AN EXAMINATION OF THE ROLE OF GOVERNMENT IN MAKING HYDROELECTRICITY ENERGY ACCESSIBLE IN REMOTE AREAS OF UGANDA: A CASE STUDY OF KISORO DISTRICT

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UGANDA CHRISTIAN UNIVERSITY

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DECLARATION

I, Atamba Rhona, declare that this is my own research dissertation and has never been presented by anybody in any Institution of higher learning for any academic award.

Signature: ..... Date: ……...

ATAMBA RHONA

S22B44/008

APPROVAL

This is to certify that this dissertation entitled “An examination of the role of government in making hydroelectricity energy accessible in remote areas of Uganda: a case study of Kisoro district.” has been accomplished under my guidance as a supervisor.

Signature:  **Date: 15/04/2025**

Mr. James Mugerwa

Research Supervisor

DEDICATION

This work is dedicated to my beloved parents Mr. Akankund Enock and Mrs. Joy Akankunda for their unwavering love, encouragement, and support throughout my academic journey. To all my siblings, thank you for always believing in me and standing by my side. Your prayers and motivation have been my strength. Lastly, I dedicate this dissertation to all those who pursue knowledge with determination and passion—may you always find success in your academic endeavours.

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ABSTRACT

This study examines the impact of internal control systems on the financial performance of the Ministry of Education and Vocational Training in Zanzibar. The objectives were to: (1) assess the effectiveness of the existing internal control mechanisms, (2) evaluate their influence on financial performance, and (3) identify challenges hindering their implementation. Employing a descriptive research design, the study targeted a population of 150 employees across various departments, from which a sample of 100 respondents was selected using stratified random sampling. Data were collected through structured questionnaires and document analysis. Quantitative data were analyzed using descriptive statistics and regression analysis, while qualitative data underwent thematic analysis. Findings revealed that while internal control mechanisms such as segregation of duties and authorization procedures exist, their effectiveness is compromised by inconsistent application and lack of regular monitoring. Specifically, the study found that: (1) the control environment is weakened by inadequate management support, (2) risk assessment processes are underdeveloped, and (3) control activities are not uniformly enforced across departments. Consequently, these deficiencies adversely affect the Ministry's financial performance. The study concludes that strengthening internal control systems is imperative for enhancing financial accountability and performance. It recommends: (1) regular training for staff on internal control procedures, (2) establishment of an independent internal audit function, and (3) management reinforcement of a culture that prioritizes robust internal controls. Implementing these measures is expected to improve resource utilization and financial transparency within the Ministry.

CHAPTER ONE

1.1 General Introduction

Chapter one will contain the study's background, statement of the problem, purpose, objectives, research questions, scope, significance, definition of key terms and conceptual framework.

1.2 Background of the study

1.2.1 Historical background

Hydro-power is an essential renewable electricity resource worldwide. However, its development is followed by environmental and social drawbacks. Issues of decay of the surroundings and climate alternate can negatively affect hydropower technology. The increase in global strength due to population and economic boom in growing US, coupled with massive demand from evolved international locations is nicely documented. In line with the information from worldwide energy employer, the reported values display that the overall global primary power deliver in 2009 turned into 12,150mtoe up from 6,111mtoe in 1973, indicating an almost one hundred% growth (Kaunda, 2012).

In Africa, the importance of renewable energy and small hydropower for sustainable power technology has been presented, they have potential to contribute to assuaging acute shortage of rural power supply deliver state of affairs inside the place has been presented and in trendy, the vicinity has very low power get admission to tiers coupled with numerous demanding situations. Small hydropower era has been mentioned as one of the promising decentralized power era systems for rural strength deliver within the area. (Chiyembekezo S. Kaunda, 2012).

In Uganda, the situation could be more distinct. Each government and the personal sector are grappling with getting energy for humans. Western warders, wondering why rural electrification is transferring at a crawl, may be brief to forget that the evolved international took multiple decades to make strength accessible in rural areas. Uganda is in that phase now, shifting; but slowly.

By 1911, Uganda was destined to have its first Hydro- powerstation. However, since 1906, according to facts from Uganda employers, there has already been energy in Uganda powered either by turbines, steam or suction gasoline, although it has become most straightforward for the

Europeans. In 1906, the Uganda organization opened the primary powered ginnery at Kireka, close to Kampala. Around 1915, thermal energy was delivered and eventually in 1954, Hydroelectricity was first produced at the Owen Falls Dam in newspaper mounted in 1912. It also had a generator to produce power to run its machines and light a factory (Kiggundu, 2021).

By 1920, Imperial hotel in Kampala, the primary hotel in Uganda, had flashing bathrooms and extensively utilized thermal electricity. On March 17th 2002, under the story "He delivered strength to Uganda" the Sunday vision wrote that Kawalya petitioned the British government for strength and piped water to Uganda (Kiggundu, 2021).

This research tries to find a number of the main challenges of making strength reachable in Uganda, a developing state with a large rural population. the subsequent sections provide a reasonably immoderate evaluation of the energy region in Uganda, foundational records this is essential if one is to genuinely recognize the power scenario. Following this element as an instance in Kamuli, Kalangala and Kisiizi. The very last phase carries recommendations for making power greater handy to rural Ugandans.

1.2.2 Conceptual background

Even though hydro-strength plants are presently the maximum dominant electricity supply in Uganda, the rate of development of these assets for the electricity era still needs to be higher. Findings indicate ahigher prospect for a hydropower era in Uganda, with an anticipated potential of over 4500MW. Regarding the range of tasks, small- scale hydropower plants dominate power plants in Uganda, presently accounting for 19 out of 35 grids- of connected energy vegetation. Hydro sources are ample in Uganda, particularly along the Nile and up to now only 320MW capacities of hydro projects were established and only sixteen.7MW of these are small hydropower. At the same time, the electrification stage of the 25m population is shallow, with the most straightforward 1% electrification in rural areas. Lack of admissionto powertremendously affects the use of rising technology, contemporary financial sports, public carrier transport and living standards (Katutsi, 2021).

1.2.3 Contextual background

At the time of the challenge, handiest five -7% of the rural population in Uganda had get right of entry to energy and as part of its improvement approach the government of Uganda is therefore

embracing the possibilities supplied with the aid of renewable electricity generation. The Nyamabuye run-of-river hydropower plant is located on the River Kaku in Kisoro District. The maximum South-Westerly of all renewable energy producing sites in Uganda so may want to provide a much-preferred geographic expansion of power provision (Alex).1.2 Statement of the problem.

Inspite of hydropower surplus most Ugandans record lack of electricity. power is a prime determinant of a rustic's financial prosperity. lack of get entry to strength has a massive impact on using emerging technologies, contemporary monetary sports, public service transport and people's requirements of residing. scarcity of power in remote areas has left many citizens unemployed subsequently poor fashionable of dwelling. currently Uganda's power zone is inflow, after the passage of the 1999 power Act; private agency was delivered into all elements of the world. issues with energy theft, insufficient deliver, and geographical isolation have accelerated for the reason that that time. In 2018, the government launched the electricity Connection policy giving clients a power connection for just Ugx.20, 000 aiming to ensure get admission to for 60% of families by way of 2027 (Kakumba, 2021).

Despite these kinds of efforts, the maximum current reliable data display that only 26. three% of families have gotten entry to strength along with most effective 18% from rural regions thereby leaving many remote regions without a get admission to strength (Kakumba, 2021). therefore, a take a look at on how the government of Uganda can make Hydro power electricity reachable to human beings in remote regions using Kisoro because the study case.

1.3 Purpose of the study

The studyexamines the role of the government in making hydroelectricity energy accessible in remote areas of Kisoro District in Uganda.

1.4 Research Objectives

General Objective

1. To examine the role government in making hydroelectricity energy accessible in remote areas of Kisoro District in Uganda.

Specific Objectives

2. To examine the problems affecting Uganda's electricity supply
3. To examine the strategies of government of Uganda in making hydroelectricity energy accessible to people in remote areas.
4. To determine the role of hydroelectricity energy to people in remote areas of Kisoro District.

1.5 Research questions

1. What are the problems affecting Uganda's electricity supply?
2. What are the strategies being used by the government of Uganda in making hydroelectricity energy accessible to people in remote areas?
3. What is the role of hydroelectricity energy to people in remote areas of Kisoro District?

1.6 Scope of the study

1.6.1 Geographical scope

The study could be performed in Kisoro District. Kisoro District is positioned in South Western Uganda, lying among longitudes 29 o 35" and 29 o 50" East and latitudes 1 o forty-four" and 1 o 23" South. The metropolis of Kisoro is the web page of the district headquarters. Kanungu District borders Kisoro District to the north, Kabale District to the east, Rwanda to the south, and the Democratic Republic of the Congo to the west. The metropolis of Kisoro is about 45 kilometers (28 mi), with the aid of street, west of Kabale, the largest town within the sub-region.

1.6.2 Content scope

The study is intending to examine how the government of Uganda can make hydroelectricity energy accessible in remote areas especially in Kisoro District. Basically, the researcher aims at looking at what to be done by the government of Uganda to extend Hydro Electricity Energy to people in Kisoro District.

1.6.3 Time scope

The study will look at the period from when the hydro power plant was built in the country (180) up to 2022. Meanwhile the Owen Falls scheme now called Nalubaale was completed in 1964.

1.7 Significance of the study

The effects to look at will be helpful to the authorities of the Republic of Uganda with the aid of finding solutions to the challenges of extending hydroelectricity strength to people and reaching its goals accordingly. The consequences of the study could be of a whole lot of importance to the human beings in far- flung areas who might be capable of pumping water, transiting their commodities, engaging in profits- generating sports, practicing modernized healthcare and boom to be had light to increase work and leisure hours.

The findings of the study can be of a first-rate importance to the researcher due to the fact it's miles one of the requirements for the award of a Bachelor'sdegree in petroleum furthermore, the study findings could be used by the future researchers who're probably use it as a guideline to their studies and to those who can also write hydroelectricity energy.

Definition of key terms

Examination: An examination is a final product that measures and evaluates a set of objectives or a particular behavior, while an assessment is a procedure of evaluation rather than a product.

A government: A government is the system or group of people governing an organized community, generally a state.

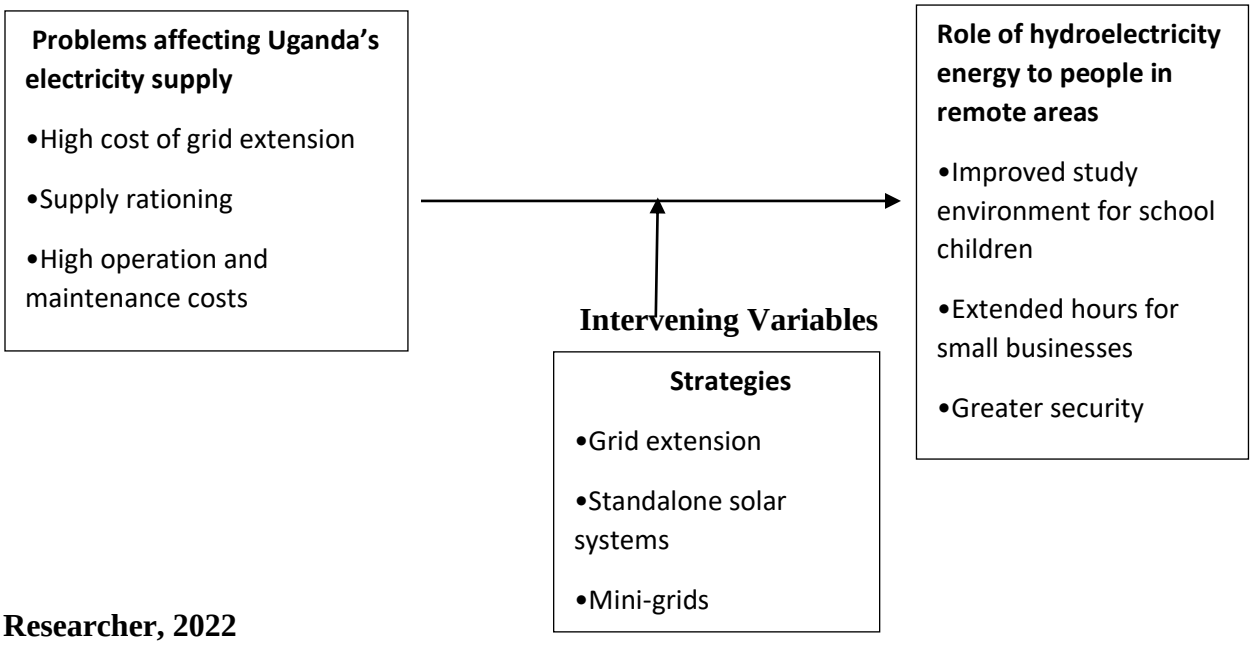
Hydroelectricity energy: Hydropower, also known as water power, is the use of falling or fast-running water to produce electricity or to power machines.

Accessible: Refers to the ability to access something and benefit from some system or entity.

Remote areas: This is a geographic area that is located outside towns and cities. Typical rural areas have a low population density and small settlements.

1.8 Conceptual frame work

Independent Variables **Dependent Variables**



Researcher, 2022

The above illustration is a conceptual framework displaying the variables of the study amongst which consist of the unbiased variables that is the issues affecting Uganda's strength supply inclusive of excessive value of grid extension and low recuperation because of exceptionally subsidized tariff, low degree of tariff series ensuing in terrible go back, deliver rationing because of non-availability of energy and high operation and preservation expenses. The intervening variables that's the strategies being used by the government of Uganda in making hydroelectricity handy to humans in faraway areas consisting of provision of electricity to rural populations can take 3 paperwork i.e. Grid extension works through extending a country wide energy grid to families and communities without get right of entry to, standalone sun systems and mini-grids. also, the based variable that's function of hydro power to people in faraway regions of Kisoro District find it irresistible has long been claimed that rural electrification greatly improves the pleasant of life. lights by myself brings advantages which includes elevated have a look at time and advanced observe surroundings for faculty children, prolonged hours for small agencies, and greater security. but electrification brings extra than light.

CHAPTER TWO

(LITERATURE REVIEW)

2.1 Introduction

This chapter deals with the, theoretical review, the problems affecting Uganda's electricity supply, the strategies being used by the government of Uganda in making hydroelectricity energy accessible to people in remote areas and the role of hydroelectricity energy to people in remote areas of Kisoro District.

2.2 Theoretical review

2.2.1 Power theory and meta-theory of electric power

As to my best knowledge, the term strength idea came about in literature for the first time, in Polish, (Subhash, 2009). Its miles used now as a classifier of diverse electricity concepts developed by means of scientists who studied energy residences of electrical circuits. In the sort of which means it's far used in phrases including, Budeanu's energy concept, Fryze's power principle, Shepherd and Zakikhani's (S&Z) power concept, Kusters and Moore's (k&M) energy concept, Depenbrock's electricity theory additionally referred to as FDB method, Nabae and Akagi's immediately Reactive electricity (IRP) p-q idea, Czarnecki's CPC energy principle, Tenti and Tedeschi (T&T) conservative strength concept and so on. while a word like Budeanu's energy theory is used, we will have a concept, of what the word refers to, and might discover its info in literature. utilized in this type of way, the term idea can be seemed, Poper, ok., (1959); as a system of terms defined on this idea, members of the family among those phrases, and their interpretations.

The time period strength theory is also used sometimes in an extraordinary meaning, particularly, as a form of a database of what is thought on power residences of electrical circuits, for this reason as a set of authentic statements on power related phenomena, and/or mathematical expressions related to those homes and interpretations. character statements belong to this database, that means, to electricity theory, as long because it isn't always tested that these statements do no longer preserve fact. regarded as such a database, the energy idea isn't always a gadget of phrases and relationships between them, i.e., it is not a theory within the previous which means. on the equal time, however, anyone who reveals even an unmarried, but a brand-

new strength associated belongings, contributes to the development of the power idea regarded as a database.

Statements or critiques at the that means of the time period concept, as those presented above, are not a topic of a principle, but a meta-theory, in our case of a meta-theory of electric strength. in addition, statements and opinions on the motives of the energy idea development, expectations and opinions on methods utilized in a specific energy principle, belong to meta-theory of electric power. also, to the metatheory belong proofs of inconsistency in unique energy theories. difference of the concept from meta-principle of electric power allows us for a rationalization in debates on electric powers. Mathematically expressed statements in energy theories are strict, whilst the ones in meta-principle can also have best a form of descriptive reviews. Statements in power theories have to be widespread and valid for all conditions, constrained only by way of a fixed of assumptions imposed via a selected concept. Statements within the meta-theory may even have a form of an individual observation, but able to undermining the correctness of a whole energy concept.

This paper is written from the attitude of a metatheory of electric power, therefore, it's far composed of best the writer’s evaluations on power theories and therefore, these reviews can be challenged.

2.2.2 Power theory as a physical theory

Strength theories have powers in electric circuits as their situation be counted, i.e., a part of the physical realm. they are physical theories in the experience that they describe physical phenomena. electric circuits and systems are the concern of electrical engineering, which spans physics, era and economy. electricity idea, like different theories in electric engineering, inclusive of circuit principle, electric machinery idea or antenna concept, serves precise needs of electrical engineering. it can be judged by how well it satisfies expectations of electrical engineering. those expectations aren't properly defined, but do exist. mathematics is the main tool of strength theories. it is used on various tiers of abstraction, from quite essential to incredibly state-of-the-art. though, there does not exist any power theory with mathematical mistakes. Such errors could refute a capacity idea instantaneously and therefore, all existing power theories are mathematically accurate. individual power theories differ in particular in their

bodily interpretation of electricity associated phenomena and electricity terms used for describing them; (Tedeschi, E., Tenti, P.,2008).

2.3 The problems affecting Uganda's electricity supply

Limited disclosure of signature bonuses paid by companies. In step with the acting Commissioner of Uganda's Petroleum Exploration and manufacturing branch (PEPD), at the same time as no signature bonuses had been signed for the primary round of licenses, bonuses have been paid one of the most recent licenses, as reserves have been through then looking extra promising. The maximum current licenses, in step with the NOGP, had been provided to Neptune on 27 September 2005 (EA5 Rhino Camp) and to Dominion on 27 July 2007 (EA4B Southern Lakes). regardless of the PEPD claim that bonuses were made public, not one of the civil society organizations and MPs interviewed for this record (nor, quiet, the IMF representative) stated they were privy to any bonuses being paid. In November 2008, the Parliament's Public bills Committee (p.c) demanded a research, having cited there have been no accountability provided thus far for any signature bonuses collected. given that this issue issues the gathering and utilization of public revenues, it's miles crucial that there is complete disclosure of: (i) the amount of monies acquired, if any, and from whom; (ii) once they were received; and (iii) their vacation spot. The receipt and use of any sums have to also be independently audited (Eilu, 2008).

Restrained information about oil exploration activities and manufacturing plans. Numerous expert sources and observers interviewed for this file highlighted the dearth of public debate about the EPS and large refinery alternatives. They raised the problem of environmental and social impacts, and also whether in financial terms the EPS or a multi-billion-dollar large-scale refinery made experience in light of the NOGP's said objective of efficient use of oil and fuel activities 'to maximize their returns', and in mild of ongoing discoveries throughout the Albertine Rift location.

Even as EIAs produced by using oil businesses have been speculated to be shared publicly thru NEMA, greater regularly than now not this did not occur and NGOs needed to lobby difficult to attain them, frequently accessing them too past due to examine and reply correctly. similarly, the situations of approval for EIAs, which had been speculated to be made public, usually were now not, and after they were, contained simply indistinct and standardized statements in place of

targeted comments. other grievances were referred to on the district degree in which exploration is taking region, with officers complaining approximately a loss of consultation by using important authorities or businesses. In Amuru District, as an instance, local leaders hinge about the secrecy surrounding oil activities by way of heritage, and there had been all varieties of rumors circulating, many of which, while no longer necessarily credible, factor to a high level of anxiety**.**

Loss of disclosure on phrases of contracts. No matter this emphasis through NOGP, many Ugandans are left to marvel why negotiations between authorities and oil groups in Uganda for the award of licenses at the initial 5 EAs have been carried out in secret, and why the energy-sharing agreements (PSAs) have not yet been made public, nor mentioned in or ratified by using parliament. despite the fact that the government claims to have shared the PSAs with person contributors of Parliament (MPs) from the Parliamentary natural sources Committee (NRC) in July 2008, those have been not disseminated greater broadly even in parliament (Sunday monitor, 2008).

2.4 Strategies being used by the government of Uganda in making hydroelectricity energy accessible to people in remote areas.

Uganda has one of the lowest energy consumptions in the world, with an average energy consumption of 12.72 GJ per capita (Adeyemi et al. 2014), and an average per capita electricity consumption of less than 0.36 GJ (MEMD, 2014a). This is a consequence of a large share of the population living in rural areas with only 14.9% of the population having access to the national grid in 2013 (MEMD, 2014c), combined with a low installed generation capacity.

However, the Ugandan energy demand is anticipated to outgrow the energy supply in the next few years (GetFit, 2014), and over the past years Uganda has experienced an increase of the energy demand at an average annual rate of 8% (EIPL, 2011). This is a trend that can be seen over the past two decades (MEMD, 2014a), and is partly because of the economic growth the country has felt in the same period. Although, the electricity supply has not increased in the same pace as the demand, which has led to an energy deficit. This deficit has mainly had an impact on the industrial and commercial sectors, leading to a decrease of the GDP growth from an expected rate of 6.5% to a value of 4.5% in 2006 (World Finance, 2013). To resolve this problem many construction plans are in process to increase the country’s generation capacity.

Energy mix Uganda's primary energy consumption consists to 88.9% of biomass, where the largest part is fuel wood, due to a large rural population and a low electrification rate. Petroleum products constitute 9.7% of the energy balance, and only 1.4% of the energy consumption is electricity (MEMD, 2014a).

Electricity Supply Due to the many water bodies in Uganda, and the Nile River running through the country, they have good conditions and possibilities for a wide distribution of hydropower. However, wildly inconsistent data has made the results of the estimation of the current total installed generation capacity in Uganda, vary considerably. According to the values found in Electricity Regulatory Authority's (ERA) report "Developments and Investments Opportunities in Renewable Energy.

Resources in Uganda" (2013a) the total installed capacity in the country was identified as 873.6 MW, consisting of about 80% hydropower. Of these 873.6 MW, 6 MW is off grid capacity.

Construction plans Considering the growing electricity demand in Uganda and the predicted power supply shortage (GET FiT Uganda, 2014), power plant constructions and energy investments are essential for the country's future development. In accordance with previous studies there is a clear correlation between energy supply and improved industrialization and economic development (World Economic Forum, 2012). The access to electricity has a key role when increasing economic growth and -status in a country (Tumushabe et al. 2014).

The Karuma Hydropower Project is a joint project undertaken between the Government of Uganda and the Chinese Government together with the Chinese construction company Sinohydro (MEMD, 2013a). The preparation constructions were completed in December 2013, and the power plant is scheduled to be on power in 2018 (EAPP et al, 2011). At the Rural Electrification Program, the Karuma Project was identified to be the least cost solution of the identified potential hydropower sites and has therefore been prioritized (EIPL, 2011). When finished, the Karuma hydro power plant will be the largest power plant in Uganda (Harris, 2015).

Isimbia is a 188 MW hydropower plant (UEGCL, 2014), which also is a part of the government's effort to increase generation and to lower the electricity prices (Wakabi, 2013). After having some financial issues standing in the way of the construction start, the Chinese

government contributed with a $2 billion financial aid for the Isimbia and Karuma projects, which has allowed the Isimbia construction to begin (The East African, 2013).

2.5 The role of hydroelectricity energy to people in remote areas

Hydropower, in any other case called hydroelectric power, offers some of advantages to the communities that they serve. Hydropower and pumped storage hold to play a critical role in our fight towards weather trade by providing important electricity, garage, and flexibility services. beneath are simply a number of the benefits that hydropower can offer as America transitions to a hundred% easy electricity with the aid of 2035 and internet-0 emissions through 2050.

Hydropower is a renewable source of energy. The electricity generated through hydropower is predicated on the water cycle, which is driven by the sun, making it renewable.

Hydropower is fueled by using water, making it a easy source of energy.

Hydroelectric strength is a home source of electricity, permitting every kingdom to supply its personal electricity without being reliant on worldwide gasoline resources.

Impoundment hydropower creates reservoirs that offer recreational opportunities which includes fishing, swimming, and boating. most hydropower installations are required to provide a few public access to the reservoir to permit the public to take benefit of these possibilities.

Hydroelectric strength is flexible. a few hydropower centers can fast go from zero electricity to most output. due to the fact hydropower plants can generate energy to the grid right now, they provide essential backup energy throughout important power outages or disruptions.

Hydropower affords blessings past power technology by way of providing flood control, irrigation assist, and clean consuming water.

Hydropower is less expensive. Hydropower provides low-fee power and durability over time compared to other resources of power. construction charges may even be mitigated by means of using preexisting structures including bridges, tunnels, and dams.

Hydropower compliments different renewable electricity resources. technologies like pumped storage hydropower (PSH) shop energy to apply in tandem with renewables which include wind and solar power when call for is excessive

2.6 Conclusion

No matter Uganda's surplus in power generation, maximum residents lack get admission to and connection to the national strength grid. terrible humans and residents of rural areas and the Northern and Western regions are especially deprived.

despite the fact that, the government receives increasingly more tremendous rankings of its overall performance on providing dependable energy, likely due to its regulations and packages designed to improve get entry to power. Those findings point to the want to address implementation demanding situations of present

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methods which were applied during data collection. It shows the research design, the study population, sample size, sampling techniques and data sources, data analysis, limitations to the study and the solutions.

3.2 Research design

A descriptive studies layout was utilized by the researcher in order to describe information and characteristics approximately the study population. similarly, to this, both quantitative and qualitative approaches were used to allow the researcher acquire statistics via questionnaires and interview approach in gathering information from the sphere. The researcher was implemented quantitative research through figuring out the range of frequency and respondents in questionnaire answering after which was analyzed in graphs, table and percentage quantitatively, right here qualitative records became revealed with the aid of measuring and sorting out answers given by way of the respondents inside the meaningful pattern. (Barbuto, J. E. (2005).

3.3 Study area

The study was conducted in Kisoro District, located in South Western Uganda, mendacity between longitudes 29 o 35" and 29 o 50" East and latitudes 1 o 44" and 1 o 23" South. Kisoro town is the administrative center, Kisoro district. Kisoro District is bordered with the aid of Kanungu District to the north, Kabale District to the east, Rwanda to the south, and the Democratic Republic of the Congo to the west. The town of Kisoro is approximately 45 kilometres (28 mi), by means of avenue, west of Kabale, the biggest town in the sub-location.

3.4 Study Population

The study was based on a target population of 10,280 key stakeholders involved in hydroelectric energy distribution in Kisoro District. These include:

- Government officials from the Ministry of Energy and Mineral Development (MEMD).
- Local government authorities.
- Officials from the Rural Electrification Agency (REA)

- Representatives from electricity distribution companies such as UMEME.
- Community members in selected villages of Kisoro.

3.5 Sampling Procedures

3.5.1 Sample size

According to the Uganda Bureau of Statistics (UBOS), Kisoro District has an estimated total population of 281,705 (as of the latest census). A sample size of 10,280 respondents was selected for study, determined using Slovin's formula (Slovin, 1960)were it reduced to 385 due to circumstances evident in the calculation below.

n = N/1+Ne2

where:

- n = required sample size
- N = total population
- e = margin of error (0.05 for this study).

e = level of precision/sampling error at 0.05.

Therefore:

$$n = \frac{10,280}{1 + 10,280\ (0.05)2}$$

$$n = \frac{10,280}{1 + 10,280\ (0.0025)}$$

$$n = \frac{10,280}{(1+ 25.7)}$$

10,280

n = 26.7

n = 385

Therefore, the Sample size is 385individuals.

3.5.2 Sampling techniques

A stratified random sampling method was used to categorize respondents into different strata (government officials, REA representatives, UMEME officials, and local community members). Within these strata, purposive sampling was used to select government and electricity agency representatives, while simple random sampling was used for community to ensure equal representation.

3.6 Data collection Methods and instruments

Both primary and secondary data collection were employed.

3.6.1 Primary Data Collection

Questionnaires:This questionnaire is designed to ensure accurate and reliable data collection easy to understand by selected respondents. Structured questionnaires were administered to only305individuals out of 385 sample size, mainly community members and local government officials to collect quantitative data on accessibility and affordability of electricity connections, challenges in obtaining electricity, and government initiatives. Since it's a self-guided questionnaire, it will be divided into three sections i.e. A, and B, Where Section A (demographic information), Section B (open-ended questions for additional insights).

Interviews: Semi-structured interviews were conducted with only 80 respondents including officials from Government, officials from the Ministry of Energy and Mineral Development (MEMD)., Local government authorities, Officials from the Rural Electrification Agency (REA), Representatives from electricity distribution companies such as UMEME, and Community

members in selected villages of Kisoro to obtain in-depth qualitative data on government policies and implementation strategies.

Focus Group Discussions (FGDs): FGDs were held with community members to explore their perceptions and experiences regarding hydroelectric power accessibility. Where each FGD had 8-12 participants and discussions were held in local community halls and village centers.

3.6.2 Secondary Data Collection

Secondary data was obtained from:

- Government reports from the Ministry of Energy and Rural Electrification Agency.
- Policy documents and strategic plans related to energy distribution.
- Scholarly articles and research papers on rural electrification in Uganda.

3.7 Data Analysis

3.7.1 Quantitative Data Analysis. Data from questionnaires was analyzed using descriptive statistics (percentages, and frequencies) in Ms Excel.

3.7.2 Qualitative Data Analysis. Thematic analysis was used to analyze responses from interviews and FGDs. Recurring themes related to government policies, challenges, and solutions were identified and interpreted. (English Language Teaching; Vol. 12, No. 5; 2019, 2014)

3.8 Quality control

3.8.1 Data Validity

To ensure the validity of the questions and interview agenda, the researcher consulted her supervisor from the college. The pilot exercise provided a basis for identifying and correcting any mistakes in the questionnaires. Additionally, the researcher worked closely with the supervisor to address any concerns related to research errors, ensuring the study met the required academic standards.

3.8.2 Reliability of instrument

At some stage in the take a look at questionnaires was examined to degree the reliability of instruments, Reliability refers back to the degree of consistency between measures of the same

element after several checks. here the researcher examined all the methods and gear with a purpose to be used in records series methods which includes interview, observations and questionnaires to reveal whether or not were reliable and really worth to collect information within the area. (Bryman, 2016)

3.9 Ethical Considerations

Participants provided informed consent before participation. Their identities were kept anonymous, and all data were used solely for research purposes. A transmittal letter from the University helped introduce the researcher to the community.

Confidentiality. Respondents' identities were kept anonymous, and their information was used solely for research purposes.

Voluntary participation. Participants were free to withdraw at any stage without consequences.

3.10 Limitations of the study

The researcher experienced a trouble of limited budget to carry out research. Fees regarding this issue encompass transport, printing and photocopying of relevant materials. however, the researcher was forced to borrow a few money from household with the intention to cut down this challenge.

The researcher was predicted to enjoy the trouble of time for the duration of statistics series, studying of information and in very last presentation of the dissertation. but, the researcher was able to slash this trouble by means of ensuring that the time element for you to be placed into consideration and all appointments agreed upon with respondents were absolutely met.

The researcher experienced a trouble of non-response from a few respondents. but, the researcher was assured that any records given became dealt with most confidentiality.

3.11 Conclusion

This chapter has detailed the research design, population, sampling techniques, data collection methods, analysis strategies, and ethical considerations for the study on hydroelectric energy accessibility in Kisoro District. These methodologies ensure the credibility and reliability of the findings.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 Introduction

This chapter presents the data analysis and interpretation of findings based on responses collected from a sample of 385 respondents in Kisoro District. The findings are structured according to the study objectives, focusing on:

1. Problems affecting Uganda's electricity supply.
2. Government strategies for making hydroelectricity accessible in remote areas.
3. The role of hydroelectricity in improving the lives of people in Kisoro District.

The data is analyzed using descriptive statistics, including frequencies and percentages. Tables and charts are used to present the findings.

4.2 Demographic Characteristics of Respondents

4.2.1 Gender Distribution

Gender	**Frequency**	**Percentage (%)**
Male	215	55.8%
Female	170	44.2%
Total	**385**	**100%**

Source: primary data, 2025

The gender distribution of respondents in this study indicates that 55.8% were male, while 44.2% were female. This suggests that men were slightly more represented in the study, possibly due to their dominant role in decision-making on electricity-related matters in both households and businesses. In many rural areas, men are often more involved in economic activities that require electricity, such as business, farming, and industry, which may explain their higher participation in the study. However, the significant representation of female respondents (44.2%) indicates that women are also key stakeholders in electricity access and usage. Women in rural communities play a major role in household energy management, particularly for cooking, lighting, and income-generating activities like small-scale retailing and food processing. Their

participation in the study provides insights into how hydroelectric power affects family welfare, education, and healthcare.

Gender disparities in electricity access also highlight the need for gender-sensitive policies that address the unique energy needs of both men and women. Expanding hydroelectricity access in Kisoro District can reduce women's reliance on traditional energy sources, such as firewood and kerosene, leading to improved health, reduced workload, and enhanced economic empowerment.

4.2.2 Age Distribution

Age Group	**Frequency**	**Percentage (%)**
18-25 years	72	18.7%
26-35 years	110	28.6%
36-45 years	98	25.5%
46-55 years	65	16.9%
56+ years	40	10.3%
Total	**385**	**100%**

Source: primary data, 2025

The age distribution of respondents shows that the majority fall within the 26–35 years (28.6%) and 36–45 years (25.5%) age groups. This suggests that young and middle-aged adults are the most actively engaged in electricity-related matters, likely due to their involvement in economic activities such as business, farming, and formal employment. These age groups are also more likely to be heads of households, making them key decision-makers in energy consumption.

The 18–25 years age group (18.7%) represents young adults, including students and early-career workers, who are increasingly dependent on electricity for education, technology, and communication. The relatively lower participation of respondents aged 56+ years (10.3%) indicates that older individuals may have less involvement in electricity-dependent economic activities or may rely on traditional energy sources.

The findings highlight the importance of expanding hydroelectric power to support younger populations who require electricity for education, entrepreneurship, and technological advancements. Electrification in Kisoro District will enhance job creation, business growth, and

digital access, benefiting all age groups but especially working-age individuals who drive economic development.

4.2.3 Educational Level

Education Level	Frequency (n)	Percentage (%)
No formal education	40	10.4%
Primary education	85	22.1%
Secondary education	150	39.0%
Tertiary education	110	28.5%
Total	**385**	**100%**

The educational background of respondents plays a significant role in their awareness, perception, and adoption of hydroelectricity in Kisoro District. According to the findings, the majority of respondents (39.0%) have attained secondary education, followed by 28.5% with tertiary education. This indicates that a large proportion of respondents have moderate to advanced knowledge about electricity and its benefits. The 22.1% of respondents with only primary education suggests that a notable segment of the population may have limited understanding of hydroelectric power systems, their impact on economic growth, and the necessity of government initiatives in rural electrification. The 10.4% of respondents with no formal education are more likely to face challenges in understanding policies, electricity pricing, and technical aspects of hydroelectricity usage. This may result in lower adoption rates or misconceptions about energy efficiency and sustainability. Educational levels also influence employment opportunities and electricity consumption patterns. Respondents with tertiary education (28.5%) are more likely to be employed in formal sectors such as government, business, and professional services, which require reliable electricity access. On the other hand, individuals with lower education levels (primary or no formal education) are more likely to engage in agriculture or informal businesses, where electricity usage is limited to essential needs such as lighting and small-scale processing.

4.2.4 Occupation

Occupation	Frequency	Percentage (%)
Government Officials	45	11.7%

Electricity distribution company staff	32	8.3%
Business owners	78	20.3%
Farmers and agricultural workers	90	23.4%
Community leaders/local officials	40	10.4%
Healthcare professionals	30	7.8%
Teachers and educators	42	10.9%
Students	28	7.2%
Total	**385**	**100%**

Source: primary data, 2025

The occupational distribution of respondents provides valuable insights into electricity demand, usage patterns, and the impact of hydroelectric power in Kisoro District. The largest respondent group was farmers and agricultural workers (23.4%), followed by business owners (20.3%). This suggests that agriculture and small-scale enterprises are key drivers of electricity demand in the district. Farmers and agricultural workers are heavily dependent on electricity for irrigation, storage, and processing. The limited availability of hydroelectric power in remote areas restricts farmers from using modern farming techniques, leading to low productivity and post-harvest losses. The presence of a significant number of business owners (20.3%) indicates that electricity is crucial for small-scale enterprises, including shops, milling industries, welding businesses, and food processing. Inconsistent power supply often increases business costs, forcing many entrepreneurs to use expensive diesel generators as alternatives.

Government officials (11.7%) and electricity distribution company staff (8.3%) were included in the study to capture perspectives on policy implementation and infrastructure development. These stakeholders are responsible for planning and executing rural electrification programs, and their insights help to assess the effectiveness of government strategies in expanding hydroelectric power access. A significant proportion of respondents were teachers and healthcare professionals (18.7% combined), reflecting the role of electricity in improving essential services. Schools rely on electricity for lighting, digital learning, and administration, while healthcare facilities require power for medical equipment, refrigeration of vaccines, and emergency services. The lack of reliable electricity in rural health centers often compromises the quality of medical services, making electrification a top priority for the sector.

Community leaders and local officials (10.4%) were included in the study to provide insights into local governance, public engagement, and rural electrification challenges. As key decision-makers at the grassroots level, they influence policy implementation and advocate for community needs regarding electricity access. Their perspectives are crucial in understanding how government strategies align with local priorities. Students (7.2%) represent a vulnerable group that benefits from electricity in education. With access to hydroelectric power, students can study at night, access digital learning materials, and improve academic performance. However, in many remote areas, schools still lack reliable electricity, limiting educational opportunities.

4.3 Problems Affecting Uganda's Electricity Supply

The study sought to examine the **key challenges affecting Uganda's electricity supply**, particularly in remote areas such as **Kisoro District**. Respondents were asked to rate various factors contributing to electricity supply challenges using a **Likert scale** (Strongly Agree, Agree, Not Sure, Disagree, Strongly Disagree). The table below presents the findings:

Problem	**Strongly Agree**	**Agree**	**Not sure**	**Disagree**	**Strongly Disagree**	**Total**
The high cost of grid extension is a major barrier.	156 (40.5%)	136 (35.3%)	39 (10.1%)	36 (9.4%)	18 (4.7%)	**385**
Frequent power rationing affects electricity availability.	193 (50.2%)	116 (30.1%)	29 (7.5%)	31 (8.0%)	16 (4.2%)	**385**
High operational costs hinder hydroelectricity accessibility	149 (38.7%)	154 (40.0%)	39 (10.0%)	25 (6.5%)	18 (4.8%)	**385**
Electricity theft and illegal connections contribute to supply challenges.	173 (45.0%)	125 (32.5%)	37 (9.6%)	34 (8.7%)	16 (4.2%)	**385**
Government policies have failed to address electricity supply problems.	138 (35.8%)	130 (33.7%)	58 (15.0%)	40 (10.5%)	19 (5.0%)	**385**

Source: primary data, 2025

The results indicate that 75.8% (40.5% Strongly Agree, 35.3% Agree) of respondents believe that the high cost of extending the national electricity grid to remote areas is a significant barrier to electricity access. Only 14.1% disagreed, while 10.1% were unsure. Extending electricity infrastructure to remote districts such as Kisoro requires massive financial investment in power lines, transformers, and substations. The high costs are passed on to consumers, making electricity expensive and unaffordable for many rural households. Additionally, the hilly terrain and dispersed settlement patterns in Kisoro further increase construction and maintenance costs. As a result, many communities remain off-grid, forcing people to rely on alternative energy sources such as firewood, charcoal, and kerosene.

Frequent power rationing was identified as one of the most critical issues, with 80.3% of respondents (50.2% Strongly Agree, 30.1% Agree) stating that it negatively affects electricity availability. Only 12.2% disagreed, while 7.5% were unsure. Power rationing occurs due to low electricity generation capacity, outdated infrastructure, and increased demand exceeding supply. In Uganda, hydroelectric power contributes over 80% of electricity production, but during dry seasons, water levels in dams drop, reducing power generation. Additionally, old and inefficient transmission systems result in frequent breakdowns, leading to unplanned blackouts. The impact of power rationing is severe, affecting businesses, households, schools, and healthcare facilities. Many businesses in Kisoro, such as welding workshops, milling factories, and retail shops, suffer financial losses due to unreliable electricity. Additionally, students struggle to study at night, and hospitals face difficulties in running essential medical equipment during power outages.

A significant 78.7% of respondents (38.7% Strongly Agree, 40.0% Agree) identified high operational costs as a major challenge hindering hydroelectricity accessibility. 11.3% were unsure, while only 11.3% disagreed. Despite Uganda's potential for hydroelectric power, maintaining hydroelectric plants is expensive due to high operational and maintenance costs. The cost of building, repairing, and maintaining dams, turbines, and transmission infrastructure is substantial. Additionally, rising fuel costs, inflation, and currency fluctuations further increase electricity production costs, which are passed on to consumers through higher electricity tariffs. These high costs make electricity less affordable for rural households and businesses, limiting economic growth and industrialization in remote areas. The government should consider

providing incentives for private investors in the energy sector to reduce the cost burden and lower consumer tariffs.

A total of 77.5% of respondents (45.0% Strongly Agree, 32.5% Agree) stated that electricity theft and illegal connections are major challenges in Uganda's power sector. Only 12.9% disagreed, while 9.6% were unsure. Electricity theft occurs through illegal tapping, meter tampering, and unauthorized power connections, particularly in areas where electricity tariffs are high. This results in financial losses for electricity companies, forcing them to increase tariffs for paying customers to recover lost revenue. Illegal connections also lead to power fluctuations, transformer overloads, and frequent outages, further reducing the reliability of electricity supply.

The findings reveal that 69.5% of respondents (35.8% Strongly Agree, 33.7% Agree) believe that government policies have failed to address Uganda's electricity supply problems. 15.0% were unsure, while 15.5% disagreed. Despite efforts such as the Rural Electrification Program (REP) and Energy for Rural Transformation (ERT) initiatives, many remote areas still lack reliable electricity. Policy gaps exist in areas such as funding, infrastructure development, and regulatory enforcement.

4.4 QUALITATIVE ANALYSIS

Here are the interview extracts from key stakeholders regarding electricity access and supply challenges in Kisoro:

"Extending the national electricity grid to remote areas like Kisoro remains a challenge due to the high cost of infrastructure development. The government has launched initiatives such as the Electricity Access Scale-Up Project to increase rural electrification……."

"Frequent power rationing is caused by limited generation capacity and aging transmission infrastructure. We are working on improving grid stability by investing in hydroelectric projects and upgrading outdated power lines……."

Government Officials from the Ministry of Energy and Mineral Development (MEMD)

"Many rural households in Kisoro still lack electricity because of affordability issues. Even when grid connections are available, connection fees remain too high for many families……."

"We have been engaging with the Ministry of Energy and Rural Electrification Agency to push for more government support in funding mini-grid systems and subsidizing solar energy solutions……."

Local Government Authorities

"Our goal is to ensure that every Ugandan has access to electricity, but financial limitations have slowed our progress. We are working with private investors to accelerate rural electrification……."

"Standalone solar systems and mini-grids have proven to be viable solutions for communities that are too far from the national grid. However, many households still struggle to afford quality solar products……."

Officials from the Rural Electrification Agency (REA)

"Electricity theft and illegal connections significantly affect power distribution in rural areas like Kisoro. These illegal activities cause transformer overloads, leading to frequent blackouts……."

"High operational costs remain a major challenge. Upgrading transmission infrastructure in rural areas requires substantial investment, and without financial support from the government, we face difficulties in improving service delivery….."

Representatives from Electricity Distribution Companies (UMEME)

"Power outages are frequent, making it difficult for us to run small businesses. We often have to rely on generators, which are expensive to maintain……."

"The cost of electricity is too high. Even those of us who have access to the grid struggle to afford monthly bills, forcing us to continue using kerosene lamps……."

"Solar energy has helped some households, but there are challenges in accessing quality and affordable solar systems. We need more government support in this area……."

4.4.1 Community Members in Selected Villages of Kisoro

4.4.1.1 Government Strategies for Hydroelectricity Access in Remote Areas

The study examined the **strategies implemented by the Ugandan government** to enhance **hydroelectricity accessibility in remote areas**, particularly in Kisoro District. Respondents provided their views on different government initiatives, as shown in the table below:

Strategy	**Strongly Agree**	**Agree**	**Not Sure**	**Disagree**	**Strongly Disagree**	**Total**
Government has extended the national electricity grid to rural areas.	115 (30.0%)	156 (40.5%)	46 (12.0%)	48 (12.5%)	20 (5.0%)	**385**
Standalone solar systems are an effective alternative.	163 (42.3%)	135 (35.0%)	39 (10.0%)	31 (8.0%)	17 (4.7%)	**385**
Mini-grid systems have improved access to electricity.	152 (39.5%)	143 (37.2%)	44 (11.3%)	27 (7.0%)	19 (5.0%)	**385**
Government provides enough financial support for electrification.	109 (28.2%)	133 (34.5%)	58 (15.0%)	47 (12.3%)	38 (10.0%)	**385**
Public-private partnerships (PPPs) have helped expand electricity access.	157 (40.8%)	135 (35.2%)	40 (10.5%)	31 (8.0%)	22 (5.5%)	**385**

Source: primary data, 2025

The findings show that 70.5% of respondents (30.0% Strongly Agree, 40.5% Agree) believe that the Ugandan government has extended the national electricity grid to rural areas, while 12.5% disagreed and 5.0% strongly disagreed. However, 12.0% of respondents were uncertain, indicating that some communities may not have fully benefited from grid extension programs.

The government, through agencies such as the Rural Electrification Agency (REA) and Uganda Electricity Transmission Company Ltd (UETCL), has undertaken initiatives to expand the electricity grid to remote areas. Programs like the Electricity Access Scale-Up Project (EASP) and the Energy for Rural Transformation (ERT) initiative have contributed to increasing grid connectivity. However, despite these efforts, many remote villages remain unconnected due to the high cost of extending infrastructure and the scattered nature of rural settlements. Challenges such as limited funding, inadequate transformer coverage, and unreliable power supply have also hindered full grid expansion. To improve electricity accessibility, the government should

increase funding for rural electrification, provide subsidies for connection fees, and improve the reliability of the power grid.

A significant 77.3% of respondents (42.3% Strongly Agree, 35.0% Agree) acknowledged that standalone solar systems are an effective alternative for rural electrification. Only 12.7% disagreed, while 10.0% were unsure. Standalone solar systems provide a cost-effective and environmentally friendly solution to areas where grid extension is too expensive. The Ugandan government, in partnership with development agencies, has promoted the adoption of solar power through initiatives such as:

The Solar Energy for Rural Transformation Project, which subsidizes solar home systems for off-grid communities. The Uganda Energy Credit Capitalization Company (UECCC), which provides financing for households and businesses to acquire solar energy solutions. Solar power has significantly improved lighting, phone charging, and small-scale commercial activities in rural areas. However, challenges such as high initial costs, limited access to quality solar products, and lack of awareness remain barriers to wider adoption. The government should further support solar energy programs through increased subsidies and awareness campaigns to encourage more rural households to adopt this alternative.

The results indicate that 76.7% of respondents (39.5% Strongly Agree, 37.2% Agree) believe that mini-grid systems have improved access to electricity, while 11.3% were unsure, and 12.0% disagreed. Mini-grids are localized electricity generation and distribution networks, often powered by hydroelectricity, solar, or biomass energy, and are particularly beneficial for small communities, schools, and businesses in areas where the national grid is absent. In Uganda, mini-hydro plants such as the Musizi and Nyagak power stations have played a role in improving rural electrification, benefiting districts like Kisoro.

Despite their advantages, mini-grids face financial sustainability challenges due to high setup costs, low consumer demand, and limited policy support. Many mini-grid operators struggle with recovering investment costs, making it difficult to expand these systems. The government should enhance the financial viability of mini-grids by providing incentives such as subsidies, tax reductions, and favorable tariffs to attract more private investment in the sector.

The study found that 62.7% of respondents (28.2% Strongly Agree, 34.5% Agree) believe the government provides sufficient financial support for electrification, while 22.3% disagreed and 15.0% were uncertain. Although Uganda has implemented programs such as the Rural Electrification Fund (REF) and Energy Access Scale-Up Project (EASP), many rural communities still struggle to access affordable electricity. The high cost of grid extension and limited government funding remain significant barriers. Additionally, bureaucratic delays, corruption, and inefficient allocation of resources have slowed progress in some regions.

A total of 76.0% of respondents (40.8% Strongly Agree, 35.2% Agree) believe that public-private partnerships (PPPs) have played a significant role in expanding electricity access. Only 13.5% disagreed, while 10.5% were unsure. PPPs have become a critical strategy in Uganda's energy sector, allowing private companies to invest in electricity generation, distribution, and service delivery. Some of the successful PPP projects include: Bujagali Hydropower Project – Developed through a partnership between the government and private investors to increase Uganda's electricity generation capacity, GET FiT Uganda Program – A government-private sector initiative that promotes renewable energy projects, including small hydro and solar power plants.

Independent Power Producers (IPPs) – Companies such as Electromaxx, Jacobsen, and Aggreko contribute to power generation under PPP agreements. PPPs help to mobilize funding, improve efficiency, and accelerate electrification projects. However, private sector involvement often leads to higher electricity tariffs, making affordability a concern for rural consumers.

4.5 The Role of Hydroelectricity in Remote Areas

The study sought to assess the **impact of hydroelectricity on various aspects of life in remote areas**, particularly in **Kisoro District**. Respondents were asked to evaluate the role of hydroelectricity in **education, business, security, healthcare, and economic development** using a **Likert scale** (Strongly Agree, Agree, Not Sure, Disagree, Strongly Disagree). The results are presented in the table below;

Benefits of Hydroelectricity	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree	Total
Hydropower has improved the study environment for students.	173 (44.8%)	146 (38.0%)	32 (8.2%)	23 (6.0%)	11 (3.0%)	**385**
Small businesses have benefited from electricity access.	185 (48.0%)	142 (37.0%)	27 (7.0%)	19 (5.0%)	12 (3.0%)	**385**
Security has improved due to street lighting.	195 (50.5%)	129 (33.5%)	27 (7.0%)	25 (6.5%)	9 (2.5%)	**385**
Healthcare services have improved with electricity access.	162 (42.0%)	141 (36.5%)	39 (10.0%)	29 (7.5%)	14 (4.0%)	**385**

Source: primary data, 2025

The study revealed that 82.8% of respondents (44.8% Strongly Agree, 38.0% Agree) believe hydropower has significantly improved the study environment for students. A small percentage (9.0%) disagreed or were unsure. Access to electricity enables students to study at night, reducing reliance on kerosene lamps and candles, which are expensive and hazardous. Schools with electricity benefit from lighting, computers, and internet access, allowing students to use digital learning materials. Additionally, teachers can prepare lesson plans more efficiently, improving the overall quality of education. Despite these improvements, many rural schools in Kisoro still lack electricity or experience frequent power outages, limiting the full benefits of hydroelectricity. The government should prioritize rural school electrification to ensure equal access to education resources for students in remote areas.

A total of 85.0% of respondents (48.0% Strongly Agree, 37.0% Agree) stated that hydroelectricity has benefited small businesses, while only 8.0% disagreed or were unsure. Electricity is crucial for business operations such as shops, welding, milling, food processing, and refrigeration. With access to hydroelectric power, business owners can operate efficiently, reduce costs, and increase productivity. Small businesses in Kisoro no longer depend solely on costly diesel generators, allowing them to expand and generate more revenue. However, some businesses still face challenges, such as high electricity tariffs and unstable power supply, limiting their ability to fully utilize hydroelectric power. The government should consider reducing electricity costs for small enterprises to encourage entrepreneurship and job creation.

The findings indicate that 84.0% of respondents (50.5% Strongly Agree, 33.5% Agree) believe that security has improved due to hydroelectric-powered street lighting, while only 9.0% disagreed or were unsure. Electricity plays a major role in enhancing security in rural areas by reducing crime rates. Well-lit streets and public spaces deter criminals, making communities safer. Businesses can also operate for longer hours, increasing economic activity. Despite these benefits, some areas in Kisoro still lack street lighting, leaving residents vulnerable to theft and violence. The government and local authorities should expand street lighting projects in rural communities to improve safety and encourage night-time business operations.

A total of 78.5% of respondents (42.0% Strongly Agree, 36.5% Agree) stated that electricity has improved healthcare services, while 11.5% were unsure or disagreed. Electricity is essential for running medical equipment, storing vaccines, and providing adequate lighting in health facilities. Rural hospitals and clinics that previously relied on kerosene lamps during night-time emergencies can now offer better services, reducing maternal and infant mortality rates. However, some healthcare centers still experience power shortages, affecting medical services. The government should prioritize electrification of all health centers, especially in hard-to-reach areas, to enhance access to quality healthcare.

The findings show that 80.0% of respondents (45.0% Strongly Agree, 35.0% Agree) believe hydroelectricity has contributed to economic growth, while 11.0% were unsure or disagreed. Electricity is a key driver of economic development, facilitating industrialization, job creation, and improved living standards. Hydropower has enabled rural businesses, schools, hospitals, and households to access affordable and reliable energy, leading to increased productivity. Despite this progress, economic growth in remote areas is still hindered by limited access to electricity, high costs, and infrastructure challenges. The government should invest more in expanding hydroelectric projects and promoting alternative energy solutions to boost economic development in rural Uganda.

The findings show that while government efforts have improved hydroelectricity access in Kisoro District, several challenges remain, including high grid extension costs, frequent power rationing, and financial constraints. Hydropower positively impacts education, business, security, and healthcare, emphasizing the need for continued investment in rural electrification.

4.5.1 QUALITATIVE ANALYSIS

Here are the interview extracts from key stakeholders regarding electricity access and supply challenges in Kisoro:

"The government has been working on expanding electricity access to rural areas, but the high cost of grid extension remains a major challenge. We have invested in projects such as the Electricity Access Scale-Up Project to improve electrification rates in places like Kisoro……."

"Power rationing in rural areas is a pressing issue. We are focusing on infrastructure upgrades and exploring alternative renewable energy sources, including mini-hydro and solar projects, to enhance supply reliability……."

Government Officials - Ministry of Energy and Mineral Development (MEMD), February, 2025

"Many businesses and households in Kisoro still struggle with power outages and high electricity costs. As a local government, we are advocating for more funding to support rural electrification and subsidies for low-income households."

"Public lighting has significantly improved security in some villages, but many areas remain in darkness due to financial constraints. More investment in street lighting is necessary to enhance safety and economic activities at night……."

Local Government Authorities,February, 2025

"Our primary goal is to increase electricity access to all rural communities. We have been working on mini-grid projects and standalone solar solutions, but financial constraints and geographical challenges have slowed progress……."

"Hydroelectricity has played a crucial role in improving education, healthcare, and businesses in Kisoro. However, power fluctuations and high operational costs remain obstacles to ensuring consistent electricity supply……."

Officials from the Rural Electrification Agency (REA) , February, 2025

"Electricity theft and illegal connections are significant problems affecting power stability in rural areas. These activities lead to frequent transformer breakdowns and financial losses, making it harder to improve service delivery."

"High operational costs are a major factor behind the high electricity tariffs. Upgrading transmission and distribution infrastructure requires substantial investment, and without financial support from the government, it is difficult to lower costs for consumers."

Representatives from Electricity Distribution Companies (UMEME) , **February, 2025**

"Electricity has improved our businesses, but we still experience frequent power cuts. Sometimes, we have to use generators, which increases our expenses……."

"The cost of connecting to the grid is too high for many families. Some people in our village have electricity, but others are left out because they cannot afford the fees……."

"Solar energy has helped some households, but the quality of solar products available in rural areas is unreliable. We need more support to access affordable and durable solar systems……."

"Street lighting has made our community safer at night, but more villages still need electricity to reduce crime and improve business opportunities……."

Community Members in Selected Villages of Kisoro, **February, 2025**

CHAPTER FIVE

DISCUSSION OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a discussion of the study findings in relation to the research objectives on an examination of the role of government in making hydroelectricity energy accessible in remote areas of Uganda: A Case Study of Kisoro District. The findings are compared with previous literature to highlight areas of agreement or divergence and to provide a deeper understanding of the key issues surrounding food hygiene in public eateries.

5.2 Discussion of Findings

5.2.1 Findings on the Demographics Analysis of the Respondents

5.2.2 Gender Distribution

The study found that the majority of respondents (55.8%) were male, while 44.2% were female. This distribution suggests that men were slightly more represented, possibly due to their involvement in decision-making on electricity-related matters in households and businesses. Literature on gender and energy access suggests that energy policies should be gender-sensitive (Clancy, 2009), recognizing that women, especially in rural areas, are disproportionately affected by limited access to electricity. Women often rely on traditional energy sources such as firewood for cooking, which contributes to health issues and restricts economic participation. The findings imply that expanding hydroelectricity access in Kisoro District can improve women's quality of life by reducing reliance on inefficient energy sources and enabling their participation in economic activities.

5.2.3 Age Distribution

The majority of respondents were between 26–35 years (28.6%) and 36–45 years (25.5%), indicating that young and middle-aged adults are the most actively engaged in electricity-related matters. The youth demographic plays a critical role in economic activities, and their energy needs are centered around business operations, education, and digital technology (Karekezi & Kithyoma, 2002). The relatively lower participation of older individuals (10.3% for 56+ years) may suggest a preference for traditional energy sources among older generations. The

implication of this finding is that electrification strategies should prioritize youth-centered policies, ensuring that electricity is available for schools, businesses, and technological advancements that benefit younger populations.

5.2.4 Educational Level

The findings indicate that 39.0% of respondents had attained secondary education, followed by 28.5% with tertiary education, while 10.4% had no formal education. Literature shows that education is a significant factor in energy adoption (Barnes & Floor, 1996), as individuals with higher education levels are more likely to appreciate and utilize modern energy services. The implication of this finding is that electrification projects should incorporate awareness programs to educate individuals with lower formal education levels on the benefits of hydroelectricity, proper energy management, and safety measures. Additionally, policies should ensure that schools, particularly those in rural areas, have access to electricity to enhance educational outcomes.

5.2.5 Occupation

The study also analysed the occupational distribution of respondents, revealing that a significant portion (23.4%) were farmers and agricultural workers, followed by business owners (20.3%) and government officials (11.7%). Other occupations included healthcare professionals (7.8%), teachers and educators (10.9%), and students (7.2%). The high representation of farmers highlights the critical role of electricity in agricultural productivity, particularly for irrigation, storage, and processing.

Literature suggests that rural electrification enhances productivity and economic opportunities in agriculture and small businesses (World Bank, 2015). Business owners benefit from electricity for operational efficiency, reducing dependence on costly alternatives like diesel generators. Similarly, access to electricity in schools and healthcare facilities improves service delivery, ensuring better educational outcomes and medical care.

The implication of this finding is that electrification strategies should be tailored to meet the specific needs of different occupational groups. Expanding hydroelectricity to agricultural areas can support mechanization, storage, and value addition, while reliable power supply in business and public service sectors can drive economic growth and improved quality of life.

5.3 Findings on the Problems Affecting Uganda's Electricity Supply

The Findings revealed that Uganda faces numerous challenges in its electricity supply, particularly in rural areas such as Kisoro District. The study identified several key issues, including high grid extension costs, frequent power outages, and inadequate infrastructure, which hinder access to reliable electricity. One of the major challenges affecting electricity supply in Uganda is the high cost associated with extending the national grid to remote areas. Infrastructure development, including power lines, transformers, and substations, requires significant financial investment. The scattered settlement pattern in rural Uganda further complicates grid extension, making it costly and less economically viable for electricity providers (MEMD, 2021). High costs prevent many rural households from connecting to the grid, leaving them dependent on alternative energy sources like firewood and kerosene, which are inefficient and harmful to health.

According to the findings Uganda experiences frequent power outages and supply rationing due to an inadequate electricity generation capacity. The reliance on hydroelectric power makes the country vulnerable to fluctuations in water levels, particularly during dry seasons. Inconsistent power supply affects businesses, schools, and healthcare facilities, limiting productivity and service delivery. Literature suggests that unreliable electricity supply is a significant barrier to economic growth in developing countries (Karekezi & Kimani, 2002). Addressing this challenge requires diversifying the energy mix by investing in renewable alternatives such as solar and wind power.

The Findings revealed that the operational costs associated with electricity generation and distribution remain a major challenge. Maintaining hydroelectric power plants, transmission lines, and distribution networks requires significant resources. Additionally, the lack of proper maintenance leads to frequent breakdowns, increasing electricity interruptions. The financial burden is often transferred to consumers through high electricity tariffs, making power unaffordable for low-income households (World Bank, 2018).

The Findings revealed that Electricity theft and illegal connections pose a serious threat to Uganda's power sector. Unauthorized power usage leads to losses for utility companies, reducing the revenue needed for infrastructure improvements. Illegal connections also result in power

fluctuations and overloads, further exacerbating supply challenges. Strengthening regulatory frameworks and implementing strict penalties for power theft can help mitigate this problem.

The Findings revealed that despite various electrification programs, Uganda still struggles with policy implementation and financial constraints. The Rural Electrification Agency (REA) has launched several initiatives to expand electricity access, but progress remains slow due to limited funding and bureaucratic inefficiencies. Public-private partnerships (PPPs) could provide an opportunity to enhance investment in the energy sector, improving electricity access in remote areas.

5.3.1 Findings on the Government Strategies for Hydroelectricity Access in Remote Areas

The Ugandan government has implemented several strategies to improve hydroelectricity access in remote areas, particularly through grid expansion, mini-grid systems, public-private partnerships (PPPs), and financial incentives. These strategies align with global best practices in rural electrification and energy access policies.

The government has invested in extending the national electricity grid to remote areas through programs like the Rural Electrification Program (REP) and the Electricity Access Scale-Up Project (EASP). According to the International Energy Agency (IEA, 2020), grid expansion remains the most effective way to provide stable electricity access to large rural populations. However, the high cost of infrastructure development and maintenance remains a significant barrier to widespread implementation.

Recognizing the limitations of grid extension, Uganda has embraced mini-grid systems and standalone solar solutions to enhance electricity access. Literature suggests that decentralized energy solutions are particularly beneficial for rural areas where grid expansion is not feasible (Bhattacharyya, 2018). Mini-grids powered by hydroelectricity have been developed in selected remote regions, providing localized power generation and distribution. Solar home systems have also been promoted to supplement hydroelectricity, addressing intermittent supply issues.

The government has encouraged private sector participation in the energy sector through PPPs, which have facilitated investment in electricity generation and distribution. The Bujagali Hydropower Project, developed through a PPP model, has significantly increased Uganda's

electricity generation capacity (Eberhard et al., 2016). However, challenges such as regulatory bottlenecks and high tariffs have limited the effectiveness of some PPP initiatives.

To make electricity more affordable, the government has introduced financial incentives, including subsidies for rural electrification projects and reduced connection fees under the Electricity Connection Policy (ECP). Literature supports the effectiveness of subsidies in promoting electricity access among low-income populations (Pueyo & Linares, 2013). Despite these efforts, financial constraints and bureaucratic inefficiencies continue to hinder the full implementation of these programs.

5.3.2 Findings on the Role of Hydroelectricity in Remote Areas

Hydroelectricity plays a transformative role in the socio-economic development of remote areas, significantly improving education, healthcare, business activities, and overall living standards. The findings indicate that the availability of hydroelectricity positively impacts various aspects of life in Kisoro District. One of the most critical impacts of hydroelectricity is its role in improving the education sector. The findings indicate that electrification has enabled schools to provide better learning environments by facilitating evening study hours, enhancing digital learning opportunities, and improving administrative functions. According to UNESCO (2021), access to electricity in schools leads to increased student performance and retention rates. Schools with electricity can integrate ICT-based learning tools, reducing the rural-urban education divide.

Hydroelectricity has significantly improved healthcare services in remote areas by ensuring the availability of reliable power for medical equipment, refrigeration of vaccines, and proper lighting in health centers. Literature suggests that electricity access enhances emergency response times and overall medical service delivery (WHO, 2020). In many rural areas, hospitals and clinics previously relied on kerosene lamps and generators, which were both costly and inefficient. Electrification has improved maternal healthcare, reduced mortality rates, and enabled better disease management.

The study found that small businesses and agricultural enterprises have greatly benefited from hydroelectricity. Business owners reported increased productivity, extended working hours, and reduced reliance on costly alternative power sources such as diesel generators. Research by the

International Renewable Energy Agency (IRENA, 2019) supports this finding, stating that access to affordable electricity fosters entrepreneurship and job creation. Electrification also supports agro-processing industries, reducing post-harvest losses and improving the profitability of farming activities.

Electricity has played a significant role in improving security within remote communities. The presence of streetlights and electrified homes has led to a reduction in crime rates and enhanced public safety. Literature suggests that electrified communities experience lower incidents of theft and violence, as improved lighting acts as a deterrent to criminal activities (IEA, 2020). Households feel safer, and businesses can operate for extended hours, contributing to increased economic activity. The transition from traditional biomass and kerosene to hydroelectricity has contributed to environmental conservation and improved public health. Many households previously relied on wood fuel and charcoal, leading to deforestation and indoor air pollution, which is linked to respiratory diseases. According to the World Health Organization (WHO, 2020), exposure to household air pollution is a leading cause of respiratory illnesses in developing countries. Hydroelectricity provides a cleaner and more sustainable alternative, reducing environmental degradation and health risks associated with traditional fuel use. The study highlights the critical role of hydroelectricity in transforming remote communities by improving education, healthcare, business opportunities, security, and environmental sustainability. While significant progress has been made in Kisoro District, continued investment, policy support, and integration of complementary renewable energy solutions will be crucial in achieving universal electricity access and maximizing socio-economic benefits.

5.4 Conclusion

The study sought to examine the role of the government in making hydroelectricity energy accessible in remote areas of Uganda, with a focus on Kisoro District. The findings revealed that while Uganda has made considerable strides in increasing electricity generation through hydroelectric power projects, access to electricity in remote areas remains limited due to various challenges, including high infrastructure costs, geographical barriers, financial constraints, and weak policy implementation. The research highlighted that electricity is a crucial driver of economic development, improving education, healthcare, security, and business activities in rural communities. However, the slow pace of grid expansion, coupled with high connection fees and

operational costs, continues to hinder widespread electricity access. Many rural households remain dependent on alternative energy sources such as firewood, charcoal, and kerosene, which are inefficient, costly, and environmentally harmful. The study further established that frequent power rationing and illegal electricity connections have negatively impacted electricity reliability in Uganda, leading to increased energy losses and supply inefficiencies. The high operational and maintenance costs associated with hydroelectric plants and transmission networks also pose a significant challenge, making electricity unaffordable for many low-income households. The research findings suggest that despite government efforts to enhance rural electrification through policies such as the Rural Electrification Program and the Electricity Connection Policy, these initiatives have not fully achieved their objectives due to limited funding, bureaucratic inefficiencies, and inadequate stakeholder engagement. Public-private partnerships (PPPs) have played a crucial role in expanding electricity access, but challenges such as high tariffs and regulatory hurdles have hindered the effectiveness of some PPP projects. The study also revealed that standalone solar systems and mini-grid solutions have emerged as viable alternatives for off-grid communities, providing an opportunity for decentralized electricity access.

However, financial constraints and limited awareness about these renewable energy solutions continue to limit their adoption. The role of hydroelectricity in improving livelihoods was evident in various sectors. In education, electricity has facilitated extended study hours, digital learning opportunities, and improved school administration. In healthcare, electrification has enhanced medical services by ensuring the availability of power for life-saving equipment, refrigeration of vaccines, and proper lighting in health centers. Additionally, businesses in Kisoro District have significantly benefited from hydroelectricity, leading to increased productivity, reduced reliance on expensive generators, and expanded economic activities. The findings further indicated that electricity has improved security by reducing crime rates through street lighting and enhanced surveillance. Environmental benefits were also highlighted, as increased access to hydroelectric power reduces dependence on biomass fuels, thereby mitigating deforestation and indoor air pollution.

RECOMMENDATIONS

- To improve hydroelectricity accessibility in remote areas of Uganda, particularly in Kisoro District, several measures need to be implemented by various stakeholders, including the government, private sector, regulatory bodies, and local communities. The Ugandan government, through the Ministry of Energy and Mineral Development, should increase funding for rural electrification projects to accelerate grid expansion in remote areas.

- Additionally, it should reduce connection fees and provide subsidies to make electricity affordable for low-income households. The Electricity Regulatory Authority (ERA) should strengthen policy implementation and regulatory frameworks to ensure the effective execution of rural electrification programs. Transparency and efficiency in the electricity sector should be improved to eliminate bureaucratic delays and corruption that hinder project completion.

- The government should also encourage private sector investment in the energy sector by offering favourable policies and incentives. Public-private partnerships (PPPs) between the government and independent power producers (IPPs) should be expanded to enhance electricity generation and distribution.

- Financial institutions, including the Uganda Development Bank, should implement innovative financing models such as pay-as-you-go schemes to enable rural communities to afford electricity connections. The government and development agencies should also promote the use of standalone solar systems and mini-grid hydroelectric power plants as viable off-grid electricity solutions.

- The Renewable Energy Department within the Ministry of Energy should support the adoption of hybrid energy solutions that combine hydro, solar, and wind power to enhance energy reliability. Public awareness programs led by the Rural Electrification Agency (REA) and non-governmental organizations (NGOs) should be increased to educate communities on the benefits and long-term cost savings of renewable energy options.

- To address high energy costs and operational challenges, the Electricity Regulatory Authority (ERA) and Uganda Electricity Transmission Company Limited (UETCL) should work to reduce electricity tariffs, especially for small businesses and households in remote areas.

UMEME and other power distribution companies should implement measures to minimize power losses due to inefficient infrastructure, illegal connections, and theft.

- Furthermore, the Uganda Electricity Generation Company Limited (UEGCL) should prioritize maintenance and upgrading of hydroelectric plants and transmission lines to reduce power outages and supply interruptions.
- Community engagement should also be strengthened to enhance the adoption and sustainability of electrification projects. The Rural Electrification Agency (REA) and local government authorities should conduct public awareness campaigns on the benefits of hydroelectricity and proper energy usage. Local communities should be actively involved in decision-making processes regarding rural electrification projects to ensure that their needs and priorities are addressed. Additionally, technical training and capacity-building programs should be provided for local electricians and technicians to improve electricity service maintenance at the community level.
- Electricity access should also be expanded in key sectors such as education, healthcare, and agriculture. The Ministry of Education and Sports should prioritize the electrification of schools to support digital learning and extended study hours for students. Similarly, the Ministry of Health should ensure that all healthcare centers in remote areas have reliable electricity to improve medical service delivery, including refrigeration of vaccines and operation of life-saving medical equipment.
- The Ministry of Agriculture, Animal Industry, and Fisheries should support electrification programs for farmers and agro-processing industries to enhance agricultural productivity, storage, and value addition.

By implementing these recommendations, Uganda can significantly improve hydroelectricity access in remote areas, boost economic development, and enhance the overall quality of life for rural communities. A multi-stakeholder approach, involving government agencies, private sector investors, international development partners, and local communities, is essential to achieving sustainable and equitable electricity access across the country.

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APPENDICES

APPENDIX 1: research questionnaire

Dear respondent;

I am ATAMBA RHONA, a student of Uganda Christian University carrying out a research on "the role of government in making hydroelectricity energy accessible in remote areas of Uganda: a case study of Kisoro District". You are kindly requested to spare a few minutes and fill this questionnaire. This research is purely academic and any information provided was treated with at most confidentiality. Thank you for your cooperation.

SECTION A: BACKGROUND OF RESPONDENTS

Please tick where applicable.

1. Gender?

i). Male ☐ ii) Female ☐

2. Age

i). 18 – 25 years ☐

ii). 26 – 35 years ☐

iii). 36 – 45 years ☐

iv). 46 – 55 years ☐

v). 56 years and abov ☐

3. Educational Level

a) No formal education (Rural dwellers, informal workers) ☐

b) Primary education (Basic literacy and awareness of energy issues) ☐

c) Secondary education (Mid-level understanding of electricity usage and benefits) ☐

d) Tertiary education (Diploma/Degree/Postgraduate) (Policy experts, professionals, engineers) ☐

5. Occupation

a) Government officials (Ministry of Energy, REA, local government representatives) ☐

b) Electricity distribution officials (UMEME, UETCL, private sector energy investors) ☐

c) Business owners (Shops, welders, small-scale manufacturers, traders)

d) Farmers and agricultural workers

e) Community leaders and local council officials

f) Healthcare professionals (Doctors, nurses, clinic owners using electricity for services)

g) Teachers and educators (Assessing the impact of electricity on education)

h) Students (Evaluating electricity's role in academic activities)

i) Unemployed individuals (Assessing the effect of electrification on job creation)

SECTION B

SA	**A**	**UC**	**D**	**SD**
Strongly agree	**Agree**	**Uncertain**	**Disagree**	**Strongly disagree**

Problems affecting Uganda's Electricity Supply

		SD	D	N	A	SA
NO.	RESPONSE	1	2	3	4	5
A	The high cost of grid extension is a major barrier to electricity supply in Uganda.					
B	Frequent power rationing negatively affects electricity availability in remote areas.					
C	The high operational and maintenance costs of hydroelectricity hinder its accessibility.					
D	Electricity theft and illegal connections contribute to power supply challenges in Uganda.					
E	Government policies and regulations have failed to effectively address Uganda's electricity supply problems					

The Role of Hydroelectricity in Remote Areas of Kisoro District

		SD	D	N	A	SA
NO.	RESPONSE	1	2	3	4	5
A	Hydroelectric power has improved the study environment for school children in remote areas.					
B	Small businesses in Kisoro District have benefited from access to hydroelectricity.					
C	Hydroelectricity has enhanced security in remote communities by providing street lighting.					
D	Access to hydroelectricity has led to improved healthcare					

	services in rural areas.					
E	Hydropower development has significantly contributed to economic growth in Kisoro District.					
F	Hydroelectric power has improved the study environment for school children in remote areas.					

The Government Strategies in Making Hydroelectricity Accessible

		SD	D	N	A	SA
NO.	RESPONSES	1	2	3	4	5
A	The Ugandan government has made significant efforts to extend the national electricity grid to remote areas					
B	Standalone solar systems are an effective alternative for rural electrification					
C	Mini-grid systems have improved access to electricity in remote communities					
D	The government provides sufficient financial support for rural electrification projects.					
E	Public-private partnerships have played a major role in improving hydroelectricity access.					

THANKS FOR YOUR COOPERATION!

APPENDIX 2: INTERVIEW GUIDE

My name is Atamba Rhona, a student at Uganda Christian University; i thank all the participants willing to participate in this interview for their time and dedication. The purpose of this interview is to gather insights from experts and stakeholders involved in energy access initiatives. Your responses will contribute significantly to my research, and I would like to assure you that all information shared will be kept confidential. Your participation is voluntary, and you're free to withdraw at any time. I kindly ask for your consent to record this interview for accuracy in my research.

SECTION A: BACKGROUND INFORMATION

1. Could you please introduce yourself, including your name, position, and your role in relation to the energy sector in Kisoro District?

2. How long have you been involved in energy provision or development work in this region?

SECTION B: GENERAL OVERVIEW OF HYDROELECTRICITY IN KISORO DISTRICT

1. What is your general understanding of the current state of hydroelectricity development in Kisoro district, specifically in remote areas?

2. Can you describe the extent of hydroelectricity access in these rural areas?

SECTION C: GOVERNMENT'S ROLE IN ENERGY PROVISION

1. What specific government programs or policies have been implemented to ensure the availability of hydroelectricity in remote areas of Kisoro district?

2. How does the government prioritize rural and remote areas when planning energy infrastructure, particularly hydroelectric projects?

3. How does the local government collaborate with national government bodies and other stakeholders to facilitate hydroelectricity access?

SECTION D: CHALLENGES AND BARRIERS IN HYDROELECTRICITY PROVISION

1. What are the main challenges in providing hydroelectricity to remote areas in Kisoro district?

2. How has the government addressed these challenges? Are there particular policies or strategies in place to overcome these barriers?

3. What role does the government play in overcoming the geographical or infrastructural challenges that might hinder energy provision in these areas?

SECTION E: EFFECTIVENESS AND IMPACT OF GOVERNMENT INTERVETIONS

1. In your opinion, how effective have government interventions been in improving access to hydroelectricity in Kisoro District?

2. Can provide examples of communities that have seen improvements due to increased access to hydroelectricity?

3. How do you asses the success of government initiatives in terms of community development, economic empowerment, and sustainability?

Conclusion

Thank you for your time and valuable input. Your responses will significantly contribute to the study, and I appreciate your willingness to share your insights. If you have any further questions or would like to discuss the findings feel free to reach out to me on; Tel: (0708458372) or email (atambarhona@gmail.com)