRS) program's impact on local communities surrounding Volcanoes National Park (VNP) in Rwanda. This methodology integrated both field observations and face-to-face interviews to offer a rich, multi-dimensional perspective. Field observations enabled researchers to directly observe and document the real-world conditions and interactions shaped by the TRS program, providing empirical evidence of its effects. Concurrently, face-to-face interviews with key stakeholders and local residents offered detailed, personal insights into individual experiences and viewpoints, enriching the qualitative data with personal narratives and subjective assessments. Combining these methods allowed for a more comprehensive analysis of how the TRS program affects the community, capturing both observable changes and nuanced personal experiences.

To complement the qualitative methods, a structured household questionnaire survey was used to collect quantitative data on the TRS program's effects. This survey was carefully designed to measure various impacts, such as economic benefits, social changes, and overall perceptions of the program's effectiveness. By combining qualitative insights with quantitative evidence, the study provided a comprehensive analysis of the TRS program's impact, offering both detailed personal experiences and broader statistical evidence. This integrated approach ensured a thorough understanding of the program's effects, blending rich contextual insights with robust empirical data.

3.1.3. Existing spatial data

To enhance the primary data collection efforts, the study incorporated existing land cover and land use maps as secondary data sources, obtained from various authoritative institutions. These pre-existing maps were vital for providing foundational insights into the physical and functional characteristics of the land within the study area. The land cover maps detailed surface types, including forests, agricultural fields, and built-up areas, while the land use maps revealed how these areas were utilized, indicating designations for purposes such as conservation, agriculture, or residential development. Integrating these secondary data sources with primary data gathered through field observations, interviews, and surveys allowed for a comprehensive analysis, offering a more nuanced understanding of the land cover and land use dynamics in the study area (Islam et al., 2022).

This approach facilitated a deeper understanding of how the Tourism Revenue Sharing (TRS) program interacts with and impacts the local environment by integrating detailed secondary data with primary observations. By examining existing land cover and land use maps alongside data collected through field surveys and interviews, the study was able to comprehensively assess how the TRS program influences land management practices and community development. This integrated analysis provided a clearer picture of the program's effects, highlighting both its environmental impacts and its role in shaping local land use patterns and community growth.

3.1.4. Observation

Observation is a vital method for understanding and interpreting environmental conditions, as it involves using our senses to gather detailed and accurate information directly from the environment. This approach allows for firsthand assessment of physical features, behaviours, and changes, providing precise insights that are essential for effective analysis and decision-making (Islam et al., 2022).

In this study, field observation was crucial for complementing primary data on the impact of the Tourism Revenue Sharing (TRS) program around Volcanoes National Park (VNP). The researcher employed a systematic approach, including direct on-site observations, detailed field notes, and photographic documentation to capture real-world conditions. Handheld GPS devices recorded the geographic coordinates of key landmarks, which helped in analysing land use patterns and local livelihoods. This multifaceted observational strategy ensured that the data accurately reflected actual situations and provided a comprehensive understanding of the TRS program's effects on the local community, enhancing the study's robustness.

3.1.5. Household Questionnaire Survey

A questionnaire is a research tool made up of a series of structured questions and prompts that are designed to gather specific information from respondents. This method allows researchers to systematically collect data on various topics, ensuring consistency in the responses and facilitating detailed analysis. By using well-crafted questions, a questionnaire helps in capturing relevant data that can be analysed to draw insights and make informed decisions (Nandom, 2022).

In this study, questionnaires were strategically used to collect data from households in the Kinigi and Gataraga sectors, adjacent to Volcanoes National Park (VNP). Participants, including local residents and park leaders, were selected based on a calculated sample size tailored to the population's characteristics. This sample size was determined by considering the total population in these sectors and the desired margin of error, ensuring that the data gathered was both representative and statistically reliable.

Following (Nandom, 2022) guidelines, a specific formula was used to calculate the sample size for the study, ensuring it accurately represented the broader population of the Kinigi and Gataraga sectors. This method aimed to enhance the reliability and validity of the data collected through the questionnaires. By carefully determining the sample size, the study ensured that the findings were precise and applicable, providing valuable insights into the impact of the Tourism Revenue Sharing (TRS) program on local communities around Volcanoes National Park (VNP). This rigorous approach underscores the thoroughness and accuracy of the research design, contributing to a robust analysis of the TRS program's effects.

$$n = \frac{(Z)^2 \times (p \times q)}{(E)^2}$$

n= Sample size

N= Population size

E=Margin of error (10%)

Standard deviation (p) = 5

Variability: p = 0.5

Q= 1-p

Z (confident level) = 95%, Z= 1.96

In the Kinigi Sector (27,221 residents and 7,426 households) and the Gataraga Sector (26,969 residents and 6,814 households), a convenience sampling technique was used to gather data. A sample size of 96 respondents per sector was calculated using a formula that considered the total population and desired margin of error. This method was selected for its practicality in achieving a representative sample from each sector.

The questionnaires used in the study were mainly completed by the respondents themselves and featured a mix of closed-ended questions for structured responses and a few open-ended questions

to capture more detailed feedback. Data collection combined both primary and secondary sources: primary data came from direct responses of local villagers and park employees, offering firsthand insights into the impact of the Tourism Revenue Sharing (TRS) program, while secondary data were gathered through a comprehensive literature review of academic journals, articles, and books accessed online and in libraries. Additionally, the researcher conducted independent observations of the community and park environment, focusing on behavioural patterns, emotional responses, and physical conditions. This multi-faceted approach integrating questionnaire data, literature review, and observational insights provided a well-rounded foundation for analysing the TRS program's impact, ensuring the findings were robust, valid, and supported by diverse evidence.

3.1.6. Interviews

Interviews are a valuable method for obtaining detailed insights into individuals' opinions, experiences, and feelings. They can be conducted in various formats, such as one-on-one, face-to-face, group settings, or through telephone and electronic devices. Interviews can be structured, semi-structured, or unstructured, depending on the desired level of detail and flexibility (Islam et al., 2022).

For this study, a structured interview approach was used, conducted face-to-face to enable direct and personal interactions. This method was selected to ensure thorough and focused data collection. The structured interviews involved a set of predefined questions and were carried out with participants living near Volcanoes National Park (VNP), including local community members and authorities. This approach ensured that the data collected were consistent and comparable across respondents. Additionally, structured interviews were held with key stakeholders, such as staff from the Rwanda Development Board (RDB), who are involved in managing VNP. Engaging these stakeholders provided critical insights into the Tourism Revenue Sharing (TRS) program from a managerial perspective. The face-to-face format allowed for detailed and nuanced responses, enhancing the study by capturing diverse perspectives on the TRS program's impact on local communities around VNP.

3.2. Data analysis

3.2.1 Spatial data and maps

The spatial data collected from primary and secondary sources were processed and analyzed using ArcGIS software, which facilitated the creation of a detailed map showcasing the distribution of various infrastructure improvements within Volcanoes National Park (VNP). Utilizing ArcGIS's extract tools, the study mapped the geographical locations and extent of enhancements funded by the Tourism Revenue Sharing (TRS) program, including upgraded health facilities, expanded educational services, improved access to water and electricity, modernized market facilities, and an enhanced transportation network. This comprehensive mapping enabled a visual representation of how these infrastructure developments are spread across the park and its surrounding areas, providing valuable insights into the spatial impact of the TRS program on community services and facilities. The resulting map not only clarified the geographical reach of the program's benefits but also supported the evaluation of its effectiveness in contributing to local development and improving the quality of life for residents.

3.2.2 Statistical Data Analysis of the Field Surveys

The data collected from the field via questionnaires and interviews were meticulously analyzed using Microsoft Excel, with a particular emphasis on organizing and interpreting the data through tables. This method of analysis was crucial for establishing and examining the relationships between the field data gathered from the two sectors of Gataraga and Kinigi. By utilizing Excel's table functions, the study was able to systematically categorize and compare responses, facilitating a clearer understanding of patterns and correlations within the data. This detailed analysis enabled the researchers to effectively assess and contrast the impacts of the Tourism Revenue Sharing (TRS) program across the two sectors, providing valuable insights into how different aspects of the program affect local communities and contribute to the overall evaluation of its effectiveness.

Table 1: Summary of the data collection process

Data and information collected	Method analysis
What are the positive impacts from Tourism Revenue sharing to local people around Volcanoes National Park and face?	-Microsoft Excel
How the social economic development projects from Tourism Revenue Sharing contributing to the Community Based Conservation on the sustainability of VNP?	-Microsoft Excel
What are the needed solutions on constraints and challenges on Tourism Revenue Sharing distribution on local community around VNP?	-Microsoft Excel

Source: Field survey, February (2023)

Chapter Four : RESULTS AND INTERPRETATION

The data was subjected to a rigorous and systematic analysis process, designed to ensure alignment with the study's objectives and research questions. The analysis began with an in-depth examination of the data to identify key trends, patterns, and relationships. Following this, the findings were critically analysed and discussed in relation to the study's hypotheses and the broader research context.

Each data point was meticulously evaluated to determine its relevance, accuracy, and contribution to the overall research objectives. This evaluation was supported by cross-referencing the findings with existing literature and theoretical frameworks to enhance the validity and reliability of the results. The analysis ensured that the data was interpreted within the broader theoretical and practical contexts.

Finally, the interpretation of the data was conducted with careful consideration of the implications for both theory and practice. This step aimed to derive meaningful conclusions and provide actionable insights that directly addressed the core research questions. In doing so, the results were not only reflective of the collected data but also contextually relevant and applicable to the study's broader aims”.

4.1. Positive impacts on how tourism revenue sharing is contributing to the community livelihood around VNP

Feedback from participants in the interviews indicates that the Tourism Revenue Sharing (TRS) program has significantly benefited local communities surrounding Volcanoes National Park (VNP), as clearly expressed in the following quote:

“The TRS program has truly transformed our community. Through improved infrastructure, educational resources, and job opportunities, it has strengthened our livelihoods. At the same time, it has empowered us to take part in conservation efforts, ensuring that both people and the environment benefit. It’s a win-win for our community and the park.”

This quote emphasizes the holistic benefits of the TRS program, highlighting how it enhances community well-being while promoting environmental conservation.

The program has also helped in improving access to learning resources and upgrading infrastructure, such as water connections, on- and off-grid electricity, and bridge construction, which has facilitated better transportation and connectivity. Further, TRS has contributed to increased agricultural and livestock productivity, strengthening food security and income generation. The program has also created vital employment opportunities within the Kinigi and Gataraga sectors, providing much-needed jobs for community members.

Furthermore, TRS has played a pivotal role in supporting conservation efforts through numerous cooperatives, which have been instrumental in implementing environmental protection measures and promoting sustainable practices. This comprehensive impact highlights how the TRS program has not only improved the livelihoods of local residents but also enhanced the effectiveness of conservation initiatives.

4.1.1. Social-economic development projects for Tourism Revenues shared with the community living around VNP

The following map provides a detailed representation of the primary infrastructure developments accessible to local communities residing near Volcanoes National Park (VNP), specifically within the Kinigi and Gataraga sectors. This map offers a comprehensive overview of key infrastructure elements, including educational facilities such as schools, healthcare facilities including health centers, and transportation networks such as roads. It highlights the various infrastructure projects that have been funded by tourism revenues through the Tourism Revenue Sharing (TRS) program. By illustrating the locations and types of these infrastructures, the map reveals significant progress in the development of essential services and facilities within the VNP region. It visually demonstrates how tourism-generated funds have been utilized to enhance the quality of life for local residents by improving access to education, healthcare, and transportation. This visualization underscores the tangible benefits of the TRS program, showcasing its impact on regional development and the ongoing commitment to supporting the local communities around VNP.

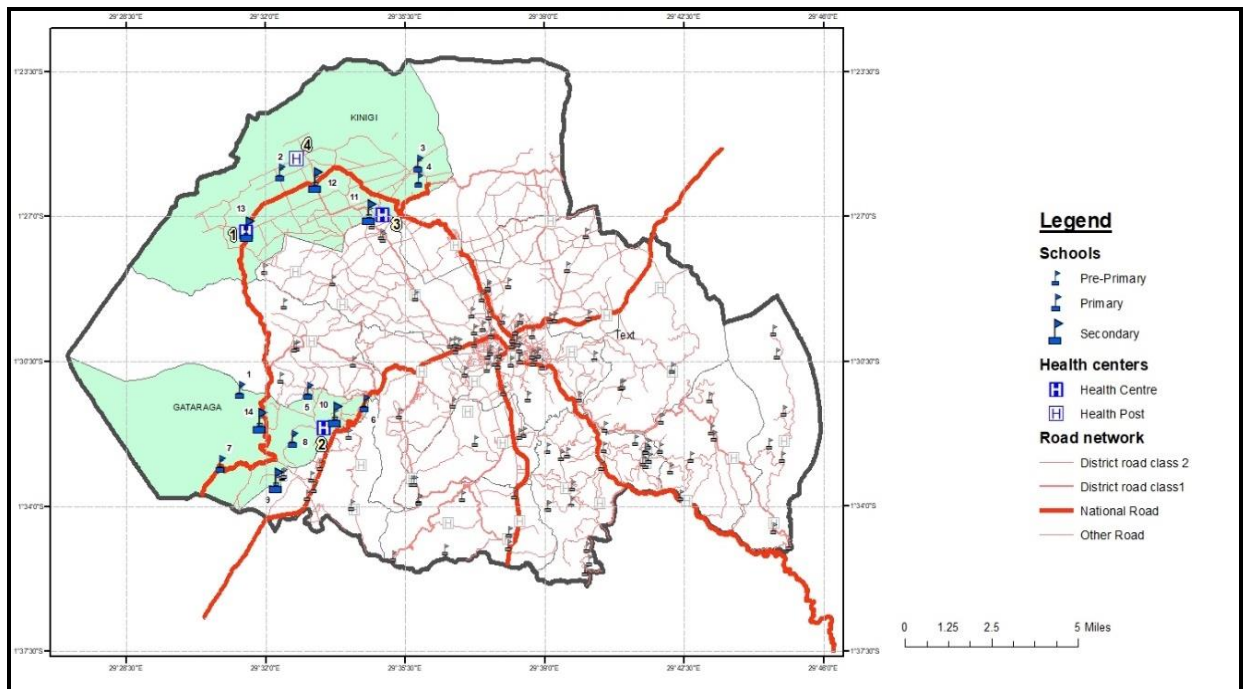


Figure 2: Infrastructure map of Kinigi and Gataraga Sector

Source: CGIS, 2023

4.1.1.a. Education status in Musanze District

In Musanze District, the current educational landscape reflects notable progress in school attendance across various age groups. For children aged 3-5 years, pre-primary school attendance stands at 52.4%, while primary school attendance for those aged 6-12 years is significantly higher at 91.1%. However, secondary school attendance for the 12-17 age group is somewhat lower at 70.3%. It is noteworthy that 47.6% of children have never attended school, and none of these have had prior school experience. Additionally, the school life expectancy in Musanze District is reported to be 7 in 10 years (NISR, 2022).

Regarding digital literacy, 15.5% of individuals have used the internet for 10 years or more, 18.1% for 15 years or more, and 19.2% for 21 years or more. Adult literacy rates, measured in terms of language literacy for those aged 15 and above, are reported at 79%. Educational attainment varies significantly across the different sectors within the district. For instance, the Gashaki sector boasts the highest proportion of children aged 3-5 attending school, at 78.2%, while the Remera sector follows with 74.7%. Conversely, the Rwaza sector has the lowest school attendance rate for this

age group, at 33.6%, and also has the highest percentage of children who have never attended school (NISR, 2022).

Between 2006 and 2014, substantial investments were made in the education sector using Tourism Revenue Sharing (TRS) funds. Specifically, 35,449,976 Rwandan Francs (rwfs) were allocated to construct 12 classrooms at Nyabatsinde School in Nyabigoma Cell, Kinigi Sector. Additionally, 9,408,489 rwfs were directed towards supporting 12 years of basic education in Kinigi Sector in 2013. In Gataraga Sector, TRS funds totaling 4,126,267 rwfs were also invested in enhancing 12 years of basic education. These investments underscore the TRS program's significant role in improving educational infrastructure and supporting educational outcomes in the region.



Figure 3: Nyabitsinde Primary school in Kinigi Sector

Source: Field survey, April 2024

The survey results highlight a strong consensus among respondents regarding the positive impact of the TRS program on education in both the Kinigi and Gataraga Sectors. In the Kinigi sector, 53% of respondents are in firm agreement that the TRS program plays a crucial role in promoting education, while an additional 43% agree, resulting in an overwhelming 96% approval rate. This positive perception is largely linked to the construction of 12 classrooms at NYABITSINDE

Primary School by the RDB TRS in Nyabigoma Cell. The addition of these classrooms has likely addressed critical issues such as overcrowding, improved learning environments, and enhanced access to education, which are vital for the educational progress in the sector. The small minority of 4% who disagree might reflect isolated concerns or unmet expectations, though these views are significantly outweighed by the positive feedback from the majority.

In the Gataraga sector, the TRS program also received substantial support, with 47% of respondents being in firm agreement and 44% agreeing that it contributes to the development of education in the local community. This positive perception is associated with the TRS program's support for the 12 Years Basic Education at Nyabirehe School in Rungu Cell, which has likely played a significant role in improving educational access and quality in this rural area. However, 9% of respondents expressed resistance, noting that the educational improvements were not evident due to the limited number of classrooms built through the program. This criticism points to a perceived shortfall in infrastructure, where the benefits of the program may not fully meet the community's educational needs, potentially leading to overcrowding or inadequate resources for students.

The following quote illustrates the contrasting effects of the TRS program on education accessibility in the Kinigi and Gataraga communities, emphasizing both progress and persistent disparities:

“The TRS program, aimed at enhancing education accessibility, has significantly improved access to safe learning environments in Kinigi, where over half of the community now benefits from reliable educational resources. However, in Gataraga, while many recognize the program's positive impact, some individuals still encounter challenges in accessing education. This situation underscores the need for continued efforts to ensure that all community members can benefit equally from educational initiatives, addressing the disparities that persist.”

The quote summarizes that while the TRS program has greatly improved educational access in Kinigi, challenges remain in Gataraga, highlighting the need for ongoing efforts to address disparities in education for all community members.

These results underscore the importance of the TRS program in enhancing educational infrastructure in both sectors. While the program is widely recognized for its positive contributions, the feedback also suggests areas where further investment or expansion may be necessary to fully address the educational demands and expectations of the community.

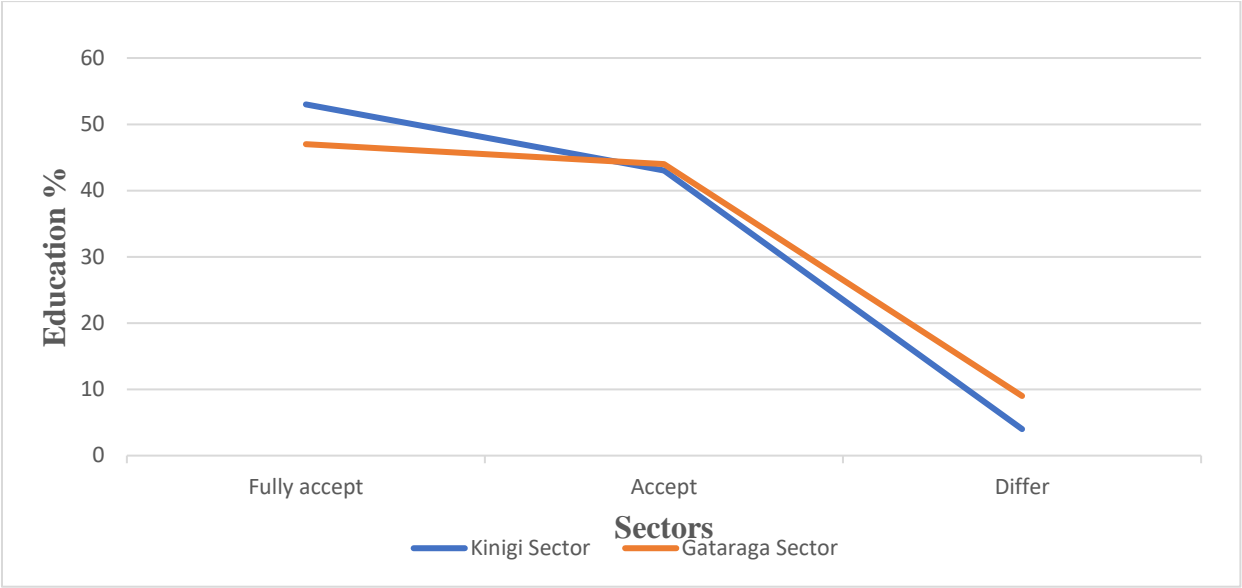


Figure 4 : Education development in Kinigi and Gataraga Sectors

Source: Field survey, June 2023

4.1.1.b. Water and Sanitation in Musanze District

In Musanze District, access to improved water sources is notably high across both urban and rural areas. Specifically, 93.7% of private households in urban areas utilize improved water sources, reflecting a strong availability of clean water in these areas (NISR, 2022). In comparison, 88.0% of households in rural areas have access to similar water sources, demonstrating a slightly lower but still substantial level of water accessibility. This high overall access indicates a relatively minor disparity between urban and rural water provision within the district. District-wide, 82.3% of households have access to clean water, which slightly surpasses the national average for households using improved water sources, which is also reported at 93.7%. At a more granular level, the Cyuve sector stands out with an impressive 99.5% of private households accessing water from improved sources, positioning it as the sector with the highest level of water access in the

district (NISR, 2022). In contrast, the Gataraga sector lags with only 72.5% of households using improved water sources, highlighting a significant gap. This disparity suggests that while Cyuve serves as an exemplary model for water access, Gataraga requires focused interventions to enhance water infrastructure and achieve more equitable water access across Musanze District (NISR, 2022).

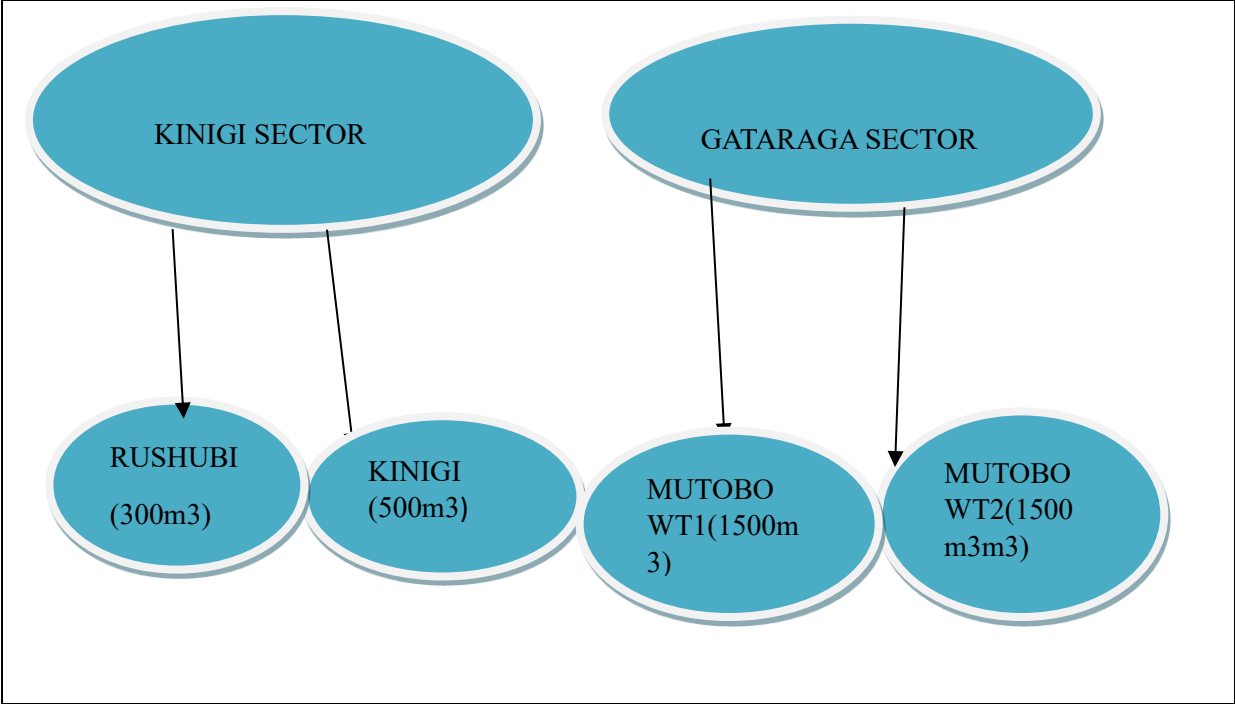


Figure 5 : Largest water reservoirs in Kinigi and Gataraga Sectors

Source: WASAC, December 2023

Figure 6 depicts a significant investment in water infrastructure made by the Rwanda Development Board (RDB) in 2015, aimed at addressing water access challenges in the Kinigi and Gataraga sectors. In response to concerns about local residents fetching water from within the nearby park a practice that not only disrupts wildlife but also exposes people to potential dangers the RDB allocated 6,000,000 rwfs to fund the construction of water tanks in the Kinigi sector. This initiative was specifically designed to reduce the community's reliance on park resources by providing a safer and more sustainable water supply.

Similarly, the Tourism Revenue Sharing (TRS) program contributed an additional 6,000,000 rwfs to the Gataraga sector, also for the construction of water tanks. The funding from TRS reflects a

strategic effort to enhance water access in rural areas that might otherwise depend on ecologically sensitive areas for their water needs. According to the field survey conducted in February 2022, the water tanks funded by these initiatives have played a crucial role in improving water availability in these communities, thereby reducing environmental pressure on the park and enhancing local resilience against water scarcity. The provision of these water tanks represents a key intervention in addressing both environmental conservation and community development needs in the region.



Figure 6: Water tank constructed by TRS funds in Gataraga Sector

Source: Field survey, February 2023

Figure 7 indicates the significant impact of the TRS program on enhancing water accessibility in the Kinigi and Gataraga Sectors, based on responses from the local communities. In the Kinigi sector, a clear majority of respondents recognize the crucial role the TRS program has played in improving access to water. Specifically, 51% of respondents firmly admit that the initiative has been instrumental, with an additional 45% expressing that the construction of numerous water tanks through the program has provided safe and high-quality water to many residents, particularly benefiting those in the vicinity of the Volcanoes National Park (VNP). The overwhelming support

for the TRS program in Kinigi underscores its effectiveness in addressing water scarcity and improving the quality of life for local communities.

This quote highlights the transformative impact of the TRS program on water accessibility in Kinigi, while also acknowledging ongoing challenges faced by some community members in Gataraga:

“The TRS program has been a game changer for water accessibility in our community. In Kinigi, more than half of us now have reliable access to safe, high-quality water thanks to the construction of water tanks through the program. However, in Gataraga, while most agree that the program has helped, some of us still struggle with accessing enough water, especially those who are forced to collect water from within the park. These issues remind us that there’s still work to be done to ensure everyone benefits equally.”

It underscores the necessity for continued efforts to ensure equitable access to safe water for all residents.

In the Gataraga sector, the perception of the TRS program's impact on water accessibility is also largely positive, with 46% of respondents firmly believing that the program has led to improvements, and another 41% agreeing with this assessment. However, the situation in Gataraga is more nuanced, as 13% of respondents express concerns about persistent challenges with water accessibility. These respondents note that despite the improvements, some locals still face difficulties in accessing sufficient water and are compelled to fetch water from within the park. This feedback highlights ongoing issues that need to be addressed to ensure that all residents in the Gataraga sector can benefit fully from improved water infrastructure and avoid reliance on ecologically sensitive areas for their water needs.

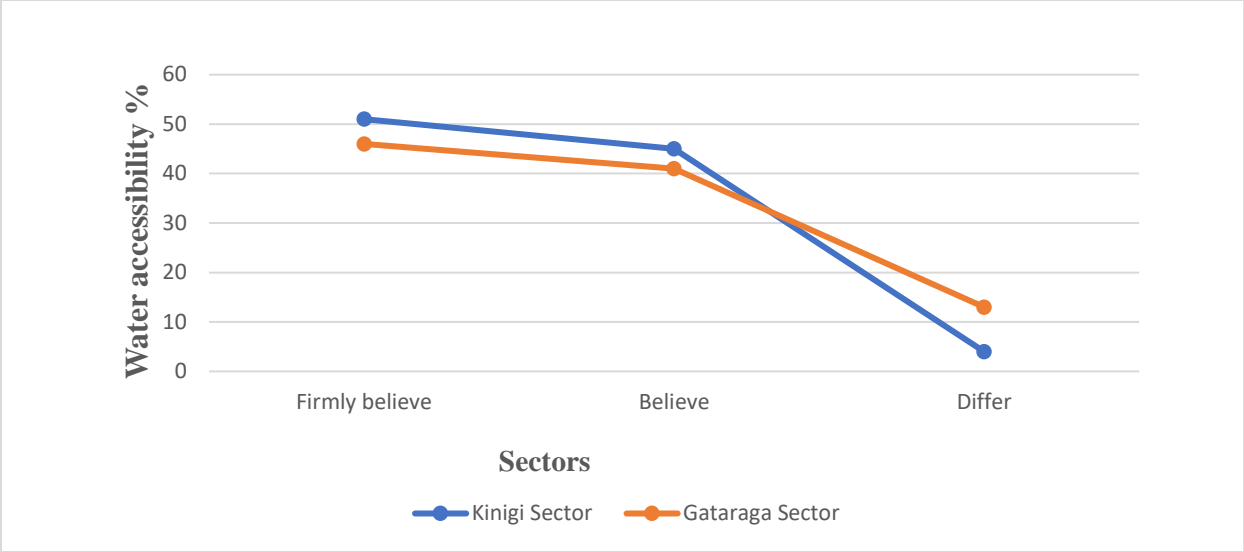


Figure 7: Water accessed by local people living near VNP

Source: Field survey, June 2023

4.1.1.c. Energy in Musanze District

Figure 8 depicts the development of electricity infrastructure within Musanze District, highlighting the extent and distribution of electrical services available to local communities. Based on CGIS data from April 2022, the visualization provides a detailed view of how electricity infrastructure has evolved in the district.

It illustrates the areas covered by the electricity network, showing which regions have been integrated into the grid and how access has expanded over time. The map or diagram reveals significant progress in extending electricity to previously underserved areas, enhancing quality of life and economic opportunities for local residents.

Key details such as the locations of new power lines, substations, and other infrastructure components are included, helping to identify well-served regions and those still lacking sufficient coverage. This detailed depiction underscores the district's efforts to improve energy access and address ongoing infrastructure needs across Musanze District.

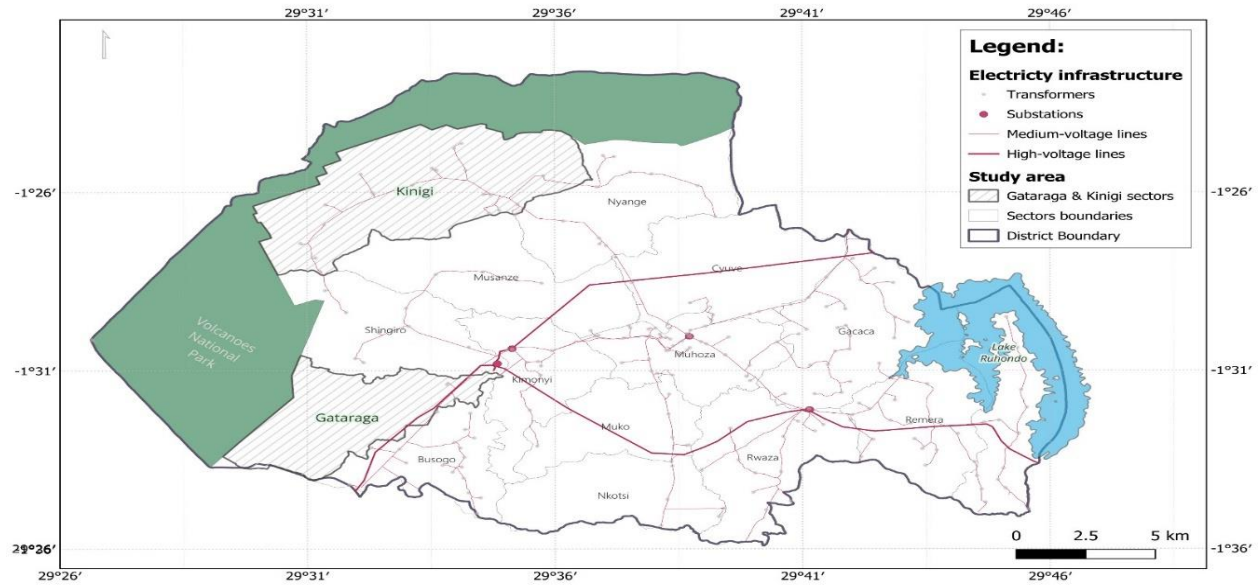


Figure 8: Electricity infrastructures in Musanze District

Source: CGIS data, April 2023

The profiling of Musanze District reveals a diverse range of energy sources used for lighting, including electricity, candles, flashlights, and phone flashlights. The distribution of these lighting sources varies significantly across different sectors within the district. For example, electricity is the predominant lighting source in several sectors, with Muhoza leading at 88.0%, followed by Gashaki at 74.4%, Remera at 72.7%, and Busogo at 73.3%. These sectors exhibit high levels of electricity access, which contributes to their greater reliance on this energy source for lighting. In contrast, sectors such as Shingiro and Gataraga display a more varied dependence on alternative lighting methods. Shingiro has 53.7% of households using flashlights and phone flashlights, while Gataraga has an even higher reliance, with 44.7% of households using these portable lighting options. This variation indicates a disparity in electricity access within Musanze District, with some sectors enjoying reliable electricity access and others more dependent on less consistent lighting sources (NISR, 2022).

This improvement was highlighted in the following quote from one respondent:

“The TRS program has really helped us here in Kinigi with better access to electricity. Most of us now rely on it, and it’s made a big difference in our lives. But in some areas like Gataraga, people are still struggling and using flashlights, so there’s more work to be done to ensure everyone benefits equally”.

The quote shows that while the TRS program has significantly improved electricity access in Kinigi, many in Gataraga still struggle with inadequate supply, highlighting the need for further efforts to ensure equal benefits for all community members.

Figure 9 depicts the perception of the TRS program's impact on electricity accessibility in the Kinigi and Gataraga sectors. In the Kinigi sector, 57% of respondents strongly believe and 41% believe that the TRS program has been crucial in enhancing community access to electricity, demonstrating significant positive effects on their daily lives. However, 2% of respondents express distrust regarding this statement, suggesting some skepticism about the program's benefits. This overall positive response highlights the TRS program's effectiveness in improving electricity access in Kinigi.

Similarly, in the Gataraga sector, 48% of respondents strongly believe and 41% believe in the improved accessibility to electricity due to the TRS program. Nonetheless, 11% of respondents disagree, indicating that while the program has contributed positively, there are still some concerns about the extent of improvement. This feedback reflects a generally favorable view of the TRS program's impact on electricity access, with some room for further enhancement to address remaining issues in Gataraga.

Overall, Figure 9 demonstrates the TRS program's significant role in improving electricity accessibility in both sectors, though it also highlights areas where further efforts may be needed to fully meet community needs.

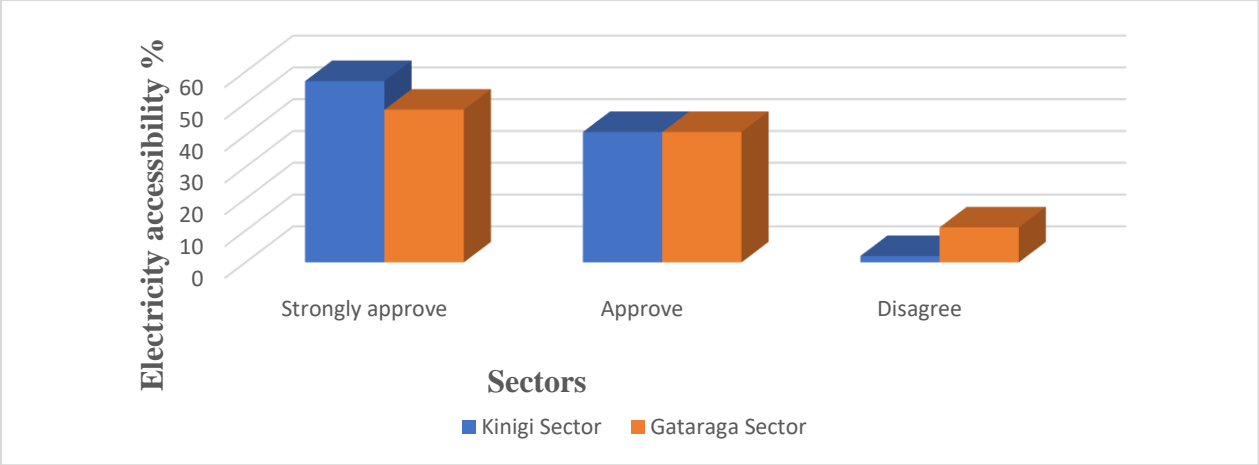


Figure 9: Electricity improvement by TRS funds in Kinigi and Gataraga Sectors

Source: Field survey, June 2023

The table below details the investments in electric power transmission lines funded by the Tourism Revenue Sharing (TRS) program between 2015 and 2017 for the Kinigi and Gataraga sectors. During this period, the TRS program allocated significant resources to enhancing electricity infrastructure, reinforcing its commitment to improving energy access in these regions. In Kinigi, funds were used to expand and upgrade power transmission networks, including the installation of new lines and substations to increase reliability and coverage. Similarly, in Gataraga, investments focused on developing transmission infrastructure to address lower electricity access and provide more consistent and reliable energy sources.

These investments demonstrate the TRS program's active role in bolstering energy access and improving the quality of life for residents through the development of essential infrastructure in both sectors.

Table 2: Power transmission lines funded by TRS in Kinigi and Gataraga Sectors

Transformer Name	Year	Power	Location	Line	Budget
Pl Gataraga	2015	50kva/400v	Gataraga	Rubindi Cell	7,000,000 RWF
Gataraga 40	2016	100kva/400v	Gataraga	Murago Cell	7,000,000 RWF
Nyonirima	2017	100kva/242v	Kinigi	Nyonirima Cell	7,000,000 RWF

Source: Field survey, August 2023

From 2015 to 2017, the TRS program funded the installation of three electric power transmission lines in the Kinigi and Gataraga sectors. In Gataraga, a total of 14,000,000 RWF was invested across two power lines: one in Rubindi Cell with a 50kva/400v transformer in 2015, and another in Murago Cell with a 100kva/400v transformer in 2016. In Kinigi, a 100kva/242v transformer was installed in Nyonirima Cell in 2017, with an investment of 7,000,000 RWF.

These infrastructure improvements were aimed at expanding the power supply and improving electricity reliability, thus contributing to better energy access and enhanced living conditions in these communities.

4.1.1.d. Transport in Musanze District

In Musanze District, vehicle ownership is markedly low compared to national averages, reflecting a significant reliance on alternative transportation methods. Only 10.6% of the population owns bicycles, which is below the national average of 15.8%. Motorcycle ownership is even less common, with only 0.4% of residents owning motorcycles, compared to the national average of 0.9%. Car ownership stands at a modest 0.8%, aligning with the national average of 0.8%. This data indicates that personal vehicle ownership in Musanze District is limited, suggesting that most residents depend on other forms of transportation, such as walking or using public transit, due to the low prevalence of private vehicles. This disparity highlights the need for improved transportation infrastructure and accessibility in the district.

The figure below demonstrates the investment in feeder road projects with bridges in the Kinigi and Gataraga sectors from 2014 to 2021. In Kinigi Sector, a total of 7,701,116 rwfs was allocated for the construction of these infrastructure projects. Similarly, the Gataraga Sector received 9,271,228 rwfs for its road and bridge development. These investments highlight a significant effort to improve transportation infrastructure, which is crucial for enhancing connectivity and supporting local development in these sectors.



Figure 10: Bridge infrastructure constructed by TRS funds in Gataraga Sector

Source: Field survey, February 2023

The survey results indicate strong support for the TRS program's impact on infrastructure in both Kinigi and Gataraga sectors. In the Kinigi sector, 70% of respondents firmly acknowledge and 30% acknowledge the program's significant contribution to the construction of feeder roads. This enhancement in market transportation is perceived as highly beneficial by the community, reflecting the program's effectiveness in improving access and connectivity for local markets.

Similarly, in the Gataraga sector, 67% of respondents firmly believe and 33% believe that the TRS program has positively influenced road infrastructure. This improvement in rural road conditions has notably enhanced community transportation. These results underscore the program's successful role in boosting road connectivity and facilitating better transportation within the sector.

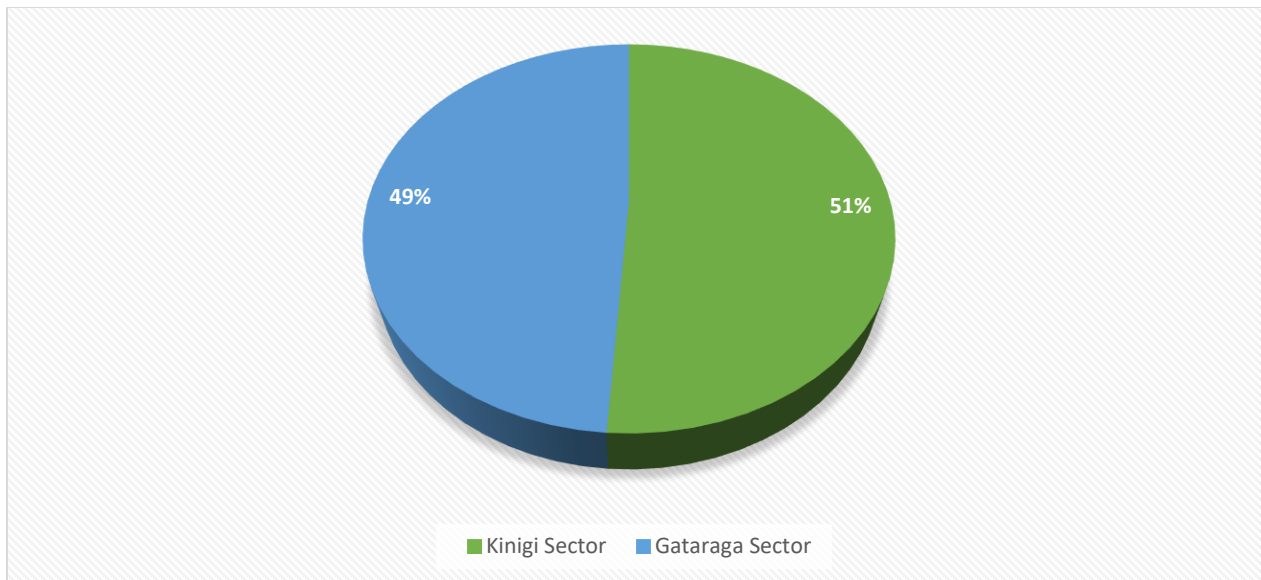


Figure 11: Transport infrastructures in Kinigi and Gataraga Sectors

Source: Field survey, June 2023

4.1.1.e. Housing improvement in Musanze District

The survey results indicate strong support for the TRS program's impact on infrastructure in both Kinigi and Gataraga sectors. In the Kinigi sector, 70% of respondents firmly acknowledge and 30% acknowledge the program's significant contribution to the construction of feeder roads. This enhancement in market transportation is perceived as highly beneficial by the community, reflecting the program's effectiveness in improving access and connectivity for local markets.

Similarly, in the Gataraga sector, 67% of respondents firmly believe and 33% believe that the TRS program has positively influenced road infrastructure. This improvement in rural road conditions has notably enhanced community transportation. These results underscore the program's successful role in boosting road connectivity and facilitating better transportation within the sector.



Figure 12: House constructed for Mukamuganga by TRS in Kinigi Sector

Source: Field survey, April 2023

Between 2010 and 2022, the TRS program made significant investments in housing projects for low-income families to address human security concerns. The program allocated 125,026,070 rwfs in the Kinigi sector and 63,001,374 rwfs in the Gataraga sector for these initiatives.

Survey results reflect a strong positive perception of the program's impact. In the Kinigi sector, 81% of respondents fully acknowledge that the TRS program has been crucial in providing better housing for the poor living near the park, while 19% acknowledge its benefits, and only 1% disagree. The program has also contributed to eliminating traditional temporary shelters, known as Nyakatsi homes, thereby supporting local authorities in their housing improvement efforts.

In the Gataraga sector, 79% of respondents fully agree and 21% agree that the TRS initiative has enhanced living conditions for residents in nearby villages. This widespread agreement highlights the program's success in improving housing and living standards in both sectors.

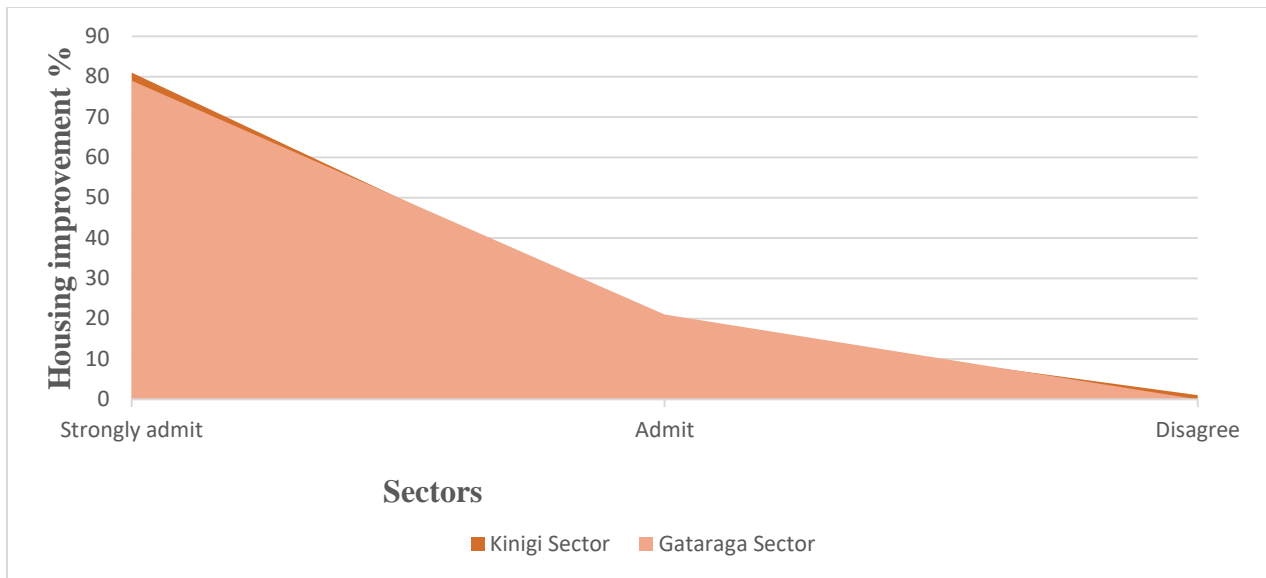


Figure 13: Housing improvement in Kinigi and Gataraga Sectors

Source: Field survey, June 2023

4.1.1.f. Agriculture and Livestock in Musanze district

In Musanze District, agriculture is a dominant economic activity, with 66.3% of the population engaged in this sector. This includes 59.4% involved in crop cultivation and 44.4% in livestock farming, as reported by (NISR, 2022). The sector's significance is particularly evident in rural areas, with agriculture activities prevalent in Gashaki (93.6%), Rwaza (91.2%), and Remera (91%). The variety of crops grown by private households encompasses corn, sorghum, wheat, beans, soybeans, cassava, sweet potatoes, Irish potatoes, yams, bananas, vegetables, and fruits. Livestock farming is also widely practiced, with cattle, goats, sheep, pigs, rabbits, and chickens being the most commonly raised animals in the district.

The TRS program has had a positive impact on agriculture in Kinigi, as evidenced by the increased market activity resulting from program interventions. Between 2007 and 2022, significant investments were made in agriculture and livestock projects in Kinigi. Specifically, 53,592,286 rwfs was allocated to agriculture projects, while 37,500,000 rwfs was dedicated to livestock initiatives. These investments reflect the program's commitment to enhancing agricultural productivity and supporting livestock development.

In contrast, the Gataraga sector received 25,715,927 rwfs for agriculture and 40,423,439 rwfs for livestock projects during the same period. The higher allocation for livestock in Gataraga compared to agriculture underscores a focus on balancing support for both sectors, which may reflect the sector's unique agricultural and livestock needs.

Overall, the TRS program's investments have contributed to significant improvements in both crop cultivation and livestock management in Musanze District, driving economic development and enhancing market conditions in the Kinigi sector.



Figure 14: Agriculture activities in Kinigi Sector

Source: Field survey, April 2023

According to Figure 15, a significant majority of respondents in the Kinigi sector recognize the benefits of the TRS initiatives on agriculture. 79% of respondents wholeheartedly acknowledge that the program has notably improved farm activities, leading to increased market presence. Further, 21% of respondents also acknowledge these improvements, highlighting the positive impact of the program on the sector's agricultural development.

In the Gataraga sector, 68% of respondents fully acknowledge that the TRS program has enhanced agriculture-related activities, while 32% also recognize these improvements. Although 1% of

respondents disagree with this view, indicating a small minority with divergent opinions, this disagreement does not significantly detract from the overall positive perception of the program's impact in the sector. The general consensus points to a substantial benefit from the TRS initiatives in advancing agricultural activities and market integration in both Kinigi and Gataraga sectors.

The following quote illustrates the impact of the TRS program on agricultural improvements in Kinigi, while highlighting the challenges faced by farmers in Gataraga and the need for targeted support:

“Agricultural activities in Kinigi sector have seen significant improvements due to the TRS program, resulting in increased crop yields and enhanced farming practices among local farmers. This progress has contributed to economic growth and food security in the area. In contrast, Gataraga sector has experienced fewer notable advancements, with many farmers still facing challenges such as limited access to resources, training, and market opportunities. This disparity underscores the need for targeted support in Gataraga to ensure all farmers can benefit from the program and enhance their agricultural productivity.”

The summary highlights that while the TRS program has significantly boosted agricultural productivity and food security in Kinigi, farmers in Gataraga continue to face challenges, emphasizing the necessity for targeted support to ensure equitable benefits for all.

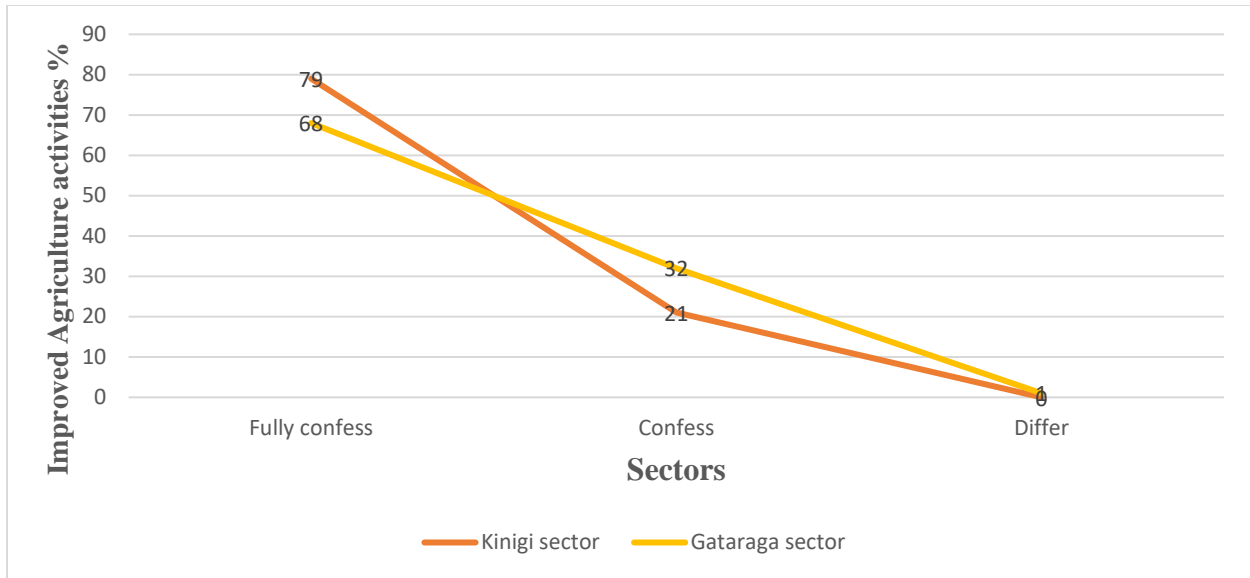


Figure 15: Improved agriculture activities with TRS in Kinigi and Gataraga Sectors

Source: Field survey, June 2023

As detailed in Figure 16, the data reveals that in the Kinigi sector, 78% of respondents solidly believe that the TRS program has significantly improved livestock activities. An additional 22% also believe in these improvements. This positive impact is attributed to the efforts of local cooperatives, such as "Ubumwenizombaraga," which have played a key role in enhancing livestock operations in the sector.

Similarly, in the Gataraga sector, 73% of respondents fully assume that the TRS program has positively affected livestock operations, while 27% also assume this benefit. The involvement of cooperatives like KOKAPA has been crucial in supporting and advancing livestock activities in Gataraga. It is important to note that maintaining cattle requires consistent daily care and attention, which underscores the commitment of these cooperatives to improving livestock management and supporting local farmers.

The following quote discusses the impact of the TRS program on housing conditions in Kinigi and Gataraga, highlighting both the progress made and the ongoing challenges faced by some residents:

“The TRS program has positively impacted housing conditions in both Kinigi and Gataraga sectors. In Kinigi, residents have experienced significant upgrades to their living environments, leading to safer and more stable homes. This improvement has fostered a better quality of life for many families. However, in Gataraga, while some advancements have been made, challenges remain, with certain families still facing issues related to inadequate housing. This situation underscores the need for continued efforts to ensure that all community members benefit from housing improvements, which are essential for overall well-being.”

The quote summarizes that while the TRS program has significantly improved housing conditions in Kinigi, challenges persist in Gataraga, highlighting the need for ongoing efforts to ensure all families benefit from these enhancements.

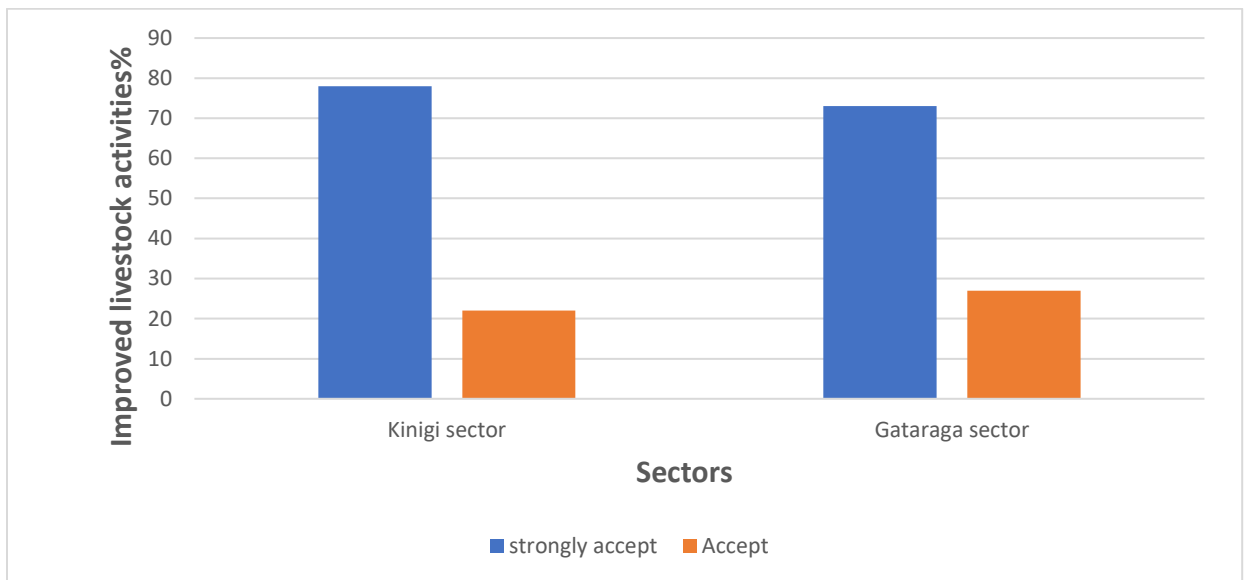


Figure 16: Improved livestock activities in Kinigi and Gataraga Sectors

Source: Field survey, June 2023

Figure 17 highlights the beekeeping projects undertaken by the KOKAPA cooperative in Mudakama village within the Gataraga sector. These projects, which are part of a broader initiative to enhance agricultural practices, have been supported by TRS funding. The visual representation underscores the cooperative's commitment to developing beekeeping as a valuable agricultural activity in the region.

Between 2013 and 2021, beekeeping projects in the Gataraga sector, led by the KOKAPA and KOAREVO cooperatives, received a total of 11,353,919 rwfs from TRS funds. This substantial financial support has been crucial in establishing and expanding beekeeping operations, which can contribute to increased honey production and promote environmental sustainability through pollination. The investment reflects a strategic effort to diversify agricultural activities, improve local livelihoods, and support sustainable farming practices in Gataraga. The focus on beekeeping not only aids in economic development but also enhances ecological balance and agricultural resilience in the sector.



Figure 17: Beekeeping project near VNP by KOKAPA Cooperative in Gataraga Sector

Source: Field survey, March 2023

4.1.1.g. Private sector development and youth productivity and employment in Musanze district

In Musanze District, the TRS program has played a critical role in advancing both private sector development and youth employment, particularly in rural areas. By focusing on empowering local talents and supporting small-scale industries, the initiative has catalyzed economic transformation in communities that previously faced limited opportunities. As one participant from Gataraga explained.

The following quote illustrates how the TRS program has significantly contributed to youth employment and private sector development in Musanze District, particularly through local craftsmanship initiatives:

“The TRS program has been instrumental in supporting youth employment and private sector development in Musanze District. With significant investments in local craftsmanship, such as handcrafts and sculptures, the program has not only created jobs but also strengthened the local economy. For many of us, especially in Gataraga, this support has given us the opportunity to turn our skills into sustainable livelihoods, helping us to thrive in our own communities.”

The quote highlights that the TRS program has notably enhanced youth employment and private sector growth in Musanze District through initiatives supporting local craftsmanship.

From 2009 to 2022, the TRS program provided 42,777,357 rwfs in Kinigi Sector to support private sector activities and youth employment in Musanze District. This substantial investment highlights the program’s dedication to bolstering economic opportunities and addressing employment challenges in the region.

This quote reflects the impact of the TRS program on youth employment and private sector development, particularly in fostering local craftsmanship and economic resilience.

The employment situation in Musanze District reveals that a significant majority, 82.4%, of the population is engaged in some form of work. Among these, 45.4% are independent farmers, reflecting the district's reliance on agriculture as a primary livelihood source. In addition, 15% of the employed population works in wage farming, while 25.8% are involved in wage non-farming

occupations, indicating a diverse employment landscape with a mix of agricultural and non-agricultural wage jobs (NISR, 2022).

The unemployment rate differs between urban and rural areas, with urban areas experiencing a higher rate of 3.1% compared to 2.0% in rural areas. Additionally, the unemployment rate is slightly higher among females (2.0%) compared to males (1.9%). These variations suggest that while rural areas generally fare better in terms of employment, urban areas and female job seekers face more challenges (NISR, 2022).

Employment in Musanze District is predominantly in the private informal sector, where 76.6% of the workforce is employed. This figure is notably higher than the national average of 69.5%, reflecting a strong reliance on informal sector jobs. In contrast, employment in the private formal sector is lower at 10.7%, which is below the national average of 16.2% (NISR, 2022). This disparity indicates a need for increased formal sector job creation to balance the employment landscape.

Figure 18 provides insight into the impact of TRS funding on local economic activities, specifically through investments in employment products such as handcrafts, sculptures, and painting. The data shows that 30,000,000 rwfs in Gataraga Sector was allocated to these sectors in the Gataraga sector, aimed at fostering local craftsmanship and creative industries. This investment not only supports artistic endeavors but also contributes to job creation and economic development in the region. The focus on handcrafts and related activities underscores the program's role in promoting diverse employment opportunities and enhancing local economic resilience.



Figure 18: Handcrafts activities in Kinigi Sector

Source: Field survey, April 2024

Figure 19 illustrates the perception of the TRS program's impact on local employment opportunities in the Kinigi and Gataraga sectors. In the Kinigi sector, 88% of respondents greatly trust that the TRS program, initiated in 2005, has significantly enhanced local employment opportunities. An additional 11% trust this assessment, reflecting a strong overall belief in the program's effectiveness in creating jobs and boosting economic activity within the sector.

In contrast, the Gataraga sector shows a somewhat more varied response. 58% of respondents powerfully agree that the TRS program has improved local employment opportunities, while 36% also agree with this view. This indicates a generally positive perception of the program's impact on employment. However, 6% of respondents disagree with the notion that the benefits of the TRS program are widely distributed, suggesting that they believe only cooperative members are reaping the rewards. This minority opinion highlights concerns about the inclusivity and equity of the program's benefits, pointing to a need for addressing perceptions of uneven distribution of employment opportunities

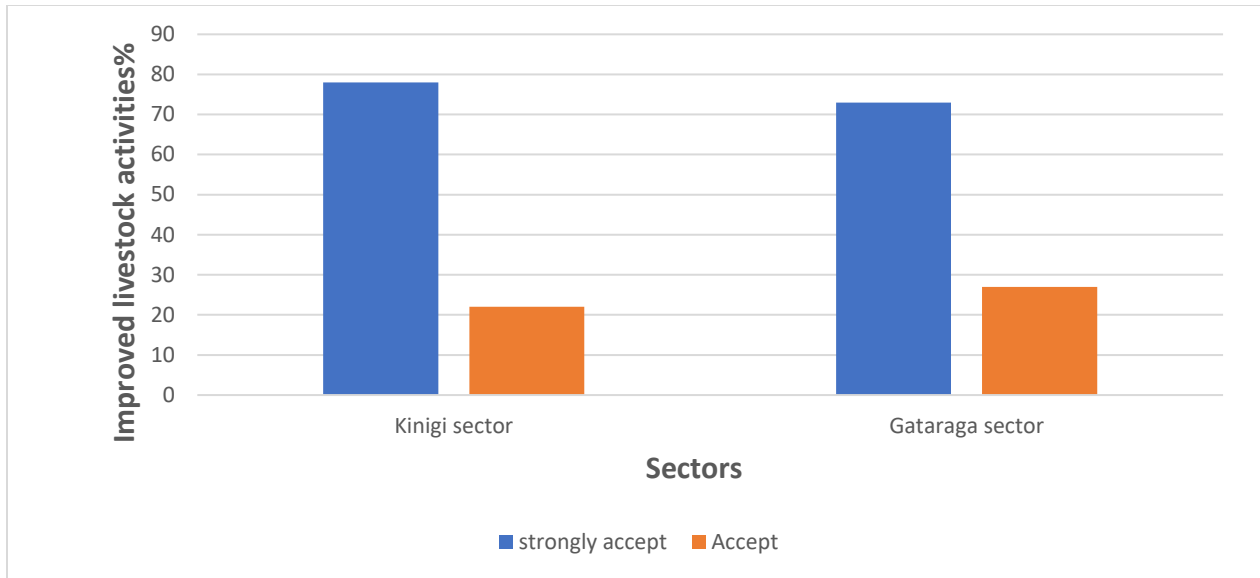


Figure 19: Improved local employment opportunities by TRS program in Kinigi and Gataraga Sectors

Source: Field survey, June 2023

4.1.1.h. Conservation and Management history about VNP

The conservation of Volcanoes National Park (VNP) has undergone significant changes over the years, with a growing recognition that sustainable management requires the active participation of local communities. In the past, the exclusion of these communities often resulted in environmental challenges, but recent efforts have fostered a more collaborative approach. As one community member involved in conservation efforts highlights:

“The history of Volcanoes National Park shows that conservation and local community involvement must go hand in hand. In the past, the exclusion of local communities led to serious environmental degradation, but today, through programs like TRS, we are working together to protect VNP. The construction of the park's wall stone, especially in Kinigi and Gataraga, is a great example of how local cooperatives and RDB are collaborating to safeguard our natural heritage for future generations.”

This quote captures the essence of the complex conservation history and the modern shift towards community-inclusive approaches, emphasizing the TRS program's role in the park's preservation.

The political history of protected areas in East Africa, particularly in Rwanda, reflects a complex interplay of conservation efforts and local community involvement. The journey began with the establishment of Albert National Park by Belgium, which aimed to create a new model for conservation and management. Unfortunately, this model overlooked the traditional management practices of the local population, leading to significant challenges in integrating local knowledge and practices into conservation efforts.

In Rwanda, the creation of Volcanoes National Park (VNP) followed a similar trajectory. The park's establishment initially excluded local communities, resulting in a dramatic reduction in the park's size and a decline in certain species. Between 1958 and 1973, VNP experienced a substantial 49% reduction in its total area, reflecting the adverse impacts of this exclusionary approach on both the environment and local biodiversity.

The establishment of the National Office of Tourism and National Parks (ORTPN) in 1973 marked a shift towards strengthening the management and conservation of protected areas in Rwanda. With support from international cooperation, ORTPN played a key role in stabilizing conservation efforts and managing VNP from 1974 to 1990 (Mugabowindekwe & Rwanyiziri, 2022). However, this period of relative stability was interrupted by significant challenges from 1990 to 1999, including the war in 1990 and the Tutsi Genocide in 1994. The region also faced instability due to infiltration movements by ex-FAR and terrorists from Congo, which had ecological repercussions for VNP (Mugabowindekwe & Rwanyiziri, 2022).

Despite these difficulties, the restructuring of ORTPN in 2002 was pivotal in advancing conservation efforts. The reformed approach emphasized the integration of local communities and stakeholders, recognizing their critical role in the sustainable management of protected areas. This shift towards inclusive management marked a significant improvement in conservation practices, reflecting a more holistic and collaborative approach to protecting Rwanda's natural heritage.

Figure 20 details the TRS program's investment in conservation activities aimed at addressing concerns related to the protection of Volcanoes National Park (VNP). From 2016 to 2022, the program funded significant projects to enhance the park's conservation infrastructure, specifically

focusing on the construction and reinforcement of the VNP wall stone, which serves as a vital barrier to protect the park's boundaries and its unique biodiversity.

In the Kinigi sector, 7,086,226 rwfs was allocated to these conservation efforts. This funding facilitated the construction and fortification of the VNP wall stone, involving various local cooperatives working in partnership with the Rwanda Development Board (RDB). The investment in Kinigi reflects the sector's role in contributing to the park's conservation goals and highlights the collaborative approach taken to address environmental challenges.

In contrast, the Gataraga sector received a more substantial allocation of 15,612,503 rwfs for similar conservation initiatives. The larger investment in Gataraga suggests a higher priority or greater need for conservation infrastructure in this area. This funding supported extensive efforts to strengthen the park's boundaries and improve overall protection measures, underscoring the critical role of Gataraga in safeguarding VNP.

The TRS program's financial commitment to these activities not only demonstrates its dedication to preserving the park's ecological integrity but also highlights the effective partnership between local cooperatives and RDB. By enhancing the VNP wall stone, the program aims to fortify the park against external threats, thereby contributing to the long-term conservation and management of Rwanda's invaluable natural resources.



Figure 20: VNP buffer wall stones maintained by Cooperatives in Gataraga Sector

Source: Field survey, February 2023

Figure 21 presents data on the perceived impact of TRS programs on conservation activities in the Kinigi and Gataraga sectors.

In the Kinigi sector, 80% of respondents fully reveal that the TRS programs have made a significant contribution to conservation efforts. An additional 19% reveal a similar positive view, indicating widespread acknowledgment of the program's benefits. Only 1% of respondents did not align with this positive assessment. These outcomes highlight the crucial role of local cooperatives residing near the park, whose efforts have evidently amplified the impact of TRS programs on conservation activities.

In the Gataraga sector, 81% of respondents strongly accept that the TRS programs have had a substantial impact on conservation activities, with 18% also revealing agreement with this assessment. This strong positive response reflects the effective involvement and dedicated efforts of conservation cooperatives in the Gataraga area. The high level of recognition of the program's benefits underscores the significant strides made in enhancing conservation practices through collaborative efforts.

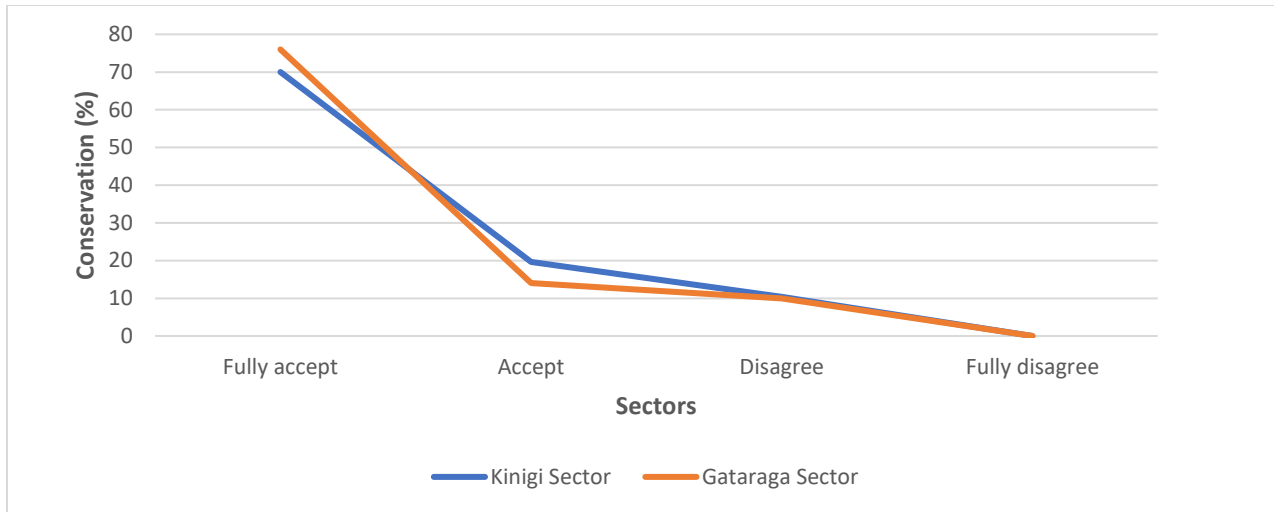


Figure 21: Conservation improvement by local community living near VNP

Source: Field survey, June 2023

4.2. Constraints and challenges facing tourism revenue sharing distribution with local community living around VNP

Positive impacts on local communities living around VNP were faced the findings; however, the constraints and challenges about TRS distribution up to the present time occurs.

The data presented in Figure 22 highlights respondents' opinions on TRS (Tourism Revenue Sharing) initiatives and their communication to local residents near the park, specifically in the Kinigi and Gataraga areas. In the Kinigi sector, a significant majority of respondents believe that TRS programs have successfully improved conservation efforts. However, there is a noted gap in communication about these projects. Despite this, cooperatives near the park have played a crucial role in these positive outcomes, although only a small percentage of people hold this view.

In contrast, TRS programs have a clearly positive impact on conservation efforts in Gataraga. The majority of respondents in this area think that TRS programs have notably enhanced conservation in the sector. This success is largely attributed to the involvement and contributions of cooperatives that work closely with the Rwanda Development Board (RDB) in Gataraga.

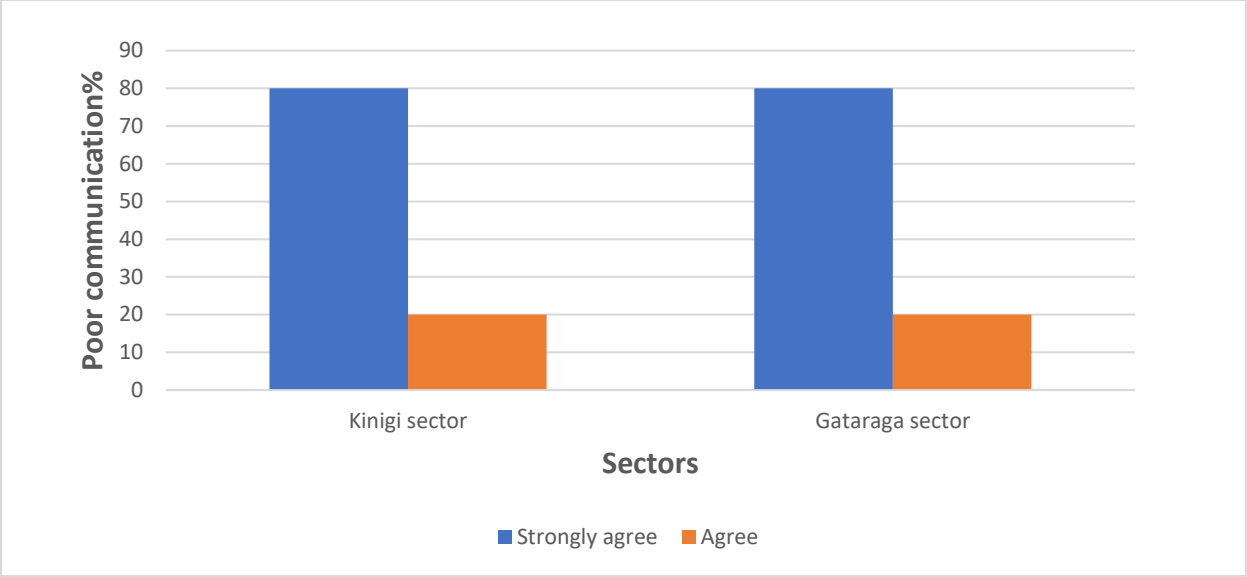


Figure 22: Poor communication about TRS programs in Kinigi and Gataraga Sectors

Source: Field survey, June 2023

Figure 23 highlights significant concerns regarding the support provided to cooperatives in the Kinigi and Gataraga sectors for essential conservation activities, particularly in relation to constructing a national park fencing wall and obtaining insurance coverage for accidents caused by animals entering the park.

In the Kinigi sector, 88% of respondents strongly admit that cooperatives have received inadequate support for constructing the fencing wall essential for park conservation and protection. This lack of necessary materials for the fencing wall is seen as a major shortfall, impacting the effectiveness of conservation efforts. Additionally, the respondents pointed out that cooperatives did not receive any insurance coverage for accidents involving animals entering the park, further compounding the challenges faced by these cooperatives. Only 12% of respondents accept the viewpoint that support levels were sufficient.

In the Gataraga sector, 58% of respondents greatly believe that cooperatives similarly did not receive adequate support for constructing the fencing wall, with 42% also agreeing with this assessment. Like in Kinigi, Gataraga cooperatives faced challenges in obtaining necessary materials for the fencing wall and lacked insurance coverage for accidents caused by animals.

These findings reflect a broader issue of inadequate support for cooperatives in both sectors, highlighting a need for improved provision of essential infrastructure materials and insurance coverage. Addressing these limitations is crucial for enhancing the effectiveness of conservation activities and ensuring the safety and well-being of those involved in managing and protecting the national park.

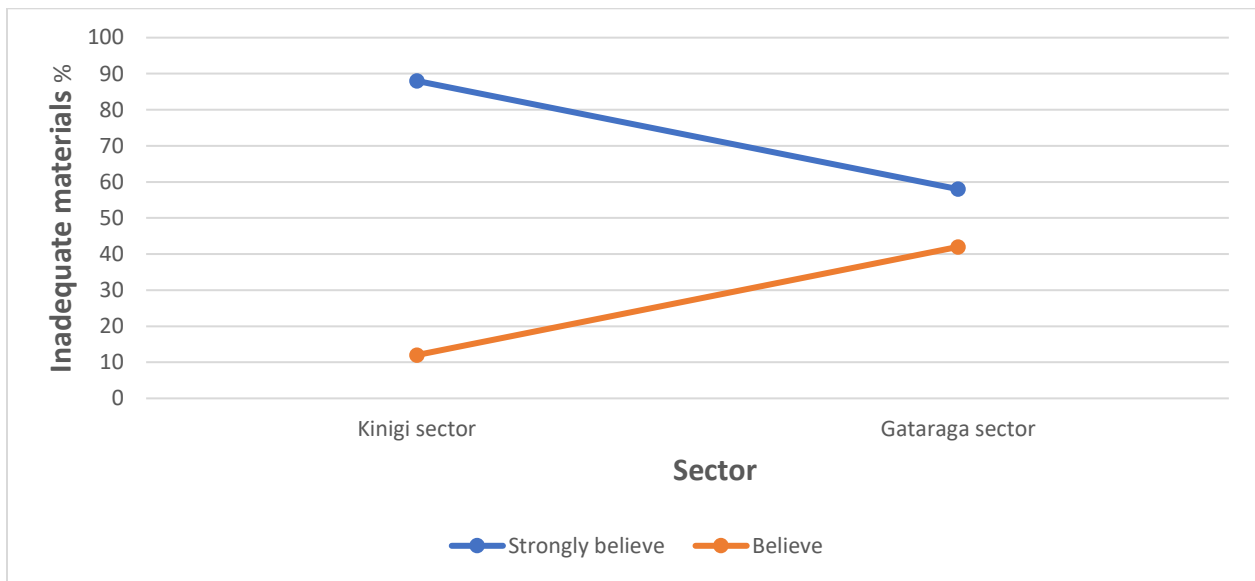


Figure 23: Inadequate materials for conservation in Kinigi and Gataraga Sectors

Source: Field survey, June 2023

Figure 24 illustrates the respondents' views on the adequacy of funding from TRS programs in the Kinigi and Gataraga sectors. In the Kinigi sector, 54% of respondents powerfully accept that the current funding provided by the TRS program is insufficient, while 46% also accept this perspective. They emphasize the need for an increase in financial support from the Rwanda Development Board (RDB) to ensure that each cooperative receives adequate funding annually. This boost in funding is deemed necessary for cooperatives to meet their financial requirements and sustain their operations effectively, thereby enhancing the overall impact of conservation and development efforts in the sector.

In the Gataraga sector, 58% of respondents firmly admit that the funding from the TRS program may also be inadequate, with 42% agreeing with this assessment. They advocate for a funding increase of approximately 15%, noting that the current level of support does not align with the

prevailing economic conditions and the cost of living. This proposed adjustment is intended to better match the economic realities and provide sufficient support for cooperatives to effectively carry out their activities and address their financial needs.

Overall, these findings underscore a common concern across both sectors regarding the need for enhanced funding to ensure the effectiveness and sustainability of TRS program initiatives. Addressing these funding gaps is crucial for improving the support provided to cooperatives and achieving the program's conservation and development goals.

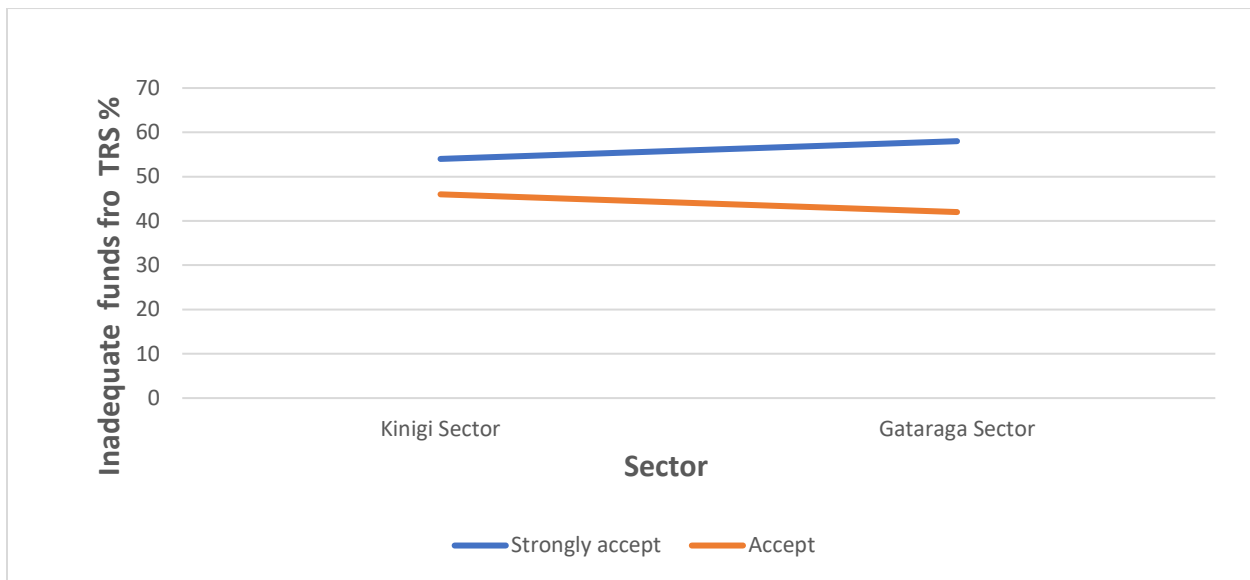


Figure 24: Inadequate funds from TRS scheme in Kinigi and Gataraga Sectors

Source: Field survey, June 2023

4.2.1. Poverty among local people

Poverty reduction is a key strategy in enhancing both human well-being and environmental conservation around protected areas like Volcanoes National Park. The government's efforts to improve living conditions for communities surrounding the park have proven effective in curbing environmentally harmful practices, as one local resident explains:

“The government’s focus on poverty reduction around Volcanoes National Park has been crucial in curbing illegal activities like poaching and bamboo cutting. By providing alternative income sources and improving our living conditions, we now have fewer reasons to engage in these harmful practices. This approach has not only improved our livelihoods but has also strengthened our commitment to protecting the park for future generations.”

This quote emphasizes the link between poverty reduction, community well-being, and successful conservation efforts, capturing the impact of the government's approach on local residents.

Based on the findings, the Government of Rwanda, through the Rwanda Development Board (RDB), has implemented effective conservation measures that have significantly addressed the challenges faced by communities residing around Volcanoes National Park (VNP). A notable improvement is the increase in shared tourism revenues, which has positively impacted the study areas by providing much-needed financial benefits to local communities.

These conservation efforts have led to a marked reduction in illegal activities, such as poaching and unauthorized beekeeping. The government's strategy of addressing poverty in these regions has been instrumental in diminishing the incentive for local residents to engage in illicit activities. By improving economic conditions and offering alternative sources of income, the government has effectively tackled one of the root causes of such behaviors.

The proactive measures taken by the government and RDB underscore their commitment to sustainable conservation and community development. The provision of alternative income opportunities and support reflects a balanced approach to conservation that considers both

environmental protection and community well-being. These findings highlight the success of the government's initiatives in enhancing conservation efforts while addressing underlying socio-economic issues.

Overall, Rwanda's approach serves as a commendable example of how integrating community empowerment with conservation goals can achieve positive outcomes. By prioritizing both environmental sustainability and the improvement of local livelihoods, Rwanda demonstrates a model for balancing conservation objectives with the needs of its people.

Figure 25 highlights the significant threats to conservation in Volcanoes National Park (VNP) from 2015 to 2020, including illegal activities such as poaching, bamboo cutting, honey collection, grass cutting, wood cutting, water collection, and the presence of feral dogs. These activities have historically posed considerable risks to the park's ecological balance and biodiversity.

However, over time, there has been a notable reduction in these illegal activities, thanks to the collective efforts of the Rwanda Development Board (RDB), local government leaders, and the surrounding community. The successful decrease in illegal activities can be attributed to the implementation of several key measures. Enhanced information sharing and collaboration among stakeholders have been pivotal in this process. Regular meetings have been organized to increase awareness among the local population about the importance of conservation and the sustainable management of the park.

The active involvement of local communities in the conservation process has fostered a sense of shared responsibility and commitment to protecting the park. These efforts by RDB and its partners have led to improved conservation outcomes and a significant reduction in the threats previously faced by VNP. By addressing the root causes of illegal activities and engaging the local population in conservation efforts, the authorities have effectively mitigated the challenges and enhanced the overall protection of the park's natural resources.

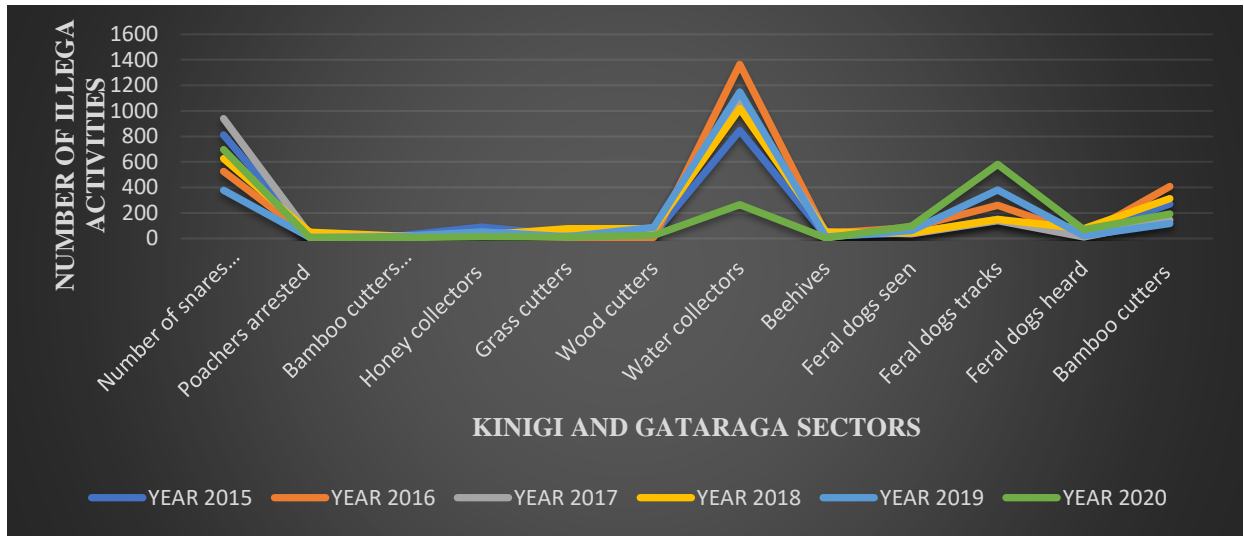


Figure 25: Illegal activities inside the VNP in Kinigi and Gataraga Sectors

Source: RDB, June 2023

The results underscore the importance of adopting a comprehensive strategy to effectively tackle conservation threats. This approach must include community involvement, rigorous enforcement, and proactive awareness-raising campaigns. The success in reducing illegal activities in Volcanoes National Park (VNP) is a testament to the collaborative efforts of various stakeholders working together to preserve the park’s biodiversity and ensure its long-term sustainability.

By integrating these elements, stakeholders have managed to address the risks associated with illegal activities and foster a shared commitment to conservation. The reduction in threats is not only a result of enforcement measures but also reflects the success of engaging the local community and raising awareness about the importance of protecting natural resources. This holistic strategy demonstrates how effective conservation can be achieved through combined efforts and a focus on both people and nature.

4.2.2. Human-wildlife conflicts

Human-wildlife conflicts remain a persistent challenge for communities living near protected areas, such as Volcanoes National Park. Despite efforts to mitigate the impact, such as building buffalo walls and providing compensation through the Special Guarantee Fund, farmers still face significant losses to wildlife. As one local farmer shares their experience:

“Crop raiding by wildlife, especially buffaloes and monkeys, continues to be a serious problem for us farmers living near the park. Even with the buffalo walls and compensation from the Special Guarantee Fund, many of us are seeing our land’s productivity drop, and some have even stopped farming altogether. We need more effective solutions, like the park extension project, to protect our crops and help us coexist with the wildlife.”

This quote captures the ongoing challenges faced by farmers due to human-wildlife conflicts while emphasizing the need for improved strategies and initiatives like the park extension project.

Human-wildlife conflicts, encompassing adverse interactions between humans and wildlife, remain a persistent issue, as highlighted by respondents. Crop raiding is a significant challenge for farmers living near Volcanoes National Park (VNP), directly impacting their livelihoods and complicating conservation efforts. Additionally, wildlife hunting contributes to the destruction of agricultural crops and plantations, exacerbating these conflicts.

The situation is further strained in areas with high population density, where land regulations and associated costs limit the implementation of effective pastoral animal management practices. Despite measures such as the construction of buffalo walls around the park and the intervention of the Special Guarantee Fund (SGF) to compensate victims of wildlife-related damage, agricultural raiding continues to have a significant negative impact.

Data collected by the Rwanda Development Board (RDB) reveal an increase in human-wildlife conflict incidents in the Gataraga and Kinigi sectors from 2015 to 2021. This trend underscores the ongoing challenges in mitigating human-wildlife conflicts and highlights the need for continued and enhanced strategies to address these issues effectively.

These findings underscore the persistent challenges in mitigating human-wildlife conflicts and highlight the need for comprehensive strategies to address these issues effectively. To promote coexistence between humans and wildlife while safeguarding local livelihoods, efforts should focus on developing and implementing measures that address the underlying causes and patterns of human-wildlife conflicts. Understanding these dynamics will help in creating appropriate interventions to minimize conflicts and foster a harmonious relationship between humans and wildlife in the region.

From 2013 to 2016, TRS allocated 12,598,455 rwfs for crop-raiding projects in the Kinigi sector to address human-wildlife conflicts, alongside 7,468,596 rwfs in revenue-sharing funds in the Gataraga sector under the TRS scheme (RDB, 2024). Despite these efforts, data illustrate a troubling upward trend in crop raiding incidents by wildlife, including buffaloes, gorillas, and monkeys, on farms adjacent to the park from 2013 to 2021. The Special Guarantee Fund (SGF) has provided compensation for damages, yet local communities report a decline in land productivity. In the Kinigi sector, some farmers have even ceased agricultural and forestry activities due to these ongoing challenges.

In response, the Rwanda Development Board (RDB) has launched a park extension project designed to mitigate crop raiding by establishing a buffer zone between the park and community lands. This initiative aims to reduce human-wildlife conflicts and protect the agricultural yield of local farmers. The success of this project will depend on effective execution and cooperation among park authorities, local government, and the community. The anticipated outcome is a reduction in crop raiding incidents, contributing to a more balanced relationship between wildlife conservation and agricultural practices in the region.

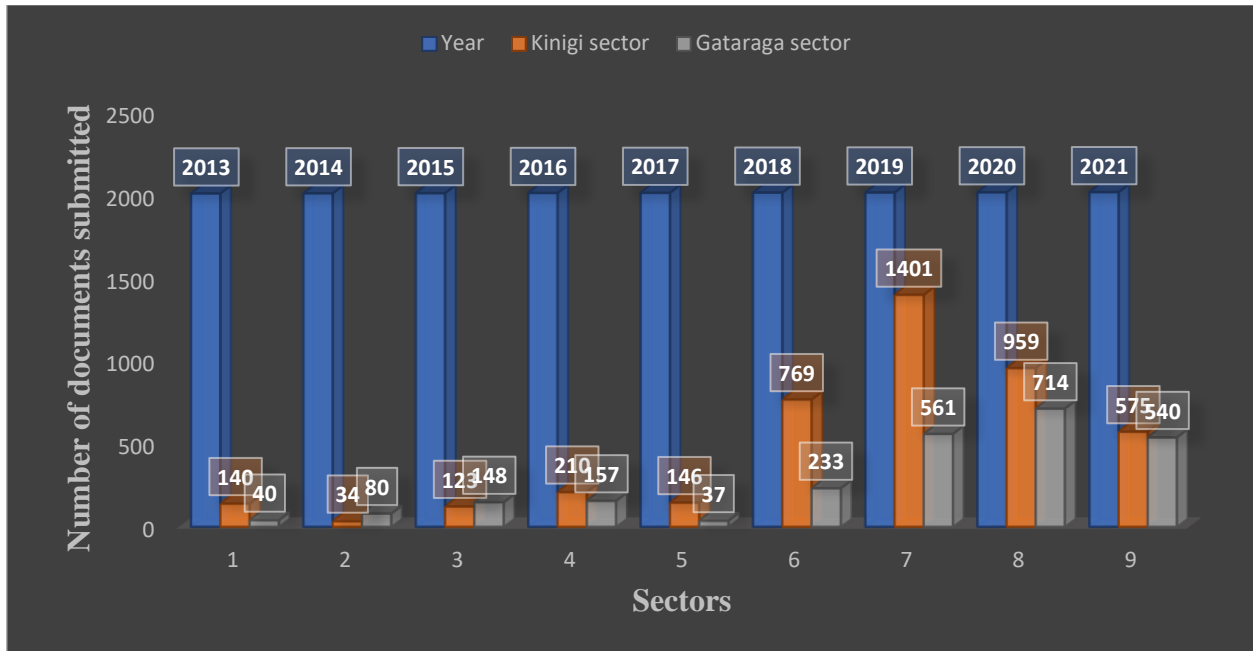


Figure 26: Crop raiding documents submitted to SGF for compensation from 2013-2021

Source: RDB, June 2023

The information underscores the persistent challenges posed by crop raiding by wildlife in areas surrounding the park, despite existing compensatory measures. The park extension and buffer zone project implemented by the Rwanda Development Board (RDB) represents a crucial initiative aimed at addressing these issues. By establishing a buffer zone between the park and agricultural lands, the project seeks to minimize crop raiding incidents and foster a sustainable coexistence between local agricultural activities and wildlife conservation efforts. This proactive approach is essential for balancing the needs of both the local communities and the conservation goals, ultimately promoting a harmonious relationship between humans and wildlife.



Figure 28: Crop raiding by buffaloes from VNP in Gataraga Sector

Source: Field survey, March 2023

4.2.3. COVID-19 Pandemic Challenge to Rwanda Tourism Revenues

The COVID-19 pandemic had a profound impact on Rwanda's economy, with the tourism sector being one of the hardest affected. Volcanoes National Park, a premier tourist attraction known for its mountain gorillas, experienced a sharp decline in visitor numbers during the pandemic. This drop not only resulted in a significant loss of revenue for the park but also severely affected the livelihoods of employees and various stakeholders within the tourism industry. Local businesses that depend heavily on tourism such as hotels, restaurants, and tour operators suffered considerable income losses, further straining the communities that rely on tourism-related activities for their economic well-being. The broader economic benefits that previously flowed from the steady influx of tourists were drastically reduced, exposing the sector's vulnerability to global disruptions. This situation underscores the urgent need for resilient recovery strategies and robust contingency plans to mitigate the effects of such crises in the future.

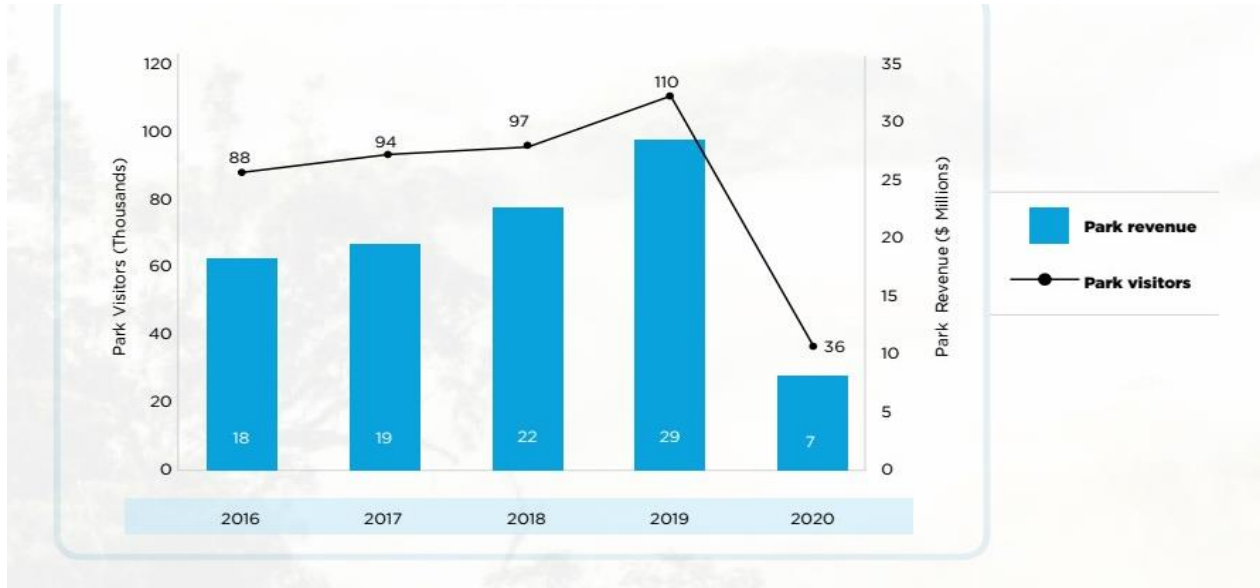


Figure 29: Rwanda Tourism Park Revenues from 2016-2020

Source: RDB 2020 annual report, 2020

The previous illustration highlights the Rwanda Development Board’s (RDB) 2020 annual report on Tourism Revenues (TR), which initially forecasted a promising growth trajectory for Rwanda’s tourism sector. The report projected a substantial increase in tourist arrivals, with an anticipated growth from approximately 980,000 visitors in 2008 to over 2 million by 2020, and foreign exchange earnings expected to exceed \$600 million. However, the COVID-19 pandemic severely disrupted these projections.

The pandemic’s travel restrictions, including border closures and travel bans, led to a sharp decline in international visitors to Rwanda. This sudden drop in tourist numbers had a significant impact on tourism revenues and jeopardized the sustainability of projects dependent on these funds. The previously optimistic growth trajectory was dramatically reversed, presenting substantial challenges to the sector’s development and the continuity of tourism-driven initiatives.

In response, the RDB has committed to supporting the recovery and revitalization of the tourism sector. Prioritizing visitor safety and well-being, the board has focused on innovative strategies to reignite tourism, including adaptive measures to navigate the ongoing effects of the pandemic. Emphasis is being placed on sustainable tourism practices and the development of unique attractions to attract future visitors.

By adhering to these principles, the RDB aims to rebuild the sector's momentum as global conditions improve and travel restrictions are lifted. The focus on sustainability and innovation is expected to play a critical role in re-establishing Rwanda as a leading tourism destination and working towards achieving the growth targets initially set for 2020.

4.3. The contribution of TRS policy in the implementation of the development projects

Spatial inconsistencies in how revenue-sharing benefits are distributed across the sectors of Volcanoes National Park can undermine the effectiveness of these initiatives in reducing unauthorized resource use. For the projects such as providing water tanks, employment opportunities, or educational programs to effectively mitigate pressure on protected area resources, they must be targeted at areas demonstrating the highest levels of unauthorized use. By focusing on sectors with significant illegal activities, such as poaching or unregulated resource harvesting, the program can address the root causes of these behaviors. For example, if high levels of poaching are driven by economic hardship, offering job alternatives in those specific areas could reduce illegal activities. Similarly, if inadequate access to clean water is contributing to resource misuse, installing water tanks in high-need sectors could help alleviate the pressure on park resources. Thus, ensuring that revenue-sharing projects are aligned with areas of greatest need is crucial for improving their impact on conservation and effectively reducing unauthorized resource use.

4.4. Alternatives Solutions

The feedback from respondents highlights several key areas for improving the TRS scheme to better support local communities around Volcanoes National Park (VNP).

Increasing Funding: Respondents recommended raising the percentage of TRS funds allocated to local communities from 10% to 15%. This adjustment aims to provide more substantial financial resources to address pressing needs and support local development projects. Increasing the funds

could enhance the capacity of the TRS scheme to tackle issues such as infrastructure improvements, livelihood support, and community resilience.

Involving Private Stakeholders and NGOs: There was a strong call for the involvement of additional private sector stakeholders and NGOs in the TRS program. By including these actors, respondents believe the policy framework could be strengthened, leading to more effective poverty reduction strategies and broader support for community development initiatives. This involvement could also bring in additional expertise, resources, and innovative solutions to address local challenges.

Expanding the Buffer Zone: Expanding the buffer zone around VNP was proposed as a solution to reduce human-wildlife conflicts, particularly crop raiding and other illegal activities. The creation of a larger buffer zone would provide a protective barrier between the park and agricultural lands, potentially decreasing incidents of wildlife damage and helping to secure the livelihoods of local farmers. This measure aims to enhance conservation efforts while mitigating the negative impacts on surrounding communities.

Local Involvement in Decision-Making: Respondents emphasized the importance of involving local communities in the selection and decision-making processes for TRS-funded projects. They believe that active participation in these processes would ensure that the projects more effectively address their specific needs and challenges. Involving locals could lead to more targeted and relevant interventions, increasing the overall effectiveness and acceptance of the TRS scheme.

These proposed enhancements reflect a comprehensive approach to improving the TRS scheme by increasing financial support, fostering collaboration with various stakeholders, addressing human-wildlife conflicts through strategic planning, and ensuring local community involvement in decision-making. Such measures are aimed at achieving a more balanced and effective conservation strategy that aligns with the needs and aspirations of the communities living around VNP.

4.5. Analysis of Study Findings

The study's findings were evaluated in line with its core objectives, focusing on the Tourism Revenue Sharing (TRS) scheme's impact and contribution to community development projects near Volcanoes National Park (VNP), particularly in the Kinigi and Gataraga sectors. The investigation aimed to achieve three primary objectives:

4.5.1. Assessment of TRS Impacts on Local Livelihoods

The first objective of the study was to assess the TRS scheme's effects on local livelihoods. The findings indicate that TRS has had a noticeable impact on improving the socio-economic conditions of local communities. Specifically, a significant portion of the population benefited from TRS-funded projects, including improvements in housing, agricultural development, livestock rearing, and employment opportunities. These positive outcomes align with previous research, which highlights the potential of TRS programs to foster local development and poverty alleviation in communities adjacent to protected areas (Roe et al., 2009; Tumusiime & Vedeld, 2012)

However, the study also identified several challenges, including ineffective communication of TRS benefits, insufficient funding for some projects, and resource constraints for conservation activities. The gap between the theoretical promise of TRS programs and their practical outcomes, particularly in terms of resource allocation and communication, has been noted in previous studies (Spenceley & Meyer, 2012). This indicates that while the TRS scheme has been effective in many respects, further policy refinements are needed to address gaps in implementation. This includes improving stakeholder engagement, ensuring transparency in fund allocation, and promoting more inclusive participation in conservation efforts. Moreover, the need for further research on the long-term sustainability of TRS-funded initiatives is evident, particularly in regions where socio-economic benefits have yet to reach the most marginalized (Snyman, 2012).

4.5.2. Utilization of Tourism Revenues for Community Development

The second objective of the study examined how TRS funds were utilized for community development initiatives. The findings reveal that TRS has played a crucial role in supporting a variety of community projects, including educational programs, infrastructure improvements such as water and electricity access, and youth employment through conservation initiatives. These results are consistent with the literature, which underscores the capacity of well-managed TRS schemes to enhance both human development and conservation outcomes (Spenceley & Snyman, 2017).

Infrastructure improvements, such as better access to clean water and electricity, were particularly significant, as these services are essential for improving health outcomes and supporting local economies. Additionally, TRS funding has supported youth employment initiatives, particularly through the establishment of conservation cooperatives, which provide jobs and promote environmental stewardship. This finding aligns with research that emphasizes the role of TRS schemes in promoting sustainable livelihoods through conservation-linked activities (Brockington et al, 2008)

The diverse allocation of tourism revenues across multiple sectors reflects a broader trend in the literature, which highlights the importance of multi-sectoral approaches to community development in tourism-dependent areas (Stone & Wall, 2004). However, the study also found spatial disparities in the distribution of TRS funds, with certain areas receiving more significant investments than others, leading to uneven development outcomes. This mirrors findings from other contexts where unequal fund allocation has created tensions within communities and hampered the equitable distribution of benefits (Clements et al., 2014)

4.5.3. Constraints and Challenges in Revenue Distribution

The third objective explored the barriers to the equitable distribution of TRS benefits. Despite the positive contributions of TRS, the study identified several challenges, including poverty-driven illegal activities, such as poaching and unauthorized resource extraction, and human-wildlife conflicts, such as crop raiding. These challenges are compounded by the limited engagement of the most impoverished community members in conservation efforts, which may be linked to the unequal distribution of TRS benefits. This finding is consistent with research on TRS challenges

in other regions, where the most marginalized communities often benefit the least from revenue-sharing programs (Nielsen & Lund, 2012)

Moreover, the COVID-19 pandemic exacerbated existing socio-economic vulnerabilities, leading to a significant decline in tourism revenues and, consequently, reduced funding for community projects. This highlights the fragility of tourism-dependent conservation financing models and the need for more resilient strategies to ensure the continuity of conservation efforts in the face of global disruptions (Clements et al., 2014). These findings underline the importance of adaptive management approaches that can respond to both ecological and socio-economic challenges in a flexible and sustainable manner.

4.5.4. Linking Findings with the Literature

The findings of this study, when linked with the broader literature, reveal that while the TRS scheme in VNP has made substantial progress in supporting local communities and advancing conservation goals, several challenges remain. Existing research on TRS schemes emphasizes their potential to improve local livelihoods and foster conservation (Spenceley & Meyer, 2012). However, the practical implementation of TRS programs often encounters difficulties, such as spatial inequities in fund distribution, challenges in aligning projects with community needs, and limited capacity for effective communication (Snyman, 2012)

This study adds to the scholarly discourse by highlighting the real-world complexities that affect the effectiveness of TRS programs. Specifically, it illustrates the tension between theoretical models of community-based conservation and the realities of implementation, particularly in economically marginalized regions. These findings underscore the need for more nuanced approaches that consider the socio-economic and cultural dynamics of local communities, ensuring that TRS programs are not only effective but also equitable in their distribution of benefits.

4.5.5. Summary of Findings

The study provides a comprehensive assessment of the Tourism Revenue Sharing (TRS) scheme's impact on communities surrounding Volcanoes National Park (VNP). The findings suggest that the TRS scheme has had a significant positive impact on local livelihoods and community development initiatives. Beneficiaries of TRS projects reported improvements in housing, agriculture, infrastructure, and employment opportunities, aligning with the broader literature on the socio-economic benefits of revenue-sharing programs (Brockington et al, 2008; Tumusiime & Vedeld,2012).

However, several challenges were also identified, including spatial disparities in fund distribution, communication gaps, and insufficient resource allocation for conservation efforts. The study also highlighted the impact of human-wildlife conflicts and the exacerbation of socio-economic vulnerabilities due to the COVID-19 pandemic, which have further complicated the effective distribution of TRS benefits.

Linking the study's findings with the literature reveals a consistent narrative: while TRS programs have the potential to promote sustainable development and conservation, their success depends on addressing the structural and socio-economic barriers that limit their reach. As previous research has indicated, the equitable distribution of tourism revenues and the active engagement of marginalized communities in conservation are critical to ensuring the long-term sustainability of these programs (Clements et al., 2014). The findings of this study provide valuable insights into how TRS programs can be refined to better align with the needs of local communities, enhance conservation efforts, and ensure a more resilient and inclusive approach to tourism revenue sharing.

Chapter Five : CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

The research conducted in the Gataraga and Kinigi sectors surrounding Volcanoes National Park (VNP) provides valuable insights into the impacts of the Tourism Revenue Sharing (TRS) program. By allocating 10% of tourism revenue to local communities, the program has demonstrably improved living standards and income levels, particularly in the Kinigi sector, where significant advancements in social well-being have been observed. These findings underscore the potential of the TRS program to drive socio-economic development in areas adjacent to national parks, while also playing a complementary role in government-led conservation initiatives aimed at mitigating human-wildlife conflicts.

One of the key successes of the TRS program is its ability to involve local communities in conservation efforts. Notably, former poachers have transitioned into roles as park rangers, contributing not only to the protection of VNP but also serving as advocates for wildlife conservation within their communities. Their participation highlights the critical role of community engagement in fostering a sense of ownership over conservation outcomes and reducing illegal activities such as poaching.

The proposal to extend the buffer zone around VNP is a strategic recommendation that aims to further reduce human-wildlife conflicts. However, despite these positive contributions, challenges remain, particularly concerning poaching within the park. While the establishment of the Special Guarantee Fund to compensate for wildlife-related damages is a step in the right direction, it has not fully addressed the root causes of poaching. The program's focus on procedural aspects of revenue sharing and community involvement has left gaps in directly tackling the drivers of illegal wildlife activities, such as poverty and limited alternative livelihood opportunities.

In conclusion, the TRS program has had a positive impact on the communities surrounding VNP, improving socio-economic conditions and supporting conservation efforts. However, the findings also highlight the need for a more integrated approach that not only shares tourism revenues but also addresses persistent issues such as poaching and human-wildlife conflicts through targeted interventions. A comprehensive strategy is necessary to address these environmental challenges while continuing to leverage the critical role of community involvement in conservation.

5.2. Recommendations

To address the challenges identified in the distribution and effectiveness of tourism revenues from Volcanoes National Park, it is essential to adopt strategies that enhance the sustainability and impact of the TRS program. The following recommendations are proposed for the Rwanda Development Board (RDB), Musanze District authorities, and local communities:

➤ **Recommendations for the Rwanda Development Board (RDB):**

✓ **Enhance Participatory Planning:**

- Strengthen the involvement of local communities in the decision-making process of TRS projects. Ensure that community members are actively engaged during the planning phases and that their input is considered in project design. This should also include integrating capacity-building programs that focus on skills development, poverty alleviation, and long-term economic sustainability.

✓ **Monitor Conservation Cooperatives:**

- Implement regular monitoring and evaluation of the cooperatives engaged in conservation activities around VNP. This process should include ongoing consultation with local communities to ensure that TRS-funded projects are aligned with both community needs and conservation objectives. Continuous feedback mechanisms should be established to improve project outcomes.

✓ **Develop a Comprehensive Human-Wildlife Conflict Mitigation Strategy:**

- While the TRS program has contributed to community development, a more targeted strategy is needed to directly address the root causes of poaching and human-wildlife conflicts. This should include creating alternative livelihood opportunities, expanding buffer zones, and providing additional support for communities most affected by wildlife interactions. Integrating these measures with the revenue-sharing framework will ensure a more holistic approach to conservation and community welfare.

✓ **Equip Conservation Cooperatives:**

- Provide adequate resources and support to cooperatives involved in conservation work. This includes equipping them with necessary tools and supplies (e.g., first aid kits, equipment for conservation activities) and ensuring that they receive an equitable share of TRS benefits. Adequate resource provision will enhance the effectiveness of these cooperatives in supporting conservation goals.
- **Recommendations for Musanze District Authorities:**
- ✓ **Foster Collaboration:**
 - Strengthen partnerships between the local population and RDB to promote joint conservation efforts. Local authorities should facilitate collaboration by ensuring that the TRS program benefits are equitably distributed and that community members are actively involved in conservation activities. Such collaboration is essential for the success of long-term conservation initiatives and for maximizing the benefits of TRS.
- ✓ **Raise Awareness:**
 - Intensify efforts to raise awareness about the TRS program and its benefits among the local population. Information about available opportunities, the criteria for participation, and the distribution of funds should be made accessible to all community members. This can be achieved through public meetings, community forums, and the use of local media channels to ensure that no groups are excluded from participation.
- **Recommendations for Local Communities:**
- ✓ **Engage Actively:**
 - Encourage active participation in TRS-related activities and decision-making processes. Communities should take the initiative to represent their needs and concerns in TRS planning and implementation to ensure that their voices are heard. This will help ensure that the projects meet local needs and address critical socio-economic challenges.

- ✓ **Monitor and Report:**

- Local communities should play an active role in monitoring the use and distribution of TRS funds. Establishing community-based monitoring groups or cooperatives can enhance transparency and accountability. Any discrepancies or issues in fund allocation should be promptly reported to relevant authorities to ensure that the program operates efficiently and equitably.

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ANNEXES:

This questionnaire is designed for assessment the impact of TRS effects on the population around VNP in Kinigi Sector and Gataraga Sector, and is strictly research oriented. The information will be used only for research purpose.

Annexe 1: Data encoded survey questionnaire.

Background Information		Marital status of household head	1=Male	2=Female	N/A
		Age	1=18-25	2=26-35	3=36-45 & above
		Location/Division	1=Site I	2= Site II	
		Occupation	1= Employed	2= Unemploye d	
		Education	1= Illiterate	2= Primary & secondary school	3=Universit y
Project Information	1.	To your concern, what is Tourism Revenue sharing from VNP?	1=Neutral	2=No	3= Yes
	2.	How are Tourism Revenues from VNP shared on local communities living around VNP?	1=Neutral	2=No	3= Yes
	3	Was there any developmental project designed for your community recently from tourism revenues?	1=Neutral	2=No	3= Yes
	4	If yes, please kindly mention the projects	1=Neutral	2= No	3= Yes

	5	Was there any management project designed to protect Volcanoes National Park from the local community?	1=Neutral	2=No	3= Yes
	6	What issues, problems and challenges are faced from the development project designed to develop your local community?	1=Neutral Perception	2=Negative Perception	3= Positive Perception
	7	What are the issues, problems, and challenges faced from the management project designed to protect Volcanoes National Park from your local community?	1=Neutral Perception	2=Negative Perception	3= Positive Perception
	8	Are there other individual development projects apart from TRS projects to community-based conservation?	1=Neutral Perception	2=Negative Perception	3= Positive Perception
	9	What are the key issues, programs, and challenges hindering these projects from TRS projects given to the Community Based Conservation?	1=Neutral Perception	2=Negative Perception	3=Positive Perception
	10	During the consultation process, do local communities see themselves as stakeholders in developmental projects?	1=Neutral Perception	2=Negative Perception	3= Positive Perception

	11	What are the key issues, programs, and challenges hindering local community consultation or participation during their development projects?	1=lack of communication between government and local people	2=lack of transparency	3= Other
	12	How do you rank the consideration of your comments and desire by project developers	1=Negative Perception	2=Positive perception	3= Other
	13	How satisfied are you regarding your involvement in the development projects designed for your local community?	1=Not satisfied	2=Satisfied	3= Other
	14	What do you propose to be improved in sharing Tourism revenues from the park?	1=Negative Perception	2=Positive Perception	3=Other
	15	What is your perception of the attitude of your local community toward developmental projects from Tourism Revenue Sharing?	1=Negative Perception	2=Positive perception	3=Other
	16	As a community leader/Consultant/regulator, you have a central role in the decision-making process, especially regarding the new development project for the local community. Can you describe your	1=Not Involved	2=Low Level involvement	3=Medium Level Involvement

		involvement of the local community in the sharing tourism revenues?			
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Annexe 2: Questionnaires

Part A. closed questions

I. Information Background:

-Cell

-Sector

-District:

- Marital status of household head:

Male Female

-Age: 18-25 26-35 36-45 above

-Location/Division : Site I Site II Site III
Site IV

-Occupation: Employed Unemployed Peasant Farmer

-Education background of household head: Illiterate

Primary Secondary school University

Part B. Open- ended questions

1. To your concern what is Tourism Revenue sharing from VNP?
2. How Tourism Revenues from VNP are shared on local communities living around VNP?
3. Was there any developmental project designed to your community recently from tourism revenues? Yes No
4. If yes, please kindly mention the project(s).....

5. Was there any management project designed to protect Volcanoes National Park from local community? Yes No

6. If yes, please kindly mention the project(s).....

7. What are the issues, constraints and challenges faced as a result of the development project designed to develop your local community?
.....

8. What are the issues, constraints and challenges faced as a result of the management project designed to protect Volcnoes National Park from your local community?
.....

9. Are there other individual development projects apart from TRS projects given to the community-based conservation?

10. What are the key issues, programs, and challenges hindering these development projects a part of TRS projects given to the Community Based Conservation?

11. Do local communities see themselves as stakeholders in developmental projects from TRS during consultation process?

12. What are the key issues, constraints, and challenges hindering local community consultation or participation during their development projects?

Lack of communication between government and local people

Lack of transparency

Others

Specify
.....

13. How do you rank the consideration of your comments and desire by project developers

Bad Good Very Good Excellent

14. How satisfied are you regarding your involvement in the development projects that are designed to your local community?

Satisfied Not Satisfied

15. What do you propose to be improved in the process of sharing Tourism revenues from the park?

- Early information accessible largely by impacted local community
- Consideration of our suggestions
- More community involvement in planning
- Others

(Specify).....

16. What is your perception of the attitude of your local community toward developmental projects from Tourism Revenue Sharing?

.....

.....

.....

.....

17. As a community leader/Consultant/regulator, you have a central role in the decision-making process especially, as regards the new development project for the local community. Can you describe your involvement of local community in the sharing tourism revenues?

.....

.....

.....

.....