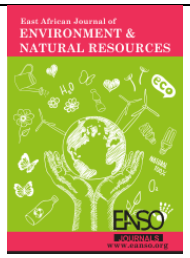

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Original Article

Environmental Law and Conservation of Water Resources. A Case of River Rwizi in Sheema, Rwampara and Isingiro Districts in Uganda

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ABSTRACT

Water is an essential natural asset critical for human survival and societal development. It serves a wide range of purposes such as household use, transportation, industrial production and farming. Despite its importance, River Rwizi is facing severe environmental degradation, which is accelerating due to increasing population pressure. This study set out to investigate how environmental law affects the conservation of water resources along the River Rwizi, particularly in Sheema, Rwampara, and Isingiro Districts in Uganda. The core objective was to explore the challenges in enforcing water conservation laws in these areas. The research employed a cross-sectional design that integrated both qualitative and quantitative approaches. Quantitative data were summarised using frequency tables and percentages, while thematic analysis was employed for qualitative insights. The study focused geographically on the River Rwizi and its surrounding areas in the three districts. Key informants highlighted that enforcement efforts are constrained by limited manpower and equipment. Additionally, it was found that ensuring transparency and holding all offenders accountable, regardless of their social or economic status, is vital. The study concluded that conservation efforts are significantly weakened by inadequate enforcement resources and low public awareness. As a solution, it recommends that the government enhance investment in enforcement tools and that local collaboration among authorities, communities, and leaders be strengthened to support conservation efforts.

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INTRODUCTION

The study focused on environmental law and conservation of water resources at River Rwizi in Sheema, Rwampara and Isingiro Districts. Water as a resource plays a very significant role in life. Man needs it for survival, household use, livestock, transport, industries, and agriculture (Mugira, 2018). The study objective was to find out the relationship between environmental laws and conservation of water resources at the river Rwizi in Sheema, Rwampara and Isingiro Districts. The environmental law is the independent variable, and conservation of water resources is the dependent variable. The research was carried out in Sheema, Rwampara and Isingiro Districts in Western Uganda. The study focused on the circumstances surrounding the environmental degradation practices around River Rwizi and policy innovations designed to protect the environment. These districts were chosen because they have the utmost and necessary information for the study, as they are among areas along which River Rwizi is facing a problem of degradation. Further, few research studies have been conducted on this phenomenon in these areas.

Globally, the world is facing a growing crisis of poor conservation of water resources due to increasing human pressure on limited freshwater resources. This environmental challenge has been a focus of international conferences, such as the 1992 UN Conference on Environment and Development (UNCED), which led to the adoption of sustainable development strategies for biodiversity preservation. Effective environmental laws and public awareness campaigns are crucial for sustainable water management (Maine, 2017). Conservation of water resources is essential for future generations. However, it has worsened and is expected to worsen more in the coming years unless there is a shift towards improved conservation of water resources (Serge et al., 2022). Water is not only a basic human need but also a cornerstone of sustainable development and poverty alleviation. The Dublin principles and Agenda 2(1 emphasise the need for integrated water management, recognising water as a finite resource requiring careful management (Nickerson, 1994).

Sub-Saharan Africa faces intense competition for water resources due to management failures. Many African countries, like Zimbabwe, have environmental legislation for water conservation (Government of Zimbabwe, 2002). However, enforcement is a challenge, as seen with the degradation of the Rwizi River in Uganda. Effective environmental legislation must be accompanied by public education and awareness campaigns to achieve sustainable water use. This requires balancing economic development with environmental protection through legislation, education, and improved management practices (Maine, 2017). The River Rwizi, a lifeline for millions in western Uganda, faces a growing threat of poor conservation of water resources. This challenge is not unique to Uganda, but reflects a global trend of increasing human pressure on finite freshwater resources (Mugira, 2018). Several studies point to unsustainable practices as key drivers of the Rwizi's woes.

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Research by Musingwire (2020) highlights the detrimental effects of poor land management practices in the river's catchment area. Deforestation and encroachment on buffer zones contribute to soil erosion and sedimentation, ultimately reducing the river's capacity and water quality. Additionally, rapid population growth in the region has led to increased water demand for domestic and agricultural purposes. This strain on the resource, coupled with inadequate wastewater treatment, further exacerbates water scarcity and pollution in the river Rwizi.

The urgency of the situation demands effective solutions. This emphasises the need for a catchment management approach, promoting responsible land use and sustainable resource utilisation. This aligns with the national water policy of Uganda, which advocates for integrated water resource management (IWRM). Implementing IWRM principles requires collaboration between stakeholders, including government agencies, local communities, and NGOs. Public awareness campaigns and education initiatives can play a crucial role in fostering a culture of water conservation among the communities dependent on River Rwizi. The current Ugandan legislation offers a framework for water resource management. The National Environment Act, Cap. 181 is a cornerstone, establishing the National Environment Management Authority (NEMA) to oversee environmental protection. Additionally, the Water Act regulates water use, permitting, and pollution control. However, translating these policies into practice can be challenging.

Research by Nuwagira et al. (2023) investigating the Rwizi River basin highlights the gap between legislation and enforcement. Their findings reveal that commercial activities like unregulated sand mining and poor waste disposal practices significantly contribute to riverbed degradation and water pollution. This exemplifies the need for stricter enforcement mechanisms and increased public awareness regarding the importance of river conservation. It was revealed that along the river Rwizi in Sheema, Rwampara and Isingiro Districts, Serious commercial construction had occurred in terms of recreational centres, poor waste disposal, farming, and many more illegal activities (Musingwire, 2020). This contravenes the National Environment law, which states that no activity is allowed along river banks (National Environment Act, 2019). Uganda's legal framework, including the National Environment Act and Water Act, offers a structure for water conservation in Sheema, Rwampara, and Isingiro Districts. Permitting systems regulate water use and pollution. However, challenges like NEMA's enforcement capacity and limited community awareness, economic activities such as farming, brick laying, sand mining, among others, hinder the effectiveness. Strengthening enforcement, promoting water-saving practices, and utilising sustainable water management techniques are crucial for these districts to achieve long-term water resource conservation (Musingwire, 2020). Thus, this study examines the effectiveness of environmental laws in the conservation of water resources at River Rwizi in Sheema, Rwampara and Isingiro Districts.

LITERATURE REVIEW

Theoretical Review

The study was guided by sustainable development theory, United Nations (1987). This theory explains the development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Khisa, 2017). According to Castro et al (2017), water resources are areas that need to meet the needs of this generation by providing water and other ecosystem services, such as controlling flooding, while at the same time ensuring that they will exist in the future to give the opportunity to future generations to enjoy the same services. Sustainable development theory further puts into consideration the use of environmental laws in an effort to ensure conservation of water resources thus sustainability of these resources and other related water resources as well as considering

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environmental aspect of conservation with in the area to continue with its functions while meeting the needs of the current generation and looking at the issues of development as well as taking into perspective that the area has to do the same for future generations to have the opportunity to experience the same (Ochieng,2017).

In looking at sustainable development theory, scholars have noted that the same is based on several concepts that are an integral part of the theory (Khisa, 2017). Some of these concepts include the concept of equity, ethical paradox, natural capital stock and eco-form, just to name a few. Some of these concepts are useful in explaining sustainable management of water resources, looking at the uses and environmental laws of these areas by the various stakeholders (Castro et al, 2017).

Sustainable water resources through environmental laws can thus be defined as "Human use of water resources so that they may yield the greatest continuous benefits to present generations while maintaining their potential to meet the needs and aspirations of the future generations, in a way compatible with the maintenance of their physical, biological or chemical components, such as soil, water, plants, animals, and nutrients and interactions between them (Abass, 2007).

However, there are several limitations with the sustainable development theory, in that sustainable development means development of an economy in a way that doesn't deplete natural resources. Unfortunately, it can be incredibly difficult to do this, and in many countries, it is practically impossible. The costs to run operations for sustainable development are much higher than the costs of environmentally friendly methods. Not only is the cost of sustainable development activities higher, but organising, putting in place environmental and management structures, monitoring and administrative costs are all factors that come into play when it comes to sustainable development (Khisa, 2017).

Empirical Review

Beyond physical structures, the "environmental structure" also encompasses the broader ecological and social frameworks that influence water conservation behaviour and policy. Studies emphasise that effective water conservation requires understanding the interplay of environmental beliefs, public awareness, and socio-economic factors. For example, Santos et al. (2023) demonstrated that ecological beliefs significantly support water conservation behaviours, while utilitarian perspectives may lead to increased consumption. Furthermore, recent research underscores the importance of community engagement and public education campaigns in promoting water-saving practices, acknowledging that awareness alone is often insufficient to drive behavioural change (Turyasingura et al., 2023). This holistic view recognises that successful water conservation is not solely about engineering solutions but also about shaping human interaction with the environment through policy, education, and community-based initiatives.

Therefore, current literature on environmental structures and water resource conservation presents a multifaceted approach, integrating technological advancements with social and behavioural science. While physical structures provide the means for efficient water management, the long-term success of conservation hinges on fostering a collective environmental consciousness and implementing supportive governance structures. Research continues to explore the effectiveness of various interventions, from smart irrigation systems to public incentive programs, aiming to develop integrated strategies that address both the infrastructural and human dimensions of water sustainability in an era of escalating environmental challenges (Malek et al., 2024; Turyasingura et al., 2023).

Applying pricing mechanisms that reflect the true value of water can incentivise efficient water use and encourage conservation. This can be achieved

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through tiered pricing structures, water metering, and economic instruments like water tariffs or fees (Zetland, 202l). Implementing water conservation measures, such as promoting efficient irrigation techniques, fixing leaks in water distribution systems, and encouraging responsible domestic water use, can significantly reduce water demand and conserve water resources (Kang et al., 2022; Cḥenoweth et al., 20l4; Rijsberman & Molden, 20l3). Establishing protected areas and implementing watershed conservation practices contribute to the conservation of water resources. These measures help maintain water quality, preserve ecosystem services, and safeguard water catchment areas from degradation (Mishra et al., 2024). Natural infrastructure refers to the use of ecosystems, such as wetlands, forests, and green spaces, to provide essential water-related services. Protecting and restoring these environmental structures can enhance water infiltration, regulate water flow, and improve water quality, contributing to water resource conservation (Mengistu et al., 2023). Green infrastructure includes engineered or designed systems, such as rain gardens, bioswales, and permeable pavements, that mimic natural environmental structures. These structures ḥelp manage storm water runoff, reduce flooding, and promote groundwater recharge, thereby supporting water resource conservation (Benedict & McMahon, 20l7). Water harvesting techniques, such as rainwater harvesting or the collection and storage of runoff, can provide alternative water sources for agricultural, domestic, and industrial purposes. Properly designed and managed water storage structures can increase water availability and contribute to water resource conservation (Malek et al., 2024; Turyasingura et al., 2023). Promoting water-efficient landscaping practices, such as xeriscaping or using native plants witḥ low water requirements, can significantly reduce outdoor water use while maintaining aesthetically pleasing environments. These strategies contribute to water conservation efforts (Clements et al., 20l6)

MATERIALS AND METHODS

Area of the Study

The research was carried out in Sḥeema, Rwampara and Isingiro Districts in Western Uganda. The study focused on the circumstances surrounding the environmental degradation practices around River Rwizi and policy innovations designed to protect the environment. These areas were chosen because they have the utmost and necessary information for the study, as they are among the areas along which River Rwizi is facing a problem of degradation. Further, 1itt1e research studies have been conducted on this phenomenon in these areas.

Data Collection

The researcher adopted a cross-sectional research design witḥ a combination of qualitative and quantitative data collection methods for the purpose of this study (Brannen, 2017). Qualitative data collection methods are methods that enable the researcher to collect data in the form of words or texts to explain a phenomenon. Quantitative data collection methods are methods that enable the researcher to collect data in the form of numeric or numbers to explain a phenomenon (Hair et al., 2017). The Unit of inquiry comprised 109 respondents, comprising Natural resource Staff, Representatives from the Directorate of Water Resources Management Staff, loca1 1eaders and Community Members as the study target population and the sample size constituted 91respodents. A questionnaire is a tool that contains open-ended, closed-ended or botḥ categories of questions intended to collect qualitative and quantitative data.

In this instrument, unstructured interview guides research instrument were designed to guide the researcher to avoid going off topic while interviewing respondents. They were used because they allowed the pursuit of in-depth information around the topic and they were effective because the intended respondents may not have enough time to fill out questionnaires.

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Table l: Sample Size of the Respondents

Respondents Category	Estimated Population (N)	Sample size (n)	Data collection methods	Sampling Techniques
Natural resource Staff at the districts	4	4	Interview	Purposive Sampling
Representatives from Directorate of Water Resources Management staff	6	6	Interview	Purposive sampling
local leaders	6	6	Interview	Purposive sampling
Community Members	93	75	Questionnaire	Simple random Sampling
Total	**l09**	**9l**		

Source: *Field Data (2024)*

The sample size constituted 91 respondents and this was determined using Cochran's correlation formula as edited by Bartlett et al. (20l5), as indicated below.

$$n = \frac{N}{1+Ne^2}$$

Where;

N = Number of the total estimated population

n =sample size e = 0.05 level of significance

At N=4, $n = \frac{4}{1+4*0.05^2} = 4$

At N=

6, $n = \frac{6}{1+6*0.05^2} = 6$

At N=93, $n = \frac{93}{1+93*0.05^2} = 75$

The researcher used both simple random and Purposive sampling techniques (Brannen, 2017). Simple random sampling was used to select Community Members within the study population since they were expected to have different parameters on the study under investigation, while purposive sampling was used to select Natural Resource Staff from selected areas, Representatives from the Directorate of Water Resources Management staff and 1oca1 1eaders. They were selected because they are technica1 peop1e who are know1edgeab1e about the required information on the study (Etikan, 2016). To acquire information, the researcher used a questionnaire and interview methods. Further, a questionnaire that contained closed-ended questions was used to collect quantitative data from community members, while an interview tool was used to co11ect data from Natural Resource Staff from selected areas, Representatives from the Directorate of Water Resources Management and Local leaders.

Data Analysis

For quantitative data, the researcher used a computer package, SPSS version 20 and Minitab, where data was entered, edited, cleaned and sorted. The data analysis was based on frequencies, percentages and means, which were presented in frequency tables and a tree diagram.

Responses from interviews were recorded under different specific objectives of the study. These responses were reviewed, edited, organised, arranged, sorted, categorised and coded so that themes, patterns and relations are identified using thematic analysis in the form of descriptions, narrations and quotations. For a response to be added under a theme, it was checked for its relevance to the study objective.

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Ethical Consideration

Permission to conduct the study was obtained from Bishop Stuart University through seeking an introductory letter from the respective department before going into the field for data collection. Participation in the study was voluntary and participants were taken through an oral consent to seek their permission to participate in the study. The objectives of the study were explained to the participants during the consent process.

To ensure confidentiality, interviews were conducted in private and the data collected was only used for the purpose of the study. Respondent's personal identities were not taken. The study is not to pose any risk to the participants since the kind of questions used were not personal in nature.

RESULTS

This section involves data analysis, presentation and interpretation of findings to examine the influence of environmental law on conservation of water resources at river Rwizi in Sheema, Rwampara and Isingiro Districts based on the study objective, which is to find out the relationship between environmental laws and conservation of water resources at river Rwizi in Sheema, Rwampara and Isingiro Districts. It starts by presenting findings on bio data and thereafter according to the study objective.

General Information

Gender of the Respondents

Table 1: Gender of the Respondents

	Frequency	Percent	Valid Percent
Male	41	54.7	54.7
Female	34	45.3	45.3
Total	75	100.0	100.0

Source: *Data 2024*

Districts show a slight male predominance among respondents, with 54.7% being male and 45.3% female. This near-equal gender representation ensures a balanced perspective in the research findings, reflecting both male and female viewpoints on environmental law and water conservation. The standard deviation of 3.5 indicates that the distribution of respondents by gender is relatively close to the mean, reinforcing the study's credibility and the reliability of its conclusions. Men and women often have distinct experiences and viewpoints due to social norms, cultural expectations, and gender roles. Accounting for gender findings helps capture these differences and ensures the research reflects the full picture.

Age of the Respondents

Table 2: Age of the Respondents

	Frequency	Percent	Valid Percent
20-30	22	29.3	29.3
31-40	21	28.0	28.0
41-50	28	37.3	37.3
Above 51	4	5.3	5.3
Total	75	100.0	100.0

Source: *Data 2024*

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From the dataset, it is observed that the largest group of respondents is aged 41-50 years, comprising 37.3% of the total, followed by those aged 20-30 years at 29.3%, and those aged 31-40 years at 28.0%. The smallest age group is those above 51 years, at 5.3%. This distribution indicates that the study primarily captures the perspectives of individuals in the middle age range, with a significant representation from younger adults, while older individuals are less represented.

The Key informants K1, K3, K8 and K25 revealed that while their voices are valuable, their limited participation was due to factors like accessibility of the survey or lower internet usage in this age group. Future research might benefit from additional strategies to reach older adults.

Overall, the age distribution suggests a thoughtful sample design that captures a multi-generational perspective on environmental issues. Including a range of age groups strengthens the comprehensiveness and generalizability of the study's findings.

Level of Education

Table 3: Level of Education

	Frequency	Percent	Valid Percent
Primary	21	28.0	28.0
University	26	34.7	34.7
Secondary	28	37.3	37.3
Total	75	100.0	100.0

Source: *Data 2024*

From the dataset, it is observed that the largest group of respondents has a secondary education, comprising 37.3% of the total, followed by those with a university education at 34.7%, and those with primary education at 28.0%. This distribution indicates that the study primarily captures the perspectives of individuals with higher educational levels, but also includes a significant portion of respondents with primary education.

Thus, the study includes respondents with a variety of educational backgrounds (primary, secondary, and university). This diversity allows for a well-rounded understanding of how education level influences perceptions of environmental law and water conservation.

Overall, the data findings indicate a well-considered approach to sample selection, capturing a range of educational backgrounds. This diversity strengthens the generalizability of the study's findings and avoids bias towards any particular educational level.

Table 4: Occupation/Position Held

	Percent	Valid Percent
Famer	29.3	29.3
Business	48.0	48.0
Boda boda	4.0	4.0
Civil servant	2.7	2.7
Engineer	1.3	1.3
Chair person	1.3	1.3
Driver	2.7	2.7
Teacher	10.7	10.7
Total	100.0	100.0

Source: *Data 2024*

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From the dataset, it is observed that the largest group of respondents is engaged in business, comprising 48.0% of the total, followed by farmers at 29.3%, and teachers at 10.7%. The remaining occupations, including Boda boda riders (4.0%), civil servants (2.7%), engineers (1.3%), chairpersons (1.3%), and drivers (2.7%), collectively account for 12.0% of the respondents. This distribution indicates that the study primarily captures the perspectives of individuals involved in business and farming, but also includes a variety of other occupations.

The distribution of respondents by occupation offers a rich perspective on how environmental concerns and water conservation practices vary across different professions. Overall, the data results reveal a well-rounded sample that captures the concerns of people from diverse professions who rely on or have a stake in environmental well-being and water conservation. This variety strengthens the comprehensiveness of the study and ensures its findings are relevant to a broad range of stakeholders.

The Challenge of Enforcement of Laws on the Conservation of Water Resources at River Rwizi in Sheema, Rwampara and Isingiro Districts.

River Rwizi faces threats despite existing conservation laws, which highlights the challenges of enforcement. Here is a breakdown of the hurdles towards a more sustainable future for the river:

Weak enforcement capacity: Findings from The Key informants K1, K16, K15 and K25 revealed that limited resources, like manpower and equipment, hinder effective monitoring and enforcement of water conservation laws along the Rwizi River. This creates a situation where violations go unchecked, discouraging compliance and undermining the effectiveness of regulations.

Limited public awareness: Qualitative analysis portrays that local communities in Sheema, Rwampara, and Isingiro Districts are unaware of the importance of water conservation laws or the specific regulations in place. Thus, they are less likely to comply. This highlights the need for educational campaigns to raise awareness and foster a sense of shared responsibility for the river's health.

Powerful stakeholders: The Key informants K2, K3, K9 and K24 revealed portrays those wealthy individuals or influential businesses engaged in activities like sand mining, cutting, careless waste disposal, cultivating along river banks and operating water-intensive industries, which hold significant power within the region. This can create a situation where enforcement efforts are hhindered due to political or economic pressures. However, key informants revealed that the following solutions should be implemented:

Strengthen enforcement: Increased investment in personnel, patrol boats, and monitoring technologies can enhance the government's ability to detect and address violations. Additionally, collaborating with local communities can create a network of citizen observers who report suspicious activity.

Community engagement: educational campaigns and public awareness initiatives can play a crucial role in informing residents about the importance of water conservation laws and the consequences of violations. Community involvement in developing and implementing conservation strategies can foster a sense of ownership and encourage responsible water use practices.

Transparency and accountability: Upholding transparency in enforcement actions and hholding all violators accountable, regardless of their social or economic standing, is essential. This sends a strong message that the law applies equally and deters potential offenders.

DISCUSSION

The Challenge of Enforcement of Laws on the Conservation of Water Resources at River Rwizi in Sheema, Rwampara and Isingiro Districts.

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The study findings highlight weak enforcement capacity as a major barrier to effective conservation of the Rwizi River. Key informants reveal that limited resources, such as inadequate manpower and equipment, hinder proper monitoring and enforcement of existing water conservation laws. This lack of capacity allows violations to go unchecked, which discourages compliance among users and undermines the overall effectiveness of regulatory measures designed to protect the river ecosystem.

Another critical challenge identified is limited public awareness. Qualitative analysis shows that communities in Sheema, Rwampara, and Isingiro Districts are largely unaware of the importance of water conservation laws or the specifics of regulations in place. This lack of knowledge results in low compliance with conservation efforts, highlighting the urgent need for educational campaigns. Raising awareness can help foster a sense of shared responsibility among local residents, which is essential for the long-term health of the river.

The study findings also pointed to the powerful influence of certain stakeholders who engage in activities detrimental to the river's health, such as sand mining, tree cutting, waste disposal, riverbank cultivation, and operating water-intensive industries. These stakeholders, often wealthy and influential, can exert political and economic pressure that weakens enforcement efforts. Their dominance contributes to an environment where violations are tolerated, further complicating conservation initiatives. These findings are in agreement with the following scholars;

The study findings on the plight of River Rwizi align closely with the perspectives of scholars like Mishra et al. (2024) in emphasising the multifaceted challenges in water resource conservation. Both the findings and these scholars highlight the significance of protecting natural infrastructure, such as wetlands and forests, to maintain water quality and ecosystem services. However, the study goes further by underscoring the practical enforcement hurdles of weak institutional capacity, limited public awareness, and the influence of powerful stakeholders that complicate the implementation of such conservation practices in real-world scenarios like Rwizi River.

Mishra et al. (2024) focus on the establishment of protected areas and watershed conservation practices as effective strategies to safeguard water resources. The findings resonate with this by advocating for stronger enforcement and community engagement to preserve water catchment areas and prevent degradation. Yet, the study reveals that while legal frameworks might exist, their effectiveness is severely compromised by inadequate monitoring and enforcement mechanisms. This gap illustrates why simply having conservation laws, as recommended by scholars, is insufficient without addressing institutional and social barriers to compliance.

Similarly, Barman et al. (2024) emphasise natural and green infrastructure solutions, such as restoring wetlands and using engineered systems to manage water flow and quality. The study's findings suggest these approaches remain critical but unimplemented or underutilised due to the lack of resources and coordinated governance at the local level. Moreover, the study highlights the role of transparent enforcement and accountability, which are not extensively discussed in the scholars' environmental focus but are vital to overcoming political and economic pressures from influential local actors who currently impede conservation efforts.

In summary, the study largely aligns with scholarly views on the importance of Conservation of Water Resources methods but enriches the discussion by addressing enforcement challenges and social dynamics that hinder practical outcomes. It shows that sustaining the health of River Rwizi requires not only protective natural and green infrastructures but also robust institutional support, public awareness, and equitable governance. This

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integrated approach represents a more context-sensitive pathway towards achieving long-term sustainability for the river amidst competing interests and resource constraints.

CONCLUSION

The Challenge of Enforcement of Laws on the Conservation of Water Resources at River Rwizi in Sheema, Rwampara and Isingiro Districts.

It is concluded that the conservation of water resources at River Rwizi in Sheema, Rwampara, and Isingiro Districts is significantly hindered by a lack of resources for manpower and equipment. This deficiency results in weak enforcement, allowing violations to go unchecked. Consequently, compliance is discouraged, and the overall impact of conservation regulations is severely diminished.

More so, it is concluded that many local communities in these districts exhibit a lack of awareness regarding the importance of environmental laws pertaining to water resource conservation. This limited understanding extends to the specific regulations that are in place. Such a gap in knowledge makes these communities less likely to comply with the necessary conservation efforts.

Further, the study concluded that wealthy individuals or influential businesses involved in activities detrimental to River Rwizi yield significant power. This influence often leads to situations where attempts at enforcement are obstructed. Such hindrances arise due to various political or economic pressures exerted by these powerful entities.

The study also concluded that increased investment in personnel, patrol boats, and monitoring technologies would substantially improve the government's capacity to detect and address violations. Collaborating with local communities can establish a network of citizen observers, thereby enhancing vigilance. Likewise, educational campaigns and public awareness initiatives are crucial for informing residents about the value of conservation laws and the consequences of violations.

Recommendations

Establishing the Challenge of Enforcement of Laws on the Conservation of Water Resources at River Rwizi in Sheema, Rwampara and Isingiro Districts.

The analysis reveals critical challenges hindering the conservation of River Rwizi's water resources. Here are key recommendations that address these challenges and promote a more sustainable future for the River Rwizi:

The government should increase investment in enforcement resources like patrols, patrol boats, and modern monitoring technologies. Foster collaboration with local communities to create a network of citizen observers, enhancing vigilance and shared responsibility.

The districts should educate residents about the importance of water conservation laws, the ecological value of River Rwizi, and the long-term consequences of unsustainable practices. An informed citizenry is more likely to understand the bigger picture and actively participate in conservation efforts.

The districts should embrace collective effort among government agencies, local communities, and influential figures for River Rwizi conservation. Collaboration through joint patrols, awareness campaigns, and exploring alternative livelihoods will build a comprehensive conservation strategy.

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