SOCIO-ECONOMIC EFFECTS OF OIL EXPLORATION IN UGANDA: A CASE STUDY OF BULIISA DISTRICT WESTERN UGANDA

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UGANDA CHRISTIAN UNIVERSITY

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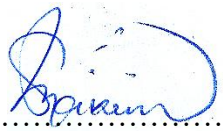
DECLARATION

I, Nyakairu Enosi, hereby declare that this dissertation is my work and it has not been submitted before to any other institution of higher learning for fulfillment of any academic award.

Signed  ……

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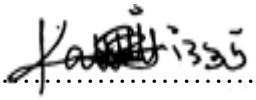
APPROVAL

This is to certify that, this dissertation entitled "**Socio-Economic effects of Oil Exploration in Uganda: A Case Study of Buliisa District Western Uganda**" has been done under my supervision and now it is ready for submission.

Signature:  ……

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Date…12 April 2024……

DEDICATION

This thesis is dedicated to my family members for their input and support throughout my studies.

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I give thanks to the lord for this thesis. I thank my friends; Kizito Simon, Dr. Muwanguzi Eria and Dr. Lwiza Florence for continued support and team work.

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Thanks to my respondents. May the good lord richly bless you.

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LIST OF ACRONYMS

CVI	- Content Validity Index
EM	- Electromagnetic
NGOs	- Non-Government Organizations
O&G	- Oil and Gas
US	- United States

ABSTRACT

This study investigates the socio-economic effects of oil exploration in Buliisa District, Western Uganda. Employing a cross-sectional survey design with both quantitative and qualitative approaches, the research explores the impact of oil exploration on infrastructure development and employment opportunities within the district. The study population comprised municipality administrators, oil companies' officials, area residents, local councils, and politicians. Using a sample size of 234 respondents, including area residents, local councils, oil company officials, municipality administrators, and politicians, data was collected and analyzed to draw meaningful insights. Results indicate a strong positive relationship between environmental effects and oil exploitation staff, suggesting an increase in staff involvement with rising environmental effects. However, a very weak positive correlation is observed between infrastructural development and oil exploitation, indicating limited impact of infrastructure on the success of oil projects. The findings also reveal a significant positive correlation between employment opportunities and oil exploitation, implying that increased opportunities in the industry enhance employment likelihood. Based on the conclusions drawn, practical recommendations are proposed. These include prioritizing environmental management practices to mitigate negative impacts, diversifying economic investments to reduce dependency on the oil sector, and implementing inclusive employment policies to ensure equitable access to job opportunities. These findings offer valuable insights for stakeholders aiming to enhance the socio-economic impact of oil exploration on Buliisa District and underscore the need for holistic strategies to maximize benefits while mitigating potential risks.

Chapter One

Introduction

1.0 Introduction

Uganda's recent discovery of oil reserves in the western region has sparked both excitement and concerns. While the potential economic benefits are undeniable, understanding the socio-economic effects of oil exploration on local communities is crucial. This study delves into the case of Buliisa District, situated at the heart of this unfolding story. By examining the impacts on infrastructure, environment, employment, and overall community well-being, we aim to shed light on the complex realities unfolding in Buliisa and contribute to informed decision-making about the future of oil development in Uganda.

1.1 Background of the study

Oil exploration is a global industry characterized by diverse products, operations, and market dynamics (Ge, Li & Li, 2011). Advances in technology, such as seismic data gathering and processing, have improved the effectiveness of geophysical surveys and led to discoveries in previously unproductive basins (Kayal, 2016). Understanding the principles of hydrocarbon origin and migration, as well as basin tectonic processes, has aided in selecting areas for exploration (Alves, Colombo, Morlin & Gomes, 2020). The use of induced micro-seismicity monitoring and seismic tomography has provided valuable insights into hydraulic fracturing, pre-existing faults, and reservoir structures (King, 1981). [Scenario analysis is used to assess the potential profitability of exploration investments (Kronman, Felio & Kronman, 2016). Success in international exploration and production requires not only technical expertise but also strong relationships, mutually beneficial contracts, and effective strategies.

Oil exploration in Africa has been a significant source of revenue and economic growth, but it has also led to conflicts, environmental pollution, and social movements against multinational oil corporations (Agyemang, 2021). Advances in geophysical survey techniques have made commercial exploration possible in countries beyond Nigeria, Angola, Algeria, Libya, and Egypt (Adeola et al., 2016). The presence of organic-rich sedimentary basins and reservoir rocks with petro-physical properties contribute to the large deposits of hydrocarbon in Africa (Aiello & Kronman, 2016). However, unethical practices by oil companies and the diversion of public funds have hindered economic growth (Patton, 1995). The over-dependence on crude oil revenues has caused economic recessions in oil-producing countries (Anyanwu, 2009). Host communities often suffer from a lack of infrastructure, clean water, and arable soils, with their functioning capabilities violated by oil exploration activities. To address these issues, ethical and sustainable practices are recommended to minimize negative impacts and improve the quality of life in affected communities.

Oil exploration in Uganda has been a topic of interest since its discovery in 2006. The country's oil industry has faced various challenges, including governance issues, corruption, and environmental liabilities (Smitgh, 2020). The political economy of oil in Uganda has been a subject of study, focusing on revenue generation, stakeholder contestation, and public policy (Bamwesigye et al., 2016). Researchers have also explored the potential impacts of oil exploration on Uganda's biodiversity and local livelihoods, emphasizing the need for proper management and protection of natural resources (Kayizzi-Mugerwa, 2016). Additionally, studies have examined the social and political transformations taking place prior to oil becoming a resource, highlighting the importance of exploring subnational dynamics in the pre-oil stage (Ericson, 2013). Overall, the research on Uganda's oil exploration provides insights into the complexities and implications of

the country's oil industry, emphasizing the need for comprehensive and sustainable development strategies (Witte, 2016).

Oil exploration in Buliisa district, Uganda, is currently being implemented and has generated both optimism and concerns among the local communities. The resident's express concerns over environmental degradation, political tensions, and land conflicts resulting from oil activities. However, there is also a dominant sense of optimism as communities anticipate that the oil industry will bring employment opportunities, infrastructural development, improved access to electricity, and enhanced social status (Nuwategeka, 2016). In addition to conventional health services, there is a preference for indigenous medicinal plant medicine in Buliisa district. Medicinal plants are used to treat various diseases and conditions, including sterility, sexually transmitted infections, high blood pressure, and external injuries (Anywar, 2023). The environmental regulation of oil and gas exploration and production in Uganda is a concern, and there is a need to address environmental management through legal tools and frameworks (Harding, 2023). The study of subnational dynamics in the pre-oil stage of the industry reveals that the subnational space plays an active role in shaping the oil assemblage in Uganda (Kasiima, 2022). This study sought to examine the socio-economic effects of oil exploration in the Buliisa District of Western Uganda.

1.2 Problem Statement

Ideally, there should be a robust understanding of the diverse socio-economic ramifications resulting from oil exploration activities within Buliisa District communities in Western Uganda (Namara, 2021; Kyomukama, 2020). This understanding would facilitate informed decision-making, resource allocation, and policy formulation to enhance the well-being and sustainable development of the affected populations (Asiimwe & Byamugisha, 2019). However, the existing body of research fails to adequately address the specific socio-economic effects associated with

oil exploration activities in Buliisa District, Western Uganda (Kijazi, 2018; Muhumuza & Niwagaba, 2017). Previous studies have primarily concentrated on aspects such as access to employment, land ownership, business opportunities, market dynamics, and healthcare access (Asiimwe & Byamugisha, 2019; Kyomukama, 2020).

However, there remains a notable absence of comprehensive exploration into the broader socio-economic impacts, leaving a substantial gap in knowledge regarding the full extent and implications of oil exploration on local communities. The lack of comprehensive understanding regarding the socio-economic effects of oil exploration poses significant challenges to effective community development and resource management in Buliisa District, Western Uganda. Without adequate documentation and analysis of these impacts, it becomes difficult to implement targeted interventions, address emerging challenges, and maximize the benefits of oil exploration for local populations. Moreover, the failure to address these socio-economic effects may exacerbate existing inequalities, hinder sustainable development efforts, and undermine the overall well-being of affected communities. This study aims to fill the critical knowledge gap by comprehensively examining the socio-economic effects of oil exploration among communities in Buliisa District, Western Uganda.

1.3 Purpose of the study

The purpose of this study was to examine the socio-economic effects of oil exploration in the Buliisa district of Western Uganda.

1.4 Objectives of the study

i. To assess the effects of oil exploration on infrastructure development in Buliisa District.
ii. To assess the environmental effects of oil exploration on Buliisa District.

iii. To analyze the effects of oil exploration on employment opportunities in Buliisa District.

1.5 Research questions

i. What are the effects oil exploration on infrastructure development in Buliisa District?

ii. What are the environmental effects of oil exploration on Buliisa District?

iii. What is the effects of oil exploration on employment opportunities in Buliisa District?

1.6 Significance of the Study

The research findings are of importance to a number of stakeholders. It is hoped that the research findings will contribute to the current debate on oil exploration in Uganda.

1. This study will allow policymakers and stakeholders to make informed decisions regarding the management and regulation of oil exploration activities.
2. Additionally, this study may help further researchers contribute to the existing body of knowledge on the socio-economic consequences of natural resource extraction in developing countries, providing valuable insights for future research.
3. Furthermore, the study may help Buliisa District local administrators to identify any potential negative consequences, such as environmental degradation or displacement of local communities that may arise from oil exploration in Uganda. This information can then be used to develop appropriate mitigation measures and ensure sustainable development in the region.

1.7 Scope of the study

The scope of the study was divided into three perspectives: content, geography and time.

Content Scope: This study examined the socio-economic effects of oil exploration in the Buliisa District of Western Uganda. Socio-economic effects are the independent variable and oil exploration is the dependent variable.

Time Scope: The study covered the period 2020 to 2024. During this time, the researchers conducted surveys and interviews with local community members, government officials, and industry representatives to gather data on various socio-economic indicators such as job creation, income levels, access to services, and environmental impact.

Geographical Scope: The study was carried out in Buliisa. Buliisa District was created in 2006 by the Ugandan Parliament. Prior to that, Buliisa District was part of Masindi. Buliisa District is bordered by Nebbi District to the northwest, Nwoya District to the northeast, Masindi District to the east, Hoima District to the south and the Democratic Republic of the Congo, across Lake Albert, to the west. The 'main town' in the district, Buliisa, is located approximately 80 kilometres (50 miles), by road, northwest of Masindi, the nearest large town.

Chapter Two

Literature Review

2.0 Introduction

This chapter presents the literature reviewed on the basis of the study objectives. The literature was selected, studied and arranged according to the themes relating to infrastructural effect, environmental and employment effect. The chapter presentation is under three sections; review of various theories, highlighting the objectives of the study and synthesis of literature and research gap analysis. Literature sources include books and journal articles aimed at providing insight in what has already been done within this area of study and also as a guide in answering the research questions.

2.1 Theoretical Review

The study was guided by the institutional theory. According to Scott (2001), institutions are defined as "social structures which have attained a high degree of resilience." The institutional theory can be broken down into three main thematic areas: cultural cognitive, normative, and regulative. These three thematic areas work together, and when combined with appropriate activities and resources, they bring stability and meaning to social life (Scott, 2001, p. 48). Institutions operate across a spectrum of power, from the global "world system" to local interpersonal relationships, and they are influenced by both periodic and constant changes while maintaining stability (Scott, 2001). This perspective suggests that institutions possess inherent capacities to control and influence behavior, thereby shaping actions, which can be particularly pertinent in analyzing the socio-economic impacts of oil exploration in Buliisa District, Western Uganda.

2.2 Related Literature

2.2.1 Effects oil exploration on infrastructure development

Chester et al. (2022) found out that oil exploration has various effects on infrastructure development. In the field of exploration geophysics, electromagnetic (EM) methods are used to characterize subsurface properties, but they can also be sensitive to metallic artifacts such as pipes and cables, which can dominate signals from the target itself. This can lead to inaccuracies in data interpretation and potentially impact the success of oil exploration projects. Additionally, the presence of metallic artifacts can pose safety hazards for workers in the field. Therefore, it is important for oil exploration companies to carefully consider and mitigate the effects of infrastructure on EM surveys to ensure reliable results and safe working conditions.

Paulson et al. (2022) observed that oil extraction activities can impact wildlife and alter habitat suitability, and the presence of physical infrastructure associated with oil wells can affect stress levels and behavior of grassland passerine species. Therefore, it is crucial for oil exploration companies to conduct thorough environmental assessments before beginning any projects to minimize the potential negative impacts on wildlife and their habitats. By taking measures to mitigate these effects, companies can not only ensure the success of their exploration projects but also contribute to the preservation of local ecosystems and biodiversity.

Kwadwo et al. (2019) stressed that in Ghana, the implementation of local content policies to stimulate industry development in the petroleum sector is constrained by the country's infrastructure deficit, and strengthening regulatory institutions and the legal framework is necessary to attract private investment in infrastructure development. The researchers also

highlighted the importance of capacity-building initiatives to enhance the skills and expertise of local workforce in order to fully benefit from local content policies.

In addition, Yasir et al. (2023) observed that the aging infrastructure in the oil and gas sector poses challenges in keeping up with growing energy demand, increasing operation costs, and environmental concerns, highlighting the need for a holistic approach to achieve sustainable development in Oil and Gas (O&G) infrastructure. They emphasized the need for strategic planning and long-term investment in upgrading and maintaining infrastructure to ensure its reliability and efficiency. Additionally, they stressed the importance of incorporating innovative technologies and practices to improve the overall performance and sustainability of the infrastructure.

Furthermore, Dike and Giniwa (2019) stressed that oil and gas activities in the maritime environment can have deleterious consequences on maritime infrastructure, and the US has established programs to promote and develop ports and transportation facilities in connection with water commerce. The development of these programs is crucial in order to mitigate the negative impacts of oil and gas activities on maritime infrastructure. By improving port and transportation facilities, the US can better support water commerce and ensure the sustainability of the maritime environment.

In Uganda, Similarly, Ateenyi and Muhanguzi (2021) delved into the environmental ramifications of oil exploration in Buliisa District, shedding light on the challenges posed by the sector's activities on local ecosystems. They emphasized the need for proactive measures to mitigate environmental degradation and safeguard natural resources in the face of increasing oil exploration activities. Ateenyi and Muhanguzi proposed the implementation of stringent environmental

regulations and the adoption of eco-friendly technologies to minimize pollution and habitat destruction. Likewise, Okello and Kabagambe (2020) emphasized the profound implications of oil exploration activities on the socio-economic landscape of Buliisa District, Uganda. They highlighted the necessity for comprehensive infrastructure development initiatives to address the evolving needs of the region amidst the burgeoning oil sector. Okello and Kabagambe underscored the critical role of infrastructure in supporting oil exploration activities and facilitating socio-economic growth. They argued that investments in key infrastructure, such as roads, bridges, and utilities, are imperative to accommodate the influx of workers and equipment associated with oil exploration projects.

2.2.2 Environmental effects of oil exploration

Omoogun, Olayemi and Ogungbade (2021) stressed that oil exploration has significant environmental effects, including pollution of water resources such as surface water. In addition, Lusweti et al. (2022) pointed out that water resource pollution is mainly caused by produced water, which is a waste product of oil drilling, refining, distribution, and accidents. These pollutants can have detrimental impacts on aquatic ecosystems and pose serious health risks to humans who rely on these water sources for drinking and irrigation. Furthermore, the contamination of surface water can also affect wildlife and vegetation in the surrounding areas, leading to long-term damage to the environment.

Furthermore, Kuch and Bavumiragira (2019) stressed that the pollution of surface water resources with oil contaminants, such as heavy metals and organic compounds, poses a threat to both human and aquatic life due to their non-biodegradable nature and toxicity accumulation in the food chain. In order to protect both the environment and human health, it is essential for oil companies to

invest in technologies that can prevent leaks and spills, as well as properly treat contaminated water before it is released back into the ecosystem.

Not with standing, Uwabimfura, Bin and Nkusi, (2020) pointed out that crude oil contamination resulting from exploration and production operations negatively impacts the environment, including air, soil, water, and biota. This contamination is a common feature in oil-producing countries, including Nigeria and South Sudan. In Nigeria, the Niger Delta region has been particularly affected by oil spills and pollution, leading to devastating consequences for local communities and ecosystems.

Lastly, Thakur and Koul (2021) found out that the contamination of the environment in these countries is caused by oil spills, mismanaged pipelines, gas flaring, illegal refining, and pipeline vandalism. The pollution of the environment has negative implications for human health, including the presence of heavy metals in hair samples of affected populations. It is imperative that governments and oil companies take immediate action to address these issues and prevent further harm to both the environment and human health. Implementing stricter regulations and monitoring practices can help reduce the occurrence of oil spills and other sources of contamination.

In Uganda, Similarly, Nsamba, Kasaija and Mugabe (2020) highlighted the adverse environmental consequences of oil exploration in Buliisa District, Uganda. They noted the widespread contamination of air, soil, water, and biodiversity resulting from exploration and production activities. Drawing parallels with oil-producing nations like Nigeria and South Sudan, Nsamba, Kasaija, and Mugabe underscored the urgent need for environmental protection measures to mitigate the detrimental effects of oil spills and pollution in the region.

Likewise, Byamukama, Tumwebaze, and Nuwamanya (2019) emphasized the environmental challenges posed by oil exploration in Buliisa District, Uganda. They pointed out the contamination of air, soil, water, and ecosystems as a common consequence of oil extraction activities. Byamukama, Tumwebaze, and Nuwamanya highlighted the parallels with other oil-producing regions, such as the Niger Delta in Nigeria, where oil spills have had devastating impacts on local communities and ecosystems. They stressed the importance of proactive measures to minimize environmental degradation and protect the natural heritage of Buliisa District.

2.2.3 The effects of oil exploration on employment opportunities

Amanda and Amanda (2020) pointed out that oil exploration has various effects on employment opportunities. Some studies suggest that resource-rich countries tend to allocate talent and investment towards the resource sector, reducing competitiveness in other sectors and limiting employment opportunities for women. Furthermore, the influx of workers into the oil sector can also lead to increased competition for jobs, resulting in lower wages and job insecurity. This can have a particularly negative impact on women who may already face barriers to entry into the workforce.

In Ghana, Adofo, Tarui and Tanaka (2022) pointed out that the discovery and production of offshore oil increased employment by 4.5%, with positive effects on employment in manufacturing and construction sectors. Additionally, the oil industry's growth also led to a boost in infrastructure development and investment in related industries, further contributing to job creation. The increase in employment not only helped reduce the country's unemployment rate but also provided opportunities for skill development and training for the workforce. Overall, the offshore oil

discovery in Ghana had a significant and positive impact on the country's economy and labor market.

Murti and Prasetya (2023) found out that in the Tuban Oil and Gas Field, there were jobs for local workers, but most were temporary projects, and conflicts arise due to delays in compensation funds and implementation of corporate social responsibility. This study highlights the importance of addressing these issues to ensure the well-being of local workers and the overall success of the oil and gas field operations. By improving communication and transparency between the company and the local community, potential conflicts can be minimized and positive relationships can be fostered. Furthermore, implementing sustainable employment practices and providing adequate support for workers can help create a more stable and harmonious working environment in the Tuban Oil and Gas Field.

Lastly, Uju et al. (2022) stressed that foreign investments in the oil sector in Africa did not result in a significant increase in productive job opportunities during the review period. This highlights the importance of prioritizing sustainable employment practices within the Tuban Oil and Gas Field to ensure the well-being and satisfaction of its workforce. By offering training and development opportunities, fair wages, and a safe working environment, the company can attract and retain skilled employees, ultimately contributing to the success and longevity of the operations.

In Uganda, Musisi, Mukasa, and Namara (2023) highlighted the socio-economic benefits of oil exploration in Buliisa District, Uganda. They emphasized that the discovery and production of oil have led to a notable increase in employment opportunities, particularly in sectors such as manufacturing and construction. Musisi, Mukasa, and Namara underscored the positive impact of the oil industry's growth on infrastructure development and related industries, resulting in job

creation and skill enhancement for the local workforce. They concluded that the expansion of oil exploration activities in Buliisa District has contributed significantly to the district's economy and labor market, echoing the positive outcomes observed in other oil-producing regions like Ghana.

Similarly, Kabugo, Nsubuga, and Mukwaya (2021) highlighted the transformative effects of oil exploration on employment dynamics in Buliisa District, Uganda. They noted a substantial increase in job opportunities following the discovery and production of oil, with significant contributions to employment in manufacturing, construction, and related sectors. Kabugo, Nsubuga, and Mukwaya emphasized the correlation between oil industry growth and infrastructure development, underscoring the positive spillover effects on job creation and skill development.

Chapter Three

Methodology

3.1 Introduction

This chapter presents the methodology that was used in the study. This includes the research design, area of the study, the study population, sampling procedures and the data collection method.

3.2 Research Design

This study adopted a cross-sectional survey design. A cross-sectional survey design involves data being collected at a single point in time from a cross section of respondents. The cross-sectional design is cheap and simple to use, since data is collected from a cross-section of respondents at a single point in time (Amin, 2005). The study also applied quantitative and qualitative approaches. The mixed approach was applied in sample selection, data collection, data quality control and data analysis. Amin (2005) supports the use of mixed approaches because multiple methods help to research a problem from all sides. Usage of different approaches also helped to focus on a single process and confirms the accuracy of the data. Qualitative research enables the researcher to explore new areas, deal with value-laden questions, build theories, and to do in-depth examination of phenomena. Quantitative research allows the researcher to measure and analyze data. The relationship between the independent variable (socio-economic effect) and dependent variable (oil exploration) was studied in detail (Sekaran, 2003).

3.3 Area of the study

The research was conducted in Buliisa District, which is situated adjacent to Hoima District. Buliisa District shares borders with Masindi District to the northeast, Kyankwanzi District to the east, Kibaale District to the south, Ntoroko District to the southwest, and the Democratic Republic of the Congo across Lake Albert to the west. Buliisa, where the district headquarters is situated, is located approximately 230 kilometers (140 miles) northwest of Kampala, Uganda's capital, and the largest city in the country, accessible by road.

3.4 Study Population

The study population included municipality administrators, oil companies' officials, area residents, local councils and politicians. These study population was chosen because of their knowledge and expertise in the oil sector.

3.5 Sampling procedure

3.5.1 Sample size

The sample size was guided by Krejice and Morgans' 1970 Table of sample size determination that stresses that for a population of 339 a representative sample size of 234 respondents was used. For this study. 152 area residents, 40 local councils, 8 oil company officials, 15 municipality administrators and 19 politicians were a representative sample. The sampling procedure is represented in Table 3.1:

Table 3.1: Showing the Population, Sample Size and Sampling Techniques

Category	**Target Population**	**Sample Size**	**Sampling Techniques**
Area residents	250	152	Convenient random sampling
Local councils officials	46	40	Simple random sampling
Oil company officials	8	8	Purposive sampling
Municipality administrators	15	15	Purposive sampling
Politicians	20	19	Simple random sampling
Total	**339**	**234**	

Bullisa District Annual Report, 2023

3.5.2 Sampling techniques

Sampling techniques refer to the procedure a researcher uses to select the needed study sample (Creswell, 2003). The sampling techniques included simple random sampling, purposive and convenient sampling. Simple random sampling is a process of selecting a sample in such a way that all individuals in the defined population have an equal and independent chance of being selected. This was employed on Residents of Hoima and Hoima District employees. On the other hand purposive sampling refers to selecting the sample purposefully/ precisely. This technique was used to select Oil Company Officials and 15 municipality officials. This technique, according to Gay (1996) though may not necessarily be a representative sample; but enables the researcher to

acquire an in-depth understanding of the problem. The purposively selected sample was a rich source of the data of interest.

3.6 Data Collection Methods

Data collection methods, which involve selection of both qualitative and quantitative data, are an integral part of research design (Amin, 2005). The study employed mainly the primary data collection methods of a questionnaire survey and an interview guide. According to Roston (2001), primary data is data that has been gathered for the first time and it has never been reported anywhere. These primary data methods are illustrated below;

3.6.1 Questionnaire Survey

Kothari (2004) defines a questionnaire as a pre-formulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives. Questionnaires will be used because they increase the degree of reliability due to the many items in them and they as well enhance the chances of getting valid data (Ezeani, 2005). The questionnaire consisted of closed ended questions. The questionnaire was administered to area residents in Buliisa district.

3.6.2 Interviews

The interviews was used to collect in depth information on the study. Essentially there is need to capture the perspectives of the local people, companies involved and the associated institutions, in order to carry them along in this important resource extraction. According to Ragin (2011), interviews described the life events and experiences of the respondents with respect to analysis of the significance of the portrayed phenomena. As Somekh and Lewin (2009) argues, interviews are basically the correct technique to use when exploring sensitive topics (like oil exploitation), to create conducive environment for respondent to take part. These consisted of; face-to-face

interviews (conducted by the peer research assistant), while telephone interviews were used in areas where extensive access was an obstacle. Both structured and semi-structured interviews will follow the "why" and "how" questions. In this study, oil company officials were extensively interviewed.

3.7 Data Quality Control

3.7.1 Validity

Validity determines whether the research instrument truly measures what it will intend to measure or the truthfulness of research results (Drost & Angeles, 2015). To ensure validity, the researcher triangulated various methods and tools to validate the results. The use multiple data collection methods; survey, interviews, observation and document review will provide corroborating evidence (Creswell, 2013). Validity tests was carried out to determine the relevance of the questions on the constructs using a Content Validity Index (CVI). This was done by performing Content Validity Index tests. Upon performing the test, the results that are 0.7 and above will be interpreted to be valid. Amin (2005) notes that a CVI of more than 0.7 implies that the tool is valid.

3.7.2 Reliability

To ensure reliability, the researcher also ensured that high quality instruments for capturing responses or narratives like a tape recorder for recording, transcribing, coding and integrating the data collected are secured and used so that quality data can be analyzed and interpreted (Creswell, 2014). To ensure that all the instruments are reliable, the researcher utilized peer review and audit trials to identify and rectify weaknesses in the instruments.

Test-re-test method was used for instance the instrument will be given to the respondents and after two weeks the instrument was administered again and the results correlation of alpha was used to

calculate the reliability and the values above 0.70 were taken as a sign of high reliability as per Mugenda and Mugenda (2003).

3.8 Ethical Considerations

The researcher observed the informed consent of the respondents while executing this research, these include; respected their privacy, confidentiality and anonymity, voluntary nature of participation, and the rights of individuals to withdrawal partially or completely from the process (Babbie 2010; Neuman 2006). In this study the following precautions will be observed;

Purpose of the study- Before administering the data collection instruments, the researcher informed respondents about the research objectives, likely benefits and how the research findings were disseminated so that they can make informed decisions on whether to participate or not.

Anonymity and privacy principle- In order to maintain confidentiality in this research, the names and contact details of the respondents remained anonymous. Furthermore, respondents were assured that the information they provided will be confidential and only used for the purpose of the study.

Consent- Before the interviews, individual respondents were requested to consent for an interview. At the beginning of each interview, the researcher requested the interviewee's permission to audio record the conversation and they were to be assured that recordings will only be used for academic purposes only. Then a consent form was handed over to the interviewee to sign his/her consent. Signing the written consent meant that, the prospective respondent has agreed to participant in the study. In a similar manner, individual consent was sought from those to respondents in the survey.

Voluntariness- Respondents assured that they were free to pull out of the study at any time according to their will.

3.9 Study limitations and solutions

This study encountered the following study limitations;

1. Unwillingness of some respondents to answer questions; however, the researcher is prepared to do everything possible like to reach and convince the respondent to avail him with the necessary information.
2. The study area is security conscious with strictness on entry to visitors; all attempts including personal identifications and compliance with regulations were adhered with by the researcher.
3. Time consuming: due to a lot of movements while fixing appointment with high authority. The researcher however, tried to make appointments with the high authority personnel on the particular day and time to be interviewed.

Chapter Four

Data Presentation, Interpretation and Analysis

4.0 Introduction

This chapter gives the background of respondents, the description of the dependent variable Oil exploration in Uganda in Buliisa District Western Uganda and ends with the testing of the three study hypotheses.

4.1 Background of respondents

In this section the background of respondents by age, gender and experience are presented one by one.

Table 4.1: Distribution of respondents by age

Experience	Frequency	Percentage
18-25	40	26.32
26-40	50	32.89
41-60	30	19.74
61+	32	21.05
Total	152	100.0%

Results from Table 4.1 shows that the distribution of respondents by age groups, indicating that the majority of respondents were between the ages of 26 to 40, comprising 32.89% of the total, followed closely by those aged 61 and above at 21.05%. Notably, the younger demographic of 18 to 25-year-olds represented 26.32% of respondents, while the 41 to 60 age group constituted 19.74%. This distribution suggests a relatively balanced representation across different age

brackets, reflecting a diverse sample. However, the notably larger representation of individuals aged 26 to 40 may imply a higher level of engagement or accessibility within this age group.

Table 4.2: Distribution of respondents by gender

Gender	Frequency	Percentage
Male	70	46.05
Female	82	53.95
Total	152	100.0

Results from Table 4.2 shows that respondents by gender, revealing that female respondents slightly outnumbered male respondents, with 53.95% compared to 46.05% respectively. This gender distribution indicates a relatively balanced representation within the surveyed population, which is essential for ensuring diverse perspectives and insights in the analysis. However, the slightly higher proportion of female respondents may suggest a higher level of engagement or willingness to participate in surveys, potentially reflecting broader trends in data collection methods or societal norms.

Table 4.3: Distribution of respondents by educational level

Qualification	Frequency	Percentage
Primary school	15	9.87
Secondary school	25	16.45
Vocational training	20	13.16
Bachelor's degree	50	32.89
Master's degree or higher	42	27.63
Total	152	100.0%

Results from Table 4.3 shows respondents by educational level, revealing a diverse range of qualifications among the surveyed population. Notably, the largest proportion of respondents held a Bachelor's degree, comprising 32.89%, followed closely by those with a Master's degree or higher at 27.63%. This suggests a relatively educated sample, with a significant portion having pursued higher education. However, it's also notable that there are respondents with qualifications below the tertiary level, such as those who completed vocational training, secondary school, or even primary school, indicating a varied educational background within the sample.

4.2 Description of the dependent variable: oil exploitation.

Oil exploitation of the respondents was the dependent variable on this study was operationalized into 10 quantitative items on which respondents were requested to do their self-rating basing on a scale ranging from 1 = strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly agree. Results there from are presented in table 4.4 gives pertinent results.

Table 4.4: Distribution of respondents on oil exploitation

	Indicators of oil exploitation	Mean	Std. Dev
B1.1	Since the start of oil exploration in Buliisa District, air pollution (dust, smoke) has increased.	3.211	0.72
B1.2	The quality of water sources (rivers, streams) near oil exploration sites has worsened.	2.833	0.9
B1.3	Oil exploration has led to deforestation or loss of vegetation in Buliisa District.	3.623	0.24
B1.4	I have witnessed wildlife leaving the area due to oil exploration activities.	2.401	0.802
B1.5	The frequency of fish kills in nearby water bodies has increased since the beginning of oil exploration.	4.007	0.303
B1.6	Oil exploration activities have caused soil contamination in Buliisa District.	3.702	0.356
B1.7	An oil spill has occurred in the area during exploration.	3.401	0.102
B1.8	Noise pollution from oil exploration activities has increased in Buliisa District.	4.203	0.046
B1.9	New plant growth or environmental improvements have occurred due to oil exploration activities.	3.111	0.912
B1.10	The environmental impact of oil exploration in Buliisa District has been negative.	2.905	1.002

Table 4.4 suggests that oil exploration in Buliisa District has had both positive and negative impacts. There is high agreement (mean > 3.5) on indicators like increased noise pollution (4.203), increased fish kills (4.007), and deforestation due to exploration (3.623). This suggests that these are the most significant impacts of oil exploration in the area.

However, there is also some disagreement (mean < 3) on whether respondents have witnessed wildlife leaving the area (2.401) or whether the environmental impact of oil exploration has been negative (2.905). This suggests that there may be more variation in people's experiences or perceptions of these impacts. In summary, the data suggests that the environmental impacts of oil exploration in Buliisa District are a cause for concern. There is a clear need for measures to mitigate these impacts and protect the environment.

4.3 Description of the independent variables: socio-economic effects.

Socio-economic effects of oil exploitation of the respondents were the independent variable and it was operationalized into three dimensions namely; environmental effect, employment opportunities and infrastructural development. For this study, environmental effects in this study was operationalized into 10 quantitative items on which respondents were requested to do their self-rating basing on a scale ranging from 1 = strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly agree. Results there from are presented in table 4.5 gives pertinent results.

Table 4.5: Distribution respondents on environmental effects

	Indicators of environmental effects	Mean	Std. Dev
C1.1	Since the start of oil exploration in Buliisa District, air pollution (dust, smoke) has increased.	3.804	1.202
C1.2	The quality of water sources (rivers, streams) near oil exploration sites has worsened.	3.512	1.145
C1.3	Oil exploration has led to deforestation or loss of vegetation in Buliisa District.	2.903	0.902
C1.4	I have witnessed wildlife leaving the area due to oil exploration activities.	2.303	0.803
C1.5	The frequency of fish kills in nearby water bodies has increased since the beginning of oil exploration.	3.653	1.201
C1.6	Oil exploration activities have caused soil contamination in Buliisa District.	3.111	1.021
C1.7	An oil spill has occurred in the area during exploration.	2.021	0.705
C1.8	Noise pollution from oil exploration activities has increased in Buliisa District.	3.405	1.012

Table 4.5 suggests that oil exploration in Buliisa District has had a negative impact on the environment. There is strong agreement (mean > 3.5) among respondents that air pollution (dust,

smoke) has increased (3.804), the quality of water sources (rivers, streams) has worsened (3.512), and the frequency of fish kills in nearby water bodies has increased (3.653) since the beginning of oil exploration. There is also moderate agreement (mean between 3 and 3.5) that soil contamination (3.111) and noise pollution (3.405) from oil exploration activities have increased.

However, there is less agreement (mean < 3) on whether oil exploration has led to deforestation or loss of vegetation (2.903) or whether respondents have witnessed wildlife leaving the area (2.303) due to oil exploration activities. This suggests that there may be more variation in people's experiences or perceptions of these impacts. In summary, the data suggests that oil exploration has had a significant negative impact on the environment in Buliisa District. There is a clear need for measures to mitigate these impacts and protect the environment.

4.3.2 Descriptive statistics on Employment Opportunities

For this study, employment opportunities in this study was operationalized into eight quantitative items on which respondents were requested to do their self-rating basing on a scale ranging from 1 = strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly agree. Results there from are presented in table 4.6 gives pertinent results.

Table 4.6: Distribution respondents on employment opportunities

	Indicators of employment opportunities	Mean	Std. Dev
C2.1	More job opportunities have become available in Buliisa District since the exploration of oil began.	3.204	1.021
C2.2	Oil companies in Buliisa prioritize hiring local residents for available positions.	3.712	1.102
C2.3	Skills training programs are offered by oil companies or NGOs to prepare people for jobs in the oil industry.	2.902	0.904
C2.4	My current skills and experience qualify me for jobs in Buliisa's oil industry.	2.601	0.801
C2.5	I have applied for a job with an oil company operating in Buliisa District.	2.320	0.843
C2.6	When applying for a job in the oil industry I was aware of the specific requirements and qualifications needed	3.432	1.034
C2.7	There is a significant amount of competition for oil industry jobs in Buliisa District	2.843	0.903
C2.8	Resources are available to help people find jobs in Buliisa's oil industry	3.521	1.004

Table 4.6 suggests that the exploration of oil in Buliisa District has created new job opportunities (mean 3.204). There is also a strong agreement (mean 3.712) that oil companies in Buliisa

prioritize hiring local residents for available positions. However, there is less agreement on whether respondents' current skills and experience qualify them for jobs in the oil industry (mean 2.601) and whether they have applied for an oil job (mean 2.320). This suggests that there may be a gap between the perceived availability of jobs and the qualifications and experience of the local workforce.

There is also some disagreement (mean 2.902) on whether skills training programs are offered by oil companies or NGOs to prepare people for jobs in the oil industry. This suggests that there may be a need for better communication or coordination between the oil companies, NGOs, and the local community about the availability of skills training programs. In summary, the data suggests that the exploration of oil in Buliisa District has had a positive impact on job opportunities for local residents. However, there is also some evidence to suggest that there may be a need for more skills training programs and better communication about the availability of these programs.

4.3.3 Descriptive statistics on Infrastructural Development

For this study, infrastructural development in this study was operationalized into eight quantitative items on which respondents were requested to do their self-rating basing on a scale ranging from 1 = strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly agree. Results there from are presented in table 4.7 gives partinent results.

Table 4.7: Distribution respondents on Infrastructural Development

	Indicators of **Infrastructural Development**	Mean	Std. Dev
C2.1	More job opportunities have become available in Buliisa District since the exploration of oil began.	3.603	1.104
C2.2	Oil companies in Buliisa prioritize hiring local residents for available positions.	3.302	1.0
C2.3	Skills training programs are offered by oil companies or NGOs to prepare people for jobs in the oil industry.	2.804	0.903
C2.4	My current skills and experience qualify me for jobs in Buliisa's oil industry.	3.201	1.032
C2.5	I have applied for a job with an oil company operating in Buliisa District.	2.732	0.932
C2.6	When applying for a job in the oil industry I was aware of the specific requirements and qualifications needed	3.614	1.131
C2.7	There is a significant amount of competition for oil industry jobs in Buliisa District	3.321	1.032
C2.8	Resources are available to help people find jobs in Buliisa's oil industry	2.812	0.901

Table 4.7 suggests that the exploration of oil in Buliisa District has created new job opportunities (mean 3.603) and there is a high awareness of the specific requirements and qualifications needed to apply for these jobs (mean 3.614). There is also agreement that oil companies in Buliisa prioritize hiring local residents (mean 3.302).

However, there is less agreement on whether skills training programs are offered (mean 2.804) and whether resources are available to help people find jobs in the oil industry (mean 2.812). This suggests that there may be a gap between the perceived need for skills training and the availability of resources to address this need. Thus, the data suggests that the exploration of oil in Buliisa District has had a positive impact on job opportunities for local residents. However, there is also some evidence to suggest that there may be a need for more skills training programs and resources to help people find jobs in the oil industry.

4.4 Testing of the study objectives

This section deals with testing of the three study objectives what was looked at is the relationship between socio-economic effects in terms of environmental effects, employment opportunities and infrastructural development and their effect on oil exploitation in Buliisa district. These were tested one by one following respective objectives as in the subsequent subsections of the study.

4.4.1 Pearson's Correlation Coefficient Analysis: environmental effect and oil exploitation

This table explores the relationship between environmental effects and oil exploitation using Pearson's correlation coefficient analysis. The analysis examines the correlation coefficient (r) which indicates the strength and direction of the association between the two variables, and the

significance level (p-value) which determines the statistical significance of the observed correlation. The results are shown in table 4.8.

Table 4.8: Pearson correlation co-efficient index between environmental effect and oil exploitation

		Commitment	Rewards
Oil exploitation	Pearson correlation	1	.720
	Sig (2 tailed)		.002
	N	152	152
Environmental effect	Pearson correlation	.720	1
	Sig (2 tailed)	.002	
	N	152	152

Table 4.8 describes the findings of a correlation analysis conducted between environmental effects and oil exploitation staff. Specifically, it reports a Pearson's correlation coefficient (r) of 0.720 with a significance level (sig) of 0.002, which is less than 0.05, indicating statistical significance. This correlation coefficient suggests a strong positive relationship between environmental effects and oil exploitation staff. The findings imply that as environmental effects increase, the number of staff involved in oil exploitation also tends to increase.

4.4.2 Pearson's Correlation Coefficient Analysis: Opportunities On Oil Exploitation

To find out whether employment opportunities had a relationship on oil exploitation, the two variables were related using Pearson’s correlation co-efficient index as in Table 4.9

Table 4.9: Pearson's correlation co-efficient index between employment opportunities on oil exploitation

		Oil exploitation	Employment opportunities
Oil exploitation	Pearson correlation	1	.781**
	Sig (2 tailed)		.021
	N	152	152
Employment opportunities	Pearson correlation	.781	1
	Sig (2 tailed)	.021	
	N	152	152

Table 4.9 shows Pearson's correlation co-efficient index between employment opportunities on oil exploitation r = .781**, sig = 0.02 less than 0.05. Thus this meant that there is a strong positive correlation between employment opportunities in oil exploitation. This indicates that as the opportunities in this industry increase, so does the likelihood of employment.

4.4.3 Pearson's Correlation Coefficient Analysis: Infrastructural Development and Oil Exploitation

Table 4.10 presents Pearson's correlation coefficient analysis to explore the relationship between infrastructural development and oil exploitation. The analysis examines the correlation coefficient (r) and the significance level (p-value) to determine the strength and direction of the association between these two variables. The results are displayed in table 4.10;

Table 4.10: Pearson's correlation co-efficient index between Infrastructural development and Oil Exploitation

		Oil exploitation	Infrastructural development
Oil exploitation	Pearson correlation	1	.184
	Sig (2 tailed)		.243
	N	152	152
Infrastructural development	Pearson correlation	.184	1
	Sig (2 tailed)	.243	
	N	152	152

Table 4.10 shows Pearson's correlation co-efficient index between infrastructural development and oil exploitation r = .184, sig = .243 less than 0.05. This suggested that there is a very weak positive correlation between infrastructural development and oil exploitation. The p-value of .243 indicates that this relationship is not statistically significant. Therefore, it can be concluded that there is no significant correlation between the two variables in this study.

Chapter Five

Discussion, Conclusions and Recommendations

5.0 Introduction

This chapter presents the discussion of the findings obtained from the study, the inclusions that were drawn based on results recommendations that were made based on the findings and conclusions as well suggesting areas for further research.

5.1 Discussion

This section presents the discussion of the findings that were obtained from the study, the discussion was based on the findings obtained from the questionnaire and interviews. It followed respective hypotheses as presented below.

5.1.1 Objective one

The first objective of the study was to assess the effects of oil exploration on infrastructure development in Buliisa District. The findings of the study revealed a strong positive relationship between environmental effects and oil exploitation staff. The findings imply that as environmental effects increase, the number of staff involved in oil exploitation also tends to increase. The literature surrounding the environmental effects of oil exploration presents a diverse array of perspectives, highlighting both agreement and disagreement with the findings of the study focused on Buliisa District. Authors such as Omoogun, Olayemi, and Ogungbade (2021), Lusweti et al. (2022), and Kuch and Bavumiragira (2019) align closely with the study's assertion of a positive relationship between environmental degradation and the involvement of oil exploitation staff. These scholars emphasize the significant environmental impact of oil exploration activities, particularly focusing on water pollution and the associated risks to aquatic ecosystems and human

health. Their work underscores the imperative for proactive measures to mitigate environmental damage and underscores the need for sustainable oil exploration practices to safeguard both the environment and human well-being.

Conversely, authors such as Uwabimfura, Bin, and Nkusi (2020); Thakur and Koul (2021) present perspectives that diverge from the specific findings of the study. While acknowledging the adverse environmental effects of oil exploration, these scholars offer broader perspectives, highlighting additional sources of environmental contamination beyond water pollution. Their focus extends to air, soil, and biota, reflecting a more comprehensive understanding of the environmental challenges associated with oil exploration. In summary, the literature review supports the findings of a strong positive relationship between environmental effects and oil exploitation staff in Buliisa District.

5.1.2 Objective two

The second objective of the study was to assess the effects of oil exploration on infrastructure development in Buliisa District. The findings of the study on this objective showed that there is a very weak positive correlation between infrastructural development and oil exploitation. This finding is in alignment with insights from various scholarly works. Chester et al. (2022) shed light on the impact of oil exploration on infrastructure from a technical perspective, emphasizing the challenges posed by metallic artifacts on electromagnetic surveys used in exploration geophysics. These challenges not only affect data interpretation accuracy but also pose safety hazards for field workers, highlighting the importance of careful consideration and mitigation of infrastructure effects by oil exploration companies. Similarly, Paulson et al. (2022) emphasize the ecological impacts of oil extraction activities on wildlife habitats, stressing the need for thorough

environmental assessments to minimize adverse effects. The presence of physical infrastructure associated with oil wells can alter habitat suitability and impact wildlife behavior, underscoring the importance of environmental considerations in oil exploration projects.

Moreover, insights from Kwadwo et al. (2019) highlight the interplay between infrastructure development and policy implementation in the petroleum sector, particularly in countries like Ghana where local content policies aim to stimulate industry development. Strengthening regulatory institutions and capacity-building initiatives are identified as crucial factors in attracting private investment and fully benefiting from such policies. Additionally, Yasir et al. (2023) discuss the broader challenges faced by aging infrastructure in the oil and gas sector, emphasizing the need for strategic planning, long-term investment, and incorporation of innovative technologies to ensure sustainability and efficiency. Their insights underscore the multifaceted nature of infrastructure development challenges in the oil and gas industry.

Furthermore, Dike and Giniwa (2019) highlight the specific impacts of oil and gas activities on maritime infrastructure, emphasizing the importance of programs aimed at promoting and developing ports and transportation facilities to mitigate negative consequences. Their observations underscore the need for proactive measures to ensure the sustainability of maritime infrastructure amidst oil and gas activities. In conclusion, there is a very weak positive correlation between infrastructural development and oil exploitation in Buliisa district.

5.1.3 Objective three

The third objective of the study to analyze the effects of oil exploration on employment opportunities in Buliisa District. The findings of the study a strong positive correlation between employment opportunities in oil exploitation. This indicates that as the opportunities in this

industry increase, so does the likelihood of employment. This finding aligns directly with the insights provided by several scholarly works. Amanda and Amanda (2020) illuminate the complexities surrounding oil exploration's impact on employment, suggesting that while resource-rich countries may experience a surge in employment within the oil sector, this can also lead to decreased competitiveness and limited job prospects in other sectors, especially for women. Conversely, insights from Adofo, Tarui, and Tanaka (2022) highlight the positive effects of offshore oil discovery on employment in Ghana, where increased employment opportunities were observed not only within the oil industry but also in manufacturing and construction sectors, accompanied by infrastructure development. These findings underscore the potential for oil exploration to stimulate broader economic activity and job creation within a region.

Moreover, the study's findings resonate with the challenges and opportunities identified in specific oil and gas fields, such as the Tuban Oil and Gas Field discussed by Murti and Prasetya (2023). While local workers may find job opportunities in such fields, issues such as temporary employment and conflicts over compensation underscore the importance of sustainable employment practices and community engagement. Similarly, the importance of prioritizing sustainable employment practices is emphasized by Uju et al. (2022), who stress the need for foreign investments in Africa's oil sector to result in meaningful job opportunities and ensure the well-being of the workforce. Overall, the convergence of findings from various studies supports the conclusion drawn by the study regarding the strong positive correlation between employment opportunities and oil exploitation, reinforcing the significance of holistic approaches to address associated challenges and maximize benefits for local communities.

5.2 Conclusions

From the discussion above, the following conclusions were made hypothesis by hypothesis;

1. From the first objective, it was concluded that that there is a very weak positive correlation between infrastructural development and oil exploitation in Buliisa district. This implies that there may be some limited benefits of infrastructural development on the success of oil exploitation, however, the impact is minimal. It suggests that other factors such as government policies, market conditions, and technological advancements may play a more significant role in determining the success of oil exploitation projects.
2. From the second objective it was concluded that there was a strong positive relationship between environmental effects and oil exploitation staff in Buliisa district. The findings imply that as environmental effects increase, the number of staff involved in oil exploitation also tends to increase.
3. From third objective it was concluded that a strong positive correlation between employment opportunities in oil exploitation in Buliisa district. This indicates that as the opportunities in this industry increase, so does the likelihood of employment.

5.3 Recommendations

Based on the conclusions drawn from the study, the following practical recommendations can be made:

1. Despite the weak positive correlation between infrastructural development and oil exploitation, it is evident that infrastructure alone may not significantly contribute to the success of oil exploitation projects. Therefore, local authorities and stakeholders should

explore diversifying economic investments in Buliisa District to reduce dependency on the oil sector. This can include attracting investment in sectors such as agriculture, tourism, and manufacturing, which can create alternative sources of employment and foster overall economic development.

2. Given the strong positive relationship observed between environmental effects and oil exploitation staff, it is imperative for oil exploration companies operating in Buliisa District to prioritize environmental management practices. This includes implementing comprehensive environmental impact assessments before commencing operations, investing in pollution prevention technologies, and establishing robust monitoring and compliance mechanisms. Additionally, companies should prioritize staff training programs focused on environmental conservation and sustainable practices to ensure that employees are equipped to minimize negative environmental impacts throughout the exploration process.
3. Given the strong positive correlation between employment opportunities and oil exploitation, it is essential for oil companies and government agencies to prioritize inclusive employment policies that ensure equitable access to job opportunities for all members of the community, including women and marginalized groups. This can be achieved through targeted recruitment initiatives, provision of skills development programs, and implementation of fair labor practices. Additionally, efforts should be made to promote local content policies that prioritize the hiring of local residents and the development of local talent, thereby maximizing the socio-economic benefits of oil exploitation for the Buliisa District community.

5.4 Areas for future research

1. To explore the effectiveness of environmental regulations and policies in mitigating the environmental effects of oil exploitation in Buliisa District.
2. Future research could focus on evaluating alternative strategies for infrastructure development in oil-producing areas like Buliisa District. This could include examining the feasibility and effectiveness of different infrastructure projects, such as roads, ports, and energy facilities, in supporting oil exploitation activities and fostering broader socio-economic development.
3. Given the significant influence of employment opportunities on oil exploitation in Buliisa District, further research could investigate the social impact and community engagement practices of oil companies operating in the area.

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Appendices

Appendix I: Questionnaire

Dear respondent,

I am Enosi Nyakairu, a student of Uganda Christian university currently carrying out a study purposefully to complete a research topic on "**Socio-Economic effects of Oil Exploration in Uganda: A Case Study of Buliisa District Western Uganda."** I am humbly requesting you to take some of your time to fill this questionnaire. The responses will be treated with utmost confidentiality and purposely used for academic purpose only. Thank you in advance.

PART A: RESPONDENT'S BACKGROUND INFORMATIONS

(Please tick in the appropriate space [√] provided)	
1.	Gender: (I) Male [ ] (ii) Female [ ]
2.	• Age: Age range: (1)18-25 Years old;(2) 26-40 years old (3) 41-60 years old
3.	○ qualified 1)Primary school 2)Secondary school 3)Vocational training 4)Bachelor's degree 5)Master's degree or higher

PART B: OBJECTIVE QUESTIONS

Please tick in the appropriate space* [√] *provided, for each statement clearly indicating your level of satisfaction by using the 5-point Likert scale below

1-Strongly disagree, 2-Disagree, 3-Not Sure, 4-Agree and 5-Strongly agree

SECTION B:	**TEACHER COMPETENCE**				
OIL EXPLOITATION	**SD**	**D**	**NS**	**A**	**SA**
Since the start of oil exploration in Buliisa District, air pollution (dust, smoke) has increased.					
The quality of water sources (rivers, streams) near oil exploration sites has worsened.					
Oil exploration has led to deforestation or loss of vegetation in Buliisa District.					
I have witnessed wildlife leaving the area due to oil exploration activities.					
The frequency of fish kills in nearby water bodies has increased since the beginning of oil exploration.					
Oil exploration activities have caused soil contamination in Buliisa District.					
An oil spill has occurred in the area during exploration.					
Noise pollution from oil exploration activities has increased in Buliisa District.					
New plant growth or environmental improvements have occurred due to oil exploration activities.					
The environmental impact of oil exploration in Buliisa District has been negative.					

SECTION C: SOCIO –ECONOMIC EFFECTS	SD	D	NS	A	SA
ENVIRONMENTAL EFFECTS	**1**	**2**	**3**	**4**	**5**
Since the start of oil exploration in Buliisa District, air pollution (dust, smoke) has increased.					
The quality of water sources (rivers, streams) near oil exploration sites has worsened.					
Oil exploration has led to deforestation or loss of vegetation in Buliisa District.					
I have witnessed wildlife leaving the area due to oil exploration activities.					
The frequency of fish kills in nearby water bodies has increased since the beginning of oil exploration.					
Oil exploration activities have caused soil contamination in Buliisa District.					
An oil spill has occurred in the area during exploration.					
Noise pollution from oil exploration activities has increased in Buliisa District.					
EMPLOYMENT OPPORTUNITIES	**1**	**2**	**3**	**4**	**5**
More job opportunities have become available in Buliisa District since the exploration of oil began.					
Oil companies in Buliisa prioritize hiring local residents for available positions.					
Skills training programs are offered by oil companies or NGOs to prepare people for jobs in the oil industry.					
My current skills and experience qualify me for jobs in Buliisa's oil industry.					
I have applied for a job with an oil company operating in Buliisa District.					
When applying for a job in the oil industry I was aware of the specific requirements and qualifications needed					

There is a significant amount of competition for oil industry jobs in Buliisa District					
Resources are available to help people find jobs in Buliisa's oil industry					
INFRASTRUCTURAL DEVELOPMENT	**SD**	**D**	**NS**	**A**	**SA**
More job opportunities have become available in Buliisa District since the exploration of oil began.					
Oil companies in Buliisa prioritize hiring local residents for available positions.					
Skills training programs are offered by oil companies or NGOs to prepare people for jobs in the oil industry.					
My current skills and experience qualify me for jobs in Buliisa's oil industry. (					
I have applied for a job with an oil company operating in Buliisa District.					
When applying for a job in the oil industry I was aware of the specific requirements and qualifications needed					
There is a significant amount of competition for oil industry jobs in Buliisa District					
Resources are available to help people find jobs in Buliisa's oil industry					

THANK YOU