SOCIO-ECONOMIC EFFECTS OF OIL EXPLORATORY ACTIVITIES ON THE HOST COMMUNITIES IN BUNYORO SUB-REGION, UGANDA

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A DISSERTATION SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION IN OIL AND GAS OF UGANDA CHRISTIAN UNIVERSITY

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DECLARATION

I Makowe Sowedi hereby declare that this dissertation has never been anywhere for any academic award in any institution or university. All the sources have been rightfully acknowledged.

Makowe Sowedi

M19M47/160

23/05/2025

Date

APPROVAL

I acknowledge that this dissertation titled 'The Socioeconomic Effects of Oil exploratory activities on Host Communities in Bunyoro Sub region' case of Bulisa and Hoima Municipality has been under my supervision and is ready for submission.

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Mr. Kisenyi Vincent — Date

Supervisor

ABSTRACT

The recent oil and gas exploration activities in the Albertine region of western Uganda have raised a debate on the plight of the local people at various scales. The research is to assess the potential negative impact that would have been caused by the oil exploratory activities. The objectives of the research are to examine the impact of exploratory activities on the host communities, to examine the impact of exploration activities on the socio wellbeing on the host community and to assess the impact of these activities on the environment. The researcher used a qualitative method so that he would be able to get the actual feelings of the local community members. The researcher used local perspectives on the socio-economic and environmental impacts of oil and gas exploration activities as a lens to examine the extent to which the "resource curse" and "resource blessing" theories are applicable in the oil and gas exploration sites in Uganda. There were increases of business activities in the region, there was an improvement on the socio wellbeing of the people and there a negative impact on the environment.

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ABBREVIATIONS

ACODE	:	Advocates Coalition for Development and Environment.
CNOOC	:	Chinese National Offshore Oil Corporation
DFID	:	Department for International Development
EEZ	:	Exclusive Economic Zone
E&P	:	Exploration and Production
FAO	:	Food and Agriculture Organization
GDP	:	Growth Domestic Product
HMC	:	Hoima Municipal Council
HOCADEO	:	Hoima Caritas Development Organisation
IUCN	:	International Union for Conservation of Nature
NESAQ	:	National Environmental Standards for Air Quality
PAHs	:	Poly-Aromatic Hydrocarbons
UMICs	:	Upper-Middle-Income Countries
UNDP	:	United Nations Development Programme
UNEP	:	United Nations Environment Programme
UNCTAD	:	United Nations Conference on Trade and Development
WOMAD	:	World of Music, Arts & Dance
WWF	:	World Wide Fund

CHAPTER ONE

INTRODUCTION

1.1 Introduction to the Study

The study is aimed at assessing impact that the exploratory activities have had on the host communities of Bunyoro sub region. A lot of activities have taken place and thus it has had directly or indirectly affected the people. The socio-economic impact in host communities has been enormous and these include among others; household income, population increase, road construction and changes in income resulting from oil exploration activities on the well-being of communities. Oil exploration in Uganda covers more than 20 districts but the focus is presently in 3 districts of Nwoya, Hoima and Buliisa. Over the past years, a number of developments have taken place or been planned to facilitate oil exploration these include the construction of the Kaiso-Tonya road, completed in 2014, other associated developments include a planned refinery and waste management plant. This chapter contains the background of the study, the problem statement, the research objectives as well as the significance of the study.

1.2 Background to the Study

Africa currently has some of the fastest growing economies in the world and is expected to continue growing given the abundance of the natural resources and possession of a young vibrant population. Africa's natural resources which include oil and gas, have been the bedrock of the continent's economy and continue to represent a significant development opportunity for her people. In 2012, natural resources accounted for 77% of total exports and 42% of government's revenues (KPMG & Deloitte, 2014)

Nwankwo et al (2015) argues that human beings depend on the resources they drive from the environment for their wellbeing and their existence, oil has had more deep impact on world civilization than any single natural resource in recorded history. Oil and gas has become a very decisive element in defining the politics, rhetoric and diplomacy of states. All over the world, the lives of people are affected and the destinies of nations are determined by the results of oil exploration. Oil keeps the factors of the industrialized countries working and provides the revenues which enable oil exporters to execute ambitious national economic development plans. In Africa oil has mainly benefited African privileged elites, oil companies and their shareholders and western industrialized countries (ACODE, 2006). Since 1970, Nigeria's socio-economic and political fortunes have been intricately linked with oil

exploration, with petroleum oil providing about 95 per cent of export earnings and accounting for over 80 per cent of government revenue as well as generating over 40 per cent of GDP. It is revealing to note that oil that generates these numerous benefits to Nigeria comes solely from the Niger Delta. The oil has generated massive economic and social transformation of many parts of the country on the one hand, but on the other hand it has resulted into unparalleled damage to the Niger Delta environment thus inducing a multifaceted problem in the region such as abject poverty, deprivation, social conflict, occupational dislocation, ill health (Amadi and Tomuno, 2012). While there has been discovery of oil and gas in most parts of Uganda especially Bunyoro, the discovery, exploration and extraction of the oil has with no doubt generated spontaneous effects on the host communities although such effects have not been investigated for the case of Uganda.

1.2.1 Global context

Global oil exploration is dynamic and subject to many factors like macroeconomics and geo-political situation, technology, the price of a barrel and conditions of the global financial markets.

Demand for liquid hydrocarbons will continue to grow, the greatest surge in oil demand will come from the transportation sector for which oil is the principal energy source for instance Russia has licensed much of its frontiers at favorable terms with drilling, Artic exploration is to be a Russian-led exercise exploring established areas with new technology and perspective, the reserves growth revolution that hit USA traditional producing areas is unprecedented led by US independents employing hydraulic fracturing technology in horizontal wells and a learning-by-doing philosophy, the industry has reversed the decline in US oil production. In order to facilitate the development of petroleum resources in New Zealand and its Exclusive Economic Zone (EEZ), the Government has implemented a new process for allocating oil and gas exploration permits from 2012. All permits are allocated by means of a "block offer annual competitive tender process" rather than the first-in, first-served approach known as "priority-in-time" used previously. Tenders will be evaluated on the basis of the applicants' corporate standing; technical and financial capability; risk management practices; operating experience; and proposed work programme (Ministry for Business, Innovation and Employment [MBIE – formerly MED], 2012a).

1.2.2 African Context

In Africa oil has mainly benefited African privileged elites, oil companies and their shareholders and western industrialized countries (ACODE, 2006).Since 1970, Nigeria's socio-economic and political fortunes have been intricately linked with oil exploration, with

petroleum oil providing about 95 per cent of export earnings and accounting for over 80 per cent of government revenue as well as generating over 40 per cent of GDP. It is revealing to note that oil that generates these numerous benefits to Nigeria comes solely from the Niger Delta. The oil has generated massive economic and social transformation of many parts of the country on the one hand, but on the other hand it has resulted into unparalleled damage to the Niger Delta environment thus inducing a multifaceted problems in the region such as abject poverty, deprivation, social conflict, occupational dislocation, ill health (Amadi and Tomuno, 2012).

1.2.3 Ugandan Context

Petroleum occurrence was first recorded in Uganda in the early 1920s one deep well was drilled in 1938 which encountered hydrocarbons but was not tested, several shallow wells were also drilled during the 1940s and 1950s for strategic purposes. There was then a period of limited or no activity between 1940s and 1980s largely due to the Second World War and political instability in the country. A modern and consistent effort to establish the country's petroleum potential has been undertaken since the 1980s. Aeromagnetic surveys undertaken during 1983 and 1992 respectively identified five sedimentary basins in the country. They are the Albertine graben, Lake Kyoga basin, Hoima basin and Moroto-Kadam basin. Follow-up work on the ground has shown that the most prospective sedimentary basin to date is the Albertine graben. Therefore, the exploitation and utilization will create durable and sustainable social and economic effects for Uganda. These resources have a potential to provide immense benefits to the country through creation of employment, generation of revenues, development of infrastructure and subsequent fast-tracking social transformation of the country. Seismic survey, further exploratory drilling, the longer-term production stage pipelines, decommissioning plans and audits are envisaged to continue in the Albertine rift area in general and in the protected areas.

The exploration of oil offers tremendous opportunities for Uganda and Hoima municipality in particular. It also poses several risks if the country succumbs to the oil curse or the diversion of revenues for development through mismanagement and corruption.

Government of Uganda has made significant progress in the petroleum sector; this has been possible through investment in the human resource capacity through specialized training and procurement of specialized equipment to collect geological, geophysical and geochemical data. These efforts led to attraction of investment for exploration and, more importantly, the discovery of commercial oil and gas reserve in 2006. Investment and licensing in the sector and cumulative foreign direct investment in petroleum exploration in the country since 2008

was over USD 2.4 billon at the end of 2013; and investment in the sector is expected to increase as the country enters the development and subsequently the production and refining phases of the petroleum value chain. Three oil companies have been licensed to carry out exploration, development, and production in far exploration areas. These are Tullow Uganda Operations Ltd, Total E & P Uganda and China National Offshore Oil Corporation (CNOOC).

1.3 Statement of the Problem

There are so many exploratory activities that have taken place in Bunyoro sub region such as surveying, seismic probing, drilling exploratory wells, road construction and among other mapping(EPI web conference 2010). Some activities such as road construction, schools construction, and airport and stadium construction have been beneficial to the residents of the host communities and have improved on their socio wellbeing. However these activities could have had harm or negative impact though there are those that have benefited for example; displacement of people from their traditional environment (PAU report 2017). These activities have caused conflicts between the companies and the community threatening the delicate balance of the regions socio economic dynamics. Therefore, there is a pressing need to understand and address the potential negative effects of exploratory activities on the socio wellbeing of the people of Bunyoro sub region. This is necessary to guide further research and inform policy decisions for sustainable development in the region.

1.4 General Objective

The main objective of this study is to establish the socio economic impact of oil exploratory activities with reference to Bulisa district. What has been the socio economic impact on the people of Biiso town council, Bulisa district?

1.4.1 Specific Objectives

i. To examine whether oil exploratory activities have disrupted or contributed to the economic activities of the people of Bulisa.
ii. To examine whether oil exploratory activities have had an impact on the socio wellbeing of the people of Bulisa district.
iii. To assess the environmental effects that exploratory activities have had on Bulisa district.

1.5 Conceptual Framework

The diagram below shows the conceptualization of the study

Independent variable dependent variable

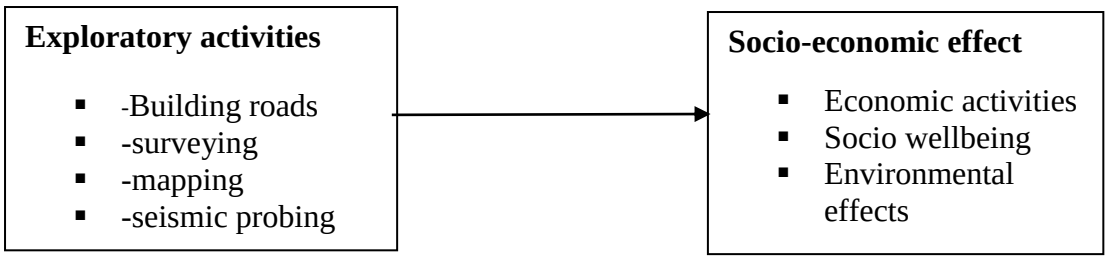

Figure 1: This study was conceptualized on the conceptual framework below; Oil exploration activities

Source: Adopted from Kisembo 2009 and modified by the researcher 2020.

The independent variable was oil exploration activities with the following activities: exploratory well drilling, surveying and mapping, collecting seismic data, area zoning, building roads, and clearing vegetation, drilling, casing and well completion. All the listed affect the dependent variable the social economic effects on the well-being of communities leading to culture mix, economic transformation, displacement, prices, occupational dislocation, influx of people. The purpose of the conceptual framework was to establish the relationship between the variables (oil exploration activities and social economic effects) where the whole process of obtaining oil; from exploration, extraction, processing and transportation as well as storage and consumption generate one form of pollution or the other. The activities of the oil industry have often resulted in a different multitude of social, environmental, and economic problems such as environmental pollution, occupational dislocation, rural-urban drift, unemployment, and poor human health (UNEP, 2011). Among the most conspicuous aspects of life in contemporary areas like Hoima Municipality are poverty, malnutrition, and diseases.

1.6 Significance of the Study

The findings of the study will be of help to the Government of Uganda, Bulisa District, the Ministry of Energy and Mineral Development in making clear policies on how oil companies and individuals are to handle demands of the local community, concerning issues such as jobs, culture mix, health, displacement and peaceful co-existence. The study findings will

also enable other stakeholders, for instance the civil society charged with accountability and strengthening participatory mechanisms intervene in the 'paradox of plenty' and the 'windfall revenue phenomenon' which is likely to lead to the 'oil curse' (negative effects of oil; resource utilization leading to economic stagnation, environmental degradation and increased poverty).

As a student of Master's in Business Administration(Oil and Gas), I am hopeful that the research findings will to a large extent enhance my career in research and enable me to have a practical approach in analyzing issues resulting from oil exploration, as the course requires.

1.7 Justification of the study

The socio economic effects of exploratory activities in Bunyoro sub region have been a topic of concern and debates in recent years. Despite the potential benefits of these activities the there has been growing unease about their impact on local communities and their traditional way of life. This has led to conflicts between companies' involved in exploration and local communities.

1.8 Scope of the Study

This study will have focused on assessing socio economic impact on the people of Biiso town council, Bulisa district resulting from the oil exploratory activities.

1.8.1 Geographical Scope

The study will be carried out in Bunyoro sub region focusing in Biiso town council Bulisa focusing on social, economic effects of oil and gas exploration activities on the wellbeing of communities.

1.8.2 Time Scope

The study takes into consideration the time when serious oil exploration activities started in 2006 under Hardman Resources up to date when exploration license for Total E&P, Tullow oil and CNOOC started exploratory activities.

1.8.3 Content Scope

The study will focus on assessing how the people have been affected by oil exploration activities. The focus will be in the local communities within the selected area above of Biiso town council, Bulisa district focusing on the indicators and dimensions.

1.9 Operational definitions

Oil Exploration; this is the most important in the oil industry and is involved with finding oil fields and bringing oil up from the ground. This detective work requires looking for clues; search for underground or under water oil and gas reservoirs, careful observation of ground conditions, taking notes of different information and the evaluation of survey data. This is the job of geoscientists who are experts on rocks.

Oil: Accumulation of hydrocarbons, three conditions of oil formation, source rock, and rock cap, and porous rock, crude oil is an organic liquid substance often found below the earth's surface. It is made up of thousands of molecules composed of different hydrogen and carbon atoms. Such compounds are called hydrocarbons.

Seismic Studies: Seismic technology uses sound waves to reveal what lies deep in the ground. Sound waves can travel through some materials more easily than others. Once the waves have all been recorded for an area, the information is taken back to a laboratory where geoscientists read the waves and make interpretations.

Drilling: Since the first oil well was drilled in 1859 by Edwin Drake in Pennsylvania United States of America, oil exploration and production has become an increasingly complex and precise process, wells have gotten deeper and more complex. To drill a well, a large drilling rig is brought to the site; once it's situated above the desired location drilling can begin. Drill bits have sharp teeth that rotate to tear apart rock. While the well is drilled it gets deeper to length of 30 feet. Pipes are attached to the top of the drill. For this reason drillers use mud to lift debris out of the well, mud is a complex material specifically made for its purpose. Because it is so complex, mud is one of the biggest expenses in drilling. Controlled by mud engineers, drilling mud keeps the formation or walls of the well from collapsing inward.

Wellbeing: Human wellbeing has many dimensions, income to pay for food, clothing and shelter, access to clean water and sanitation, good health, security, access to social services and amenities, freedom of choice.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction.

In this study, stakeholder theory was applied. Stakeholder is a person, group or organization that has interest or concern in an organization, whereby stakeholders can affect or be affected by the organization's actions, objectives and policies. Some examples of key stakeholders are creditors, directors, employees, government (and its agencies),owners (shareholders), suppliers, unions, and the community.

Regarding background of stakeholder theory, it was embedded in the management discipline in 1970s and gradually developed by Freeman (2014) incorporating corporate accountability to a broad range of stakeholders. Wheel et al (2013) argued that stakeholder theory is a less formal unified theory and more of a broad research tradition incorporating philosophy, ethics, political theory, economics, law and organizational science. Freeman (2014) hold that stakeholders of a firm can be defined as individuals and constituencies that contribute, either voluntarily and involuntarily to its wealth-creating capacity and activities and who are therefore its potential beneficiaries and or risk bearers. Sundaram and Inkpen, 2004 contends that stakeholder theory attempts to address the group of stakeholder deserving and requiring management's attention whilst Donaldson and Preston (2015) suggest that the firm is a system where there are stakeholders and the purpose of the organisation is to create wealth for its stakeholders.

Stakeholder theorists have tended to devote relatively little attention on defending stakeholder rights, while issues of governance and corporate law have received insufficient attention among advocates of radical departure from the shareholder focused conception and failure of stakeholder theory being viable over time, failing to demonstrate its ability both to achieve the multiple objectives of the different parties and to distribute the value created in ways that maintain their commitment.It is important to note that stakeholders can make or break a project/corporation or programme. It can be tough to pin them down or describe the depth of the project with them, creating a stakeholder management plan can help them informed.

2.1.1 The Institutional Theory

The research was based on the institutional theory as discussed below.

According to Scott (2011) institutions are 'social structures which have attained a high degree of resilience'. The institutional theory can be decomposed into three core thematic areas: the cultural cognitive, normative and the regulative. These three core thematic areas work in tandem and when combined with appropriate activities and resources, bring about stability and meaning to social life (Ibid, 48). Institutions operate at various degrees of power, ranging from the 'world system to localized interpersonal relationships' and are affected by both periodic and constant change they entail stability (Scott, 2011). This implies that institutions have the inherent capacity to control and restrain behaviour thus being able to shape actions. As organizations cannot exist independently and isolated from its environments (Keyton, J., 2010). Neoclassical organizational theory or the new systems in organizations, like the theory of George Elton Mayo (Ionescu, G. & Negrusa, A, 2013), Chester Barnard (Smith, E., 1998), and Herbert Simon (Harter, N., 2014) opened up the door for the sociological studies.

In a mainstream organizational research and management studies, institutional theory has become one of the most significant theoretical perspectives (Cornelissen, J, et al., 2015) especially in terms of sociological impact in the institutions and businesses. In a Regulative environment, which is where coercive isomorphism operates, the coercive isomorphic pressure occurs when political forces tend to limit an organization to behave a certain way through legal methods (DiMaggio, P. & Powell, W., 1983) (p.150). It creates compliance by indicating rules, laws, and sanctions. Because institutions in a society share a common legal environment, they have to follow definite rules and respect their obligations in a certain way. Eventually, even if an institution attempts to change itself from other organizations, the legal environment will dictate how it acts to the institutions around it. Institutions tend to design themselves after other institutions that have successful step, because they have overcome similar problems and found legitimate and useful ways to deal with uncertain situations.

This natural reaction to uncertainty is termed by DiMaggio and Powell (1983) as mimetic isomorphism (p.151). In a Cognitive environment, Institutional theory works through mimetic isomorphism, it creates compliance based on taken for granted and its indicator is occurrence. For example, within the Educational Institution, we might say that an example in a regulative pillar would be that school or university has to maintain the synchronous environment. This theory will help so much understand how external factors for example oil and gas activities will effect existing institutions

2.1.2 The Basic Concept of Institution

Political ecology as a driver for institutions: The concept of Political ecology is defined differently by various scholars (Robbins,2012; Watt, 2000; Le Billion, 2011) with the term sustaining fundamental changes in the management of nature and rights of people working directly or indirectly with institutions like states or organizations to challenge current conditions. Le Billion (2011:564) argues that the people face unusual ecological circumstances when they have too much or too little resources, exposing them to high risks of violent conflicts. Resource scarcity (generally renewable resources) and resource abundance (with respect to non-renewable resources) all generate strife hence the best mode is to enlist the two angles. The linkage between these two elements puts forward the basic theoretical root for this study. This concern is explored more in the sustainable livelihood approach and Institutional theory.

Political ecology is seen as a measure that seeks to appreciate complex relations between nature and society through observant examination on means of access and control over resources and their implications for environmental welfare and sustainable livelihoods. (Watts, 2000: 257) This means that social institutional structures grant valuable controls over resources to avert conflicts that could emerge. Most recent research by Forsyth (2013:11) shows that previous approaches to political ecology embodied insufficient steps that aimed at separating environmental issues and politics in the environmental plan. This not only causes grave problems that lead to environmental strategies to inflict undue restrictions on livelihoods of marginalized people; it also heightens conflicts. In comparing political ecology to other rational meaning, Forsyth (2013:20) identifies political ecology as an approach to environmental politics that allows the booming integration of political analysis with the formation and dissemination of understanding of ecology reality.

2.1.3 The resource curse theory

Due to the limitation in the above institutional theory for example on the limited attention given to the role of human agency in institutional changes, this necessitated the introduction of the resource theory.

The resource curse refers to the paradox that countries with an abundance of natural resources, specifically non-renewable resources like minerals and fuels, tend to have less economic growth, less democracy and worse development outcomes than countries with fewer natural resources (Kisembo,2009, p. 25). Literature available on resource curse (Sachs & Warner, 2015, p.50; Auty, 2011, p360) and the paradox of plenty (Karl, 2017, p.23) relate both resource abundance and resource dependence to low levels of human development,

corruption, repression, poor economic performance, However, even with the vast and varied nature of literature on socio economic effects an identifiable oversight in their research findings are that Karl (2017) based his premises only on formal sectors. He gave little consideration to the non-formal sector, non-state institutions and non-formal authorities like farming traditional institutions and community leadership which in one way or another are affected by extractive activities. This theory is critiqued because it neglected the study of peace and war. The results of macro qualitative comparison for a reduced sample of highly dependent oil exporters are even clearer cut, compared to oil poor countries and in contradiction to the rentier state theory, the institutions of oil wealthy countries do not seem to be particularly characterized by patronage and clientelism

2.2 How oil exploratory activities have contributed to the economic activities of the people of Bulisa?

The literature on the impact of extractive industries on local livelihoods, economy and environment is still inconclusive (Gamu et al., 2015; Schrecker et al., 2018). Some authors have posited that extractive industries can lead to a scenario referred to as “resource blessing” (Ablo, 2015) by reducing poverty through creation of employment, promoting local businesses, income, infrastructure development and provision of public facilities such as health centres and schools through corporate social responsibility programmes, economic growth, better institutions and rapid economic growth (Dashwood, 2012; Aragón and Rud, 2013; Mawejje, 2018; Brunnschweiler and Bulte, 2008). This has however been challenged by other authors who contend that extractive industries can lead to negative impacts on natural ecosystems (Aniefiok et al., 2013), cause negative socio-economic impacts (Karl, 2007; Brake and Addo (2014); Boohene and Peprah (2011)) and ultimately lead to a phenomenon commonly known as " resource curse" (Auty, 2002). Thesymptoms of resource curse are, instability, corruption, low women participation in the labour market and wide income disparity (Ross, 2013; Gilberthorpe and Papyrakis, 2015; Sachs and Warner, 2001

In a review of the Regional Coastal Plan for Taranaki in New Zealand, Taranaki Regional Council (TRC, 2009b) the number of unauthorized coastal incidents has been recorded as 219 over the five-year period to 2009 (fewer than five per cent of all unauthorized incidents recorded). Unauthorized incidents include pollution incidents, spills and incidents of non-compliance with resource consent conditions. In total, nine unauthorized incidents (4.1 per cent) were attributed to hydrocarbon exploration and servicing facilities, and ten (4.6 per

cent) to petrochemical processing. Forty-six incidents were attributable to oil or petrol spills but the source of these is not identified in the report. Although the total number of incidents is low, the report states that the consequences of a single event can be devastating. It cites, among a number of examples, an accidental discharge of 23,000 litres of crude oil from the Tui oil field in 2007. The significant amounts of oil that washed up along the Okato coastline required a major clean-up of sandy beaches in the area that took eight months. Fortunately, the timing of this spill (during the spring high tide) meant that oil was deposited high on beaches well away from the zone where marine wildlife is active (TRC, 2012b).

The TRC undertook/commissioned a series of reviews in 2011/2012 on the potential impacts of hydraulic fracturing (fracking) and deep well re-injection on the regional environment. Fracking is a technique used to release gas and oil that is not accessible by other means, by pumping pressurized fluid into well-bores to open fractures in the hydrocarbon reservoir, while deep well re-injection is a process for returning wastes back into depleted oil or gas wells. The reviews examined the potential impacts on freshwater supplies, the risks of earthquakes and other seismic activity, as well as the impacts on air quality of the flaring of fracture fluids.

Data from the Geo-Net project, which has monitored geological hazards in New Zealand since 1994, were analysed to determine whether there was evidence of increased seismic or volcanic activity near petroleum operations in Taranaki. The authors concluded that the data did not support "any suggestion that hydraulic fracturing or deep well re-injection activities could trigger in Taranaki a large earthquake, a sequence of moderate-sized earthquakes, or a widespread zone of earthquakes" Hydrocarbon flaring is used as a means of disposing unwanted hydrocarbon gases extracted from drilling or from Hydraulic Fracturing (HF) fluids, before well-testing is undertaken.

In three studies undertaken at well-sites during 2017/2018 (Institute of Environmental Science and Research, 2008; Fletcher Challenge, 2008) it was shown that the levels of carbon monoxide, carbon dioxide and methane measured downwind of the well sites were safe at all measurement sites including those within 50 meters of the wells. Levels of PM10 (suspended particulate matter in the size range that has the most serious impacts on respiratory health) in close proximity to the sites were compliant with the National Environmental Standards for Air Quality (NESAQ). Levels of Poly-Aromatic Hydrocarbons (PAHs), which epidemiological evidence have linked to the incidence of cancer (Armstrong et al., 2003), were similar to background atmospheric levels 120 meters from the flare sites. Background levels of dioxins, which have been widely linked to a range of adverse impacts on human

health including cancer, and endocrine, central nervous system, and reproductive function abnormalities (WHO, 2009), were achieved beyond 250 meters.

Walter, (2014) observed that in the experience of his Council (South Taranaki District Council), the main issues of community concern with respect to petroleum exploration were "noise, road damage and road safety, visual impact and more noise" with the addition of excessive light at night, vibration, dust, and stock disturbance. A number of approaches were developed and used to minimize these impacts. Local authorities worked to develop uniform approaches to district planning and companies recognized that communication, consultation and consistency of compensation are vital to community acceptance. The voluntary land access code agreed by Federated Farmers which clarified company and community responsibilities was considered a significant advance (Walter, 2015).

Similar concerns in Walter, (2014) have been identified more recently. In a public meeting held by residents in Tikorangi (a rural community in North Taranaki), heavy traffic, falling land values, noise and feelings of helplessness were mentioned by residents (Radio New Zealand, 2013). In addition, there have been some isolated noise issues (Maetzig, 2014), one of which resulted in a number of local hapū members leaving their homes during the construction phase of the Motunui production station (Treaty of Waitangi, 2011).

Community relationships have been enhanced by providing support to community groups and organisations through sponsorships, scholarships and investment (Venture Taranaki, 2014a). These can have positive impacts for the Taranaki community. For example, the aquatic centre and the raceway in New Plymouth have been sponsored by Todd Energy while Puke Ariki, the regional museum, was sponsored by Shell. Both companies are also major event partners of the annual World of Music, Arts & Dance (WOMAD) International Festival in New Plymouth which encourages and promotes cultural diversity.

Similar contributions can be identified for companies from the oil and gas supply chain. In addition to their community investments, the oil and gas industry makes contributions to education programmes in the region.

Hannesson, (2011) discusses the question of making resource wealth permanent, arguing that the best strategy is to invest resource revenues in the highest-returning assets, such as education, health, roads and other infrastructure in developing countries like Ghana. This is however true in the sense that "effective infrastructure supply supports economic growth, enhances quality of life and it is vital for national security" (Baldwin & Dixon, 2008:32). For it is with the provision of infrastructure that the current and future generations will be happier

than with some unknown value of money deposited in a bank overseas from which political elites will be using to enrich themselves. In this season of global financial hardship, one cannot be sure that this amount of money will be available in some years to come when the reserves have dried up

Macroeconomic policy implementation research has been instituted to counter the negative effects of oil of oil exploration that overshadows other industries, promotes massive borrowing and public spending, and suppresses growth in the long run. Davis et al. (2011) consider the function and misuse of savings and stabilization funds in managing non-renewable resource wealth. They argue that the existence of funds have rarely been able to address the issue of volatility in oil prices and especially that of savings for future use to the expected standard and hence there seems to be a strong case for government to be cautious about policies pertaining to oil revenue. The principle underlying the stabilization fund is applauding able. However, government should be cautious about the use of the resources saved in the fund as suggested above by Davis et al. (2011). It should not be used as a source of fund to cover up the shortfalls in the general budget whether they occur as a result of oil price volatility or not. The use of the fund to supplement the shortfall in non-oil revenue should be prohibited otherwise it will encourage government to relax in the mobilization of traditional revenue which could promote indiscipline in the fiscal policy process that can feed into dependence on oil fund.

Sachs & Warner (2015) identified that resource sectors have weak linkages with the rest of the economy because imported inputs and capital-intensive production generate little employment; therefore, the real impact on the overall economy depends on how the wealth is used. The capital intensiveness in exploiting oil in most developing countries has transferred employment power to the foreign investors who have the necessary capital to invest. This however creates fewer jobs for the local people than is expected. This situation leaves the government share of the revenue as the major tool for greater economic transformation. In this sense only, good management policies will ensure that the nation benefits significantly from the oil discovery.

Sachs and Warner (2015) again argue that oil abundance is a key negative determinant of economic growth. These empirical results are themselves controversial but the point here is to argue that the criterion itself is not sufficient. Lower growth in the long run does not necessarily mean that the oil is a curse. A country can experience a windfall, which raises income and consumption in all periods but does not produce faster growth, and indeed it may

even slow growth. Even if growth slows after the windfall, consumption, the usual aggregative measure of welfare, may still remain higher in all periods because disposable income is higher than if the economy had not had a windfall but had grown faster. Thus, the empirical observation referred to above, that resource abundant economies tend to have lower aggregative growth, is not in itself sufficient to demonstrate that oil is a curse.

Saraf & Jiwanji, (2011) outline many reasonable issues of the resource curse. Firstly, the of problems, known as Dutch Disease (whereby the local currency of a nation appreciates increased sudden availability of foreign exchange, if not managed well, causes a significant appreciation of real exchange rate, further damaging the competiveness of manufacturing and other tradable industries. Meltdown of the manufacturing industry may also lead to less educational investment and labour productivity. Unsuccessful protectionist policies are another frequent end result. This number which encourages lower prices of non-traded export produce as a result of which exports are discouraged) is less important for resources that are exploited at a sub-national level. However, at the national level, Dutch disease has been a major problem in managing oil wealth. In this instance, there is an uncontrollable appreciation of a country currency over the medium to long-term period.

The volatility nature of prices and production quantity of primary goods lead to highly fluctuating exports and government revenues. Higher production and price times can create fiscal indiscipline, leading to market discipline relaxation. Saraf & Jiwanji (2011) assert that boom-based borrowing to expand public infrastructure can lead to unsustainable expenditures and burdensome debt after the boom. Moreover, once there is an expansion of government's expenditures, their con-traction may be difficult. Boom times associated with capital inflow can lead to increased careless spending which can result in a higher inflation rate and lower levels of domestic savings. During bad times, there will not be enough funds to cater for the budget deficit which can force government to abandon most developmental projects.

2.3 How oil exploratory activities have had an impact on the socio wellbeing of the people of Bulisa district

A strong, growing, sustainable economy is the goal of every nation in the world. A sustainable economy enhances a nation's standard of living by creating wealth and jobs, encouraging the development of new knowledge and technology, and helping to ensure a stable political climate. The Texas oil exploration boom sometimes called the gusher age was a period of dramatic change and economic growth in the United States state of Texas during early 20th century that began with discovery of a large petroleum reserve near Beaumont,

Texas. The fund was unprecedented in its size and ushered in an age of rapid regional development and industrialization that has few parallels in United States history, Texas quickly became one of the leading oil producing states in the US along with Oklohama and California. The major petroleum strikes that began the rapid growth in petroleum exploration and speculation occurred in south east Texas but soon reserves were found across Texas and wells were constructed in North Texas, East Texas and the Permian Basin in West Texas.

The period of oil exploration had a transformative effect on Texas. At the turn of the century, the state was predominantly rural with no large cities, but by the end of Second World War the state was heavily industrialized and the population of Texas cities had broken into top 20 nationally. The city of Houston was among the greatest beneficiaries of the boom and Houston area became home to the largest concentration of refineries and petrol chemical plants in the world, the city grew from a small commercial centre in 1900 to one of the largest cities in the United States during the decades following the era.

Furthermore, regarding economic transformation the urban landscape of the cities changed dramatically the Praetorians building in Dallas (1907) and the amicable life insurance company building in Waco (1911) was among the first skyscrapers in Texas. Texans who became wealthy from oil exploration activities established upscale communities, including river Oaks which became a model for community planning in the United States.

In Brazil oil exploration activities, construction industry and services contributed similarly to growth, but this was also driven by inter-sectoral shifts to services, a decline in agricultural employment and growth in agricultural productivity. The decline in services-sector productivity suggests movement of some workers into more precarious forms of employment, indicative of a decline in employment quality for those workers. This is the price of oil exploration activity. While the services sector has clearly played an important role in growth in these countries, the implications for policy depend very much on the quality of jobs that people are moving to within the services sector (Walter, et al. 2015). Even if rising average productivity in the services sector suggests that, on average, newer jobs are growth-enhancing and potentially therefore able to provide decent work conditions, the services sector shows a variety of transformation experiences. In all except Thailand, services were the largest contributor to value added growth. South Africa, Mauritius and Chile exhibit large contributions to growth from increases in productivity in that sector, so potentially rising employment quality for those already employed.

Rather than services, industry contributed the most to value-added growth in Thailand. Moreover, structural change accounted for half of the country's growth between 1990

and2012. In fact, Thailand had the greatest absolute change contribution of the structural-transformation component.

In Mauritius and South Africa, the contribution of industrial productivity was also large, but declining employment offset this and reduced the overall contribution of industry. Governments have also relied on fiscal and financial incentives, SME-support programmes, and in some countries on state-owned enterprises and public procurement to encourage investment and employment creation. For example, in Ethiopia, fiscal and financial incentives encourage investments in strategic industries, and policies in support of micro and small enterprises facilitate their (very limited) access to credit (Gebreeyesus, 2013).

Ethiopia's record in reducing poverty through increased employment and diversified incomes suggests that this strategy is having some success. Productivity growth in the agricultural sector has been the main driver of poverty reduction in Ethiopia, as seen in Section 2, made possible by public investments in According to, the Upper-Middle-Income Countries (UMICs) Chile, Mauritius, Brazil, South Africa and Thailand – also transport, storage and communication; business services (finance, insurance, real estate); government services; and personal services (community, social and personal services). Studies reveal changes in shares in value added and employment and changes in labour productivity disaggregated by industry, as described above.

In Ethiopia, the highest growth rates in value added are registered in government, construction, trade and transport, and business services (Fox and Pimhidzai, 2013). While government services are less interesting in terms of structural-change dynamics (and maybe subject to doubts about their calculation) and construction's growth can be explained by public works programmes, the growth of the business services is an important phenomenon. Due to their application of ICT and their need for skilled labour, business services are considered 'modern services'. This oil sector tends to offer higher-quality employment, but due to their skills' requirements, they are not easily accessible by the poor. Business services are also the sector with the highest average labour productivity (134,396 birr, 2005 constant prices), roughly 80 times higher than labour productivity in agriculture, and the sector with lowest average productivity.

Both value added and employment of trade services (also referred to as 'traditional services', due to their low technology and knowledge intensity) increased in the past decades. These services offer low-quality jobs still. This may explain the prevalence of low-quality employment in Ethiopia oil industry. Ethiopian manufacturing value added and employment have also increased in the past two decades, despite negative labour productivity growth. In terms of labour productivity, data show a clear problem of the economy in raising labour productivity in most industries (notable exceptions are agriculture and transport services).

This might be related to the improvements in infrastructure and roads, and consequently market access for rural producers.

Similarly, oil exploration in India, together with construction, business services also witnessed the highest rates of employment growth. While the role of business services in the Indian economy is so widely recognized that modern services have been considered the new engine of Indian economic growth (e.g. Dasgupta and Singh, 2005), the highest rates of productivity growth are found in utilities and manufacturing. As McMillan et al. (2013) show, India

According to the Jobs and oil living earth Uganda project (2013) baseline study report improving access to youth employment in western Uganda, Hoima municipality is one of the 14 municipalities in the six-year Uganda support to municipal infrastructure development (USMID) project, the objective of the project is to enhance the institutional performance of local governments to improve urban service delivery, expand urban infrastructure, enhance capacity of the municipalities to generate revenue, improve urban planning and strengthen financial management and social systems, As it is improved, infrastructure is expected to meet the demands of the incoming businesses and population growth, land prices, rental rates and other real estate costs have escalated as demand for real estate in the municipality and surrounding area has increased.

Following oil exploration and discovery in the Albertine graben, the 90 km Kaiso-Tonya road, Kyangwali- Buhuka was successfully tarmacked. It is important to note Hoima municipality is becoming an attractive and dynamic centre of economic activity indeed increased economic activity in the area and rapid development of Hoima Town led it being upgraded to municipality status.

HOCADEO (2012) report on the baseline study on the current trends of oil exploration and socio-economic implications of the emerging oil and gas industry on the livelihood security of the local communities in the Albertine region indicates that local communities have not yet benefited from business opportunities related oil and gas exploration activities in the Albertine graben. According to HOCADEO report (2012), 70% of the study respondents believed that oil and gas exploration has not yet benefited local communities. The majority of beneficiaries are not residents in Bunyoro sub-region. Despite the huge business potentials of the industry nothing substantive had been made to tap these unique opportunities. These infrastructure developments, especially road construction, are important because they enhance labour and capital productivity which are key measures of sustainable economic development. However, the trickledown effect on communities' wellbeing is still questionable in Hoima municipality.

Jiwanji, (2011) argue that since resource wealth tends to be possessed by a few companies and the public elites; rent-seeking behavior is often a problem. Most of the resource wealth is possessed by powerful foreign investors, bureaucrats, and some influential private investors. They engage in all forms of rent-seeking activities to maximize wealth for themselves alone. This therefore deprives ordinary citizen's opportunities of benefiting from the resource wealth. Institutions built on strong accountability and transparency can be used to avert this unpleasant situation to ensure greater economic benefit for all.

Ghana is placed among the group of countries with a lower middle income following a threefold increase of its real gross domestic product (GDP) (African Economic Outlook, 2014). The significant increase in Ghana's real GDP rate from 4.7% in 2009 to 5.9% in 2014 signifies how strong Ghana's economic growth has been over these years. Growth strengths are even higher as real GDP of 12% growth rate and about 11.0% GDP are anticipated for the years 2011 and 2012 respectively, relying on the start of earnings from the oil production which began in December 2014 (African Economic Outlook 2014). Furthermore, the country's democratic and stable social environments have boosted foreign investors' confidence, triggering a rise in investment.

However, setbacks remain, such as a very weak fiscal position and fragile external balances. Growing fiscal challenges include large domestic payment arrears (African Economic Outlook, 2014). Furthermore, the governments newly adopted public sector payment policy known as the single-spine salary policy: A structural adjustment programme to address the issues of pay disparities, fairness, transparency and equity in the public sector, needs a high budgetary cost which could undermine macroeconomic stability unless government intensifies its efforts in mobilizing domestic revenues. Strong and sustainable investment over many years will need perpetual high levels of investments especially in the manufacturing sector, and in public infrastructure; this will be conditional on proper policies regarding the oil wealth management. Furthermore, the government should create training opportunities to equip the unskilled labour force with relevant job skills to overcome the unemployment and underemployment challenges

Political scientists often talk of "oil curse" emphasizing that resource-rich countries oftenare slow in growth, corrupt, less equitable, violence-prone, and with more authoritarian government compared with those with fewer resources. There is a strong association between resource wealth and the likelihood of weak democratic development (Ross,2011), corruption (Salai-Martin and Subramanian, 2009) and civil war (Humphreys,2005).

Natural resource extraction can also take place quite independently of other political processes; a government can often access natural resource wealth regardless of whether it commands the cooperation of its citizens or effectively controls institutions of state (Ross, 2011). The second major issue is about the non-renewable characteristics of many natural resources such as gas and oil. From an economic viewpoint, they are thus less like a source of income and more like an asset (Ross, 2011).

Environmental problems are inevitable when oil has to be extracted from the ground. Oil spills, damaged lands, accidents and fires, and incidents of air and water pollution have all been recorded at various times and places (E&P Forum/UNEP, 2017). It is certain this will also be the case in Ghana during the exploration of the oil find. However, proper management practices, technologies and procedures can be used to minimize these effects. The continued coordination among stakeholders such as oil firms, contractors and suppliers is essential to implement the best environmental management practices to accentuate the negative effect that could occur during the exploitation and production of oil. There is also the possibility that human life could be affected as a result of the environmental damage caused by oil production. Humans suffer from environmental consequences through the damage to livestock, farms, and the human body itself. Oil spillage can also interfere with the normal working of power stations and desalination plants that require continuous flow of clean seawater (E&P Forum/UNEP, 2017).

2.4 How do the oil exploratory activities have affected the environment of Bulisa?

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.

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 oilproducing 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.

Exposure to very high intensity noise can cause direct physiological damage, such as tissue or cell ruptures. Temporary threshold shift can occur at longer ranges (i.e., lower received levels of sound); this is basically a temporary loss of hearing, so that a sound must be louder than normal in order to be heard or understood (Mark, 2005). Permanent threshold shift, which is in effect permanent partial hearing loss, is also possible after incidental exposure to extremely loud sound or chronic exposure to moderately loud sounds, though this has not been well studied, especially in the wild.

As Finer et al (2008:1) exemplifies Oil access roads bring on deforestation and related shocks which generate both indirect and direct impacts whose damage cannot be effectively managed. Concern of altering land surface area with activities like drilling and construction (as exposed in Figure.1) in the Albertine fragile area can possibly destroy inhabitant's livelihoods influencing their ability to harvest much from their land. Eman et al (2012: 7479) argue that nearly all oil finds its way into the ecosystem through leakages of lakeshore oil refineries. Though spills occur inadvertently, this is a basis for severe and extensive damage to marine ecosystems, terrestrial life and human health which are also natural resources. Kityo (2011:1) indicates that, Oil exploration activities ought to follow sets of ecological studies, such as strategic environmental assessment, environmental and social Impact assessment studies. However sites where these studies are conducted often lack baseline data needed to back up the assessed impacts from these studies. This hampers the evaluation process of both the direct and indirect ecological effects linked to environment. WWF (2009) considers Albertine rift of Uganda as Africa's most ecologically diverse area for animal species and has the highest level of endemism (nativeness). This slim stretch of land just 45 km wide runs from the southern tip of Lake Tanganyika to about 30 km above Lake Albert in Uganda. About 14 per cent of all African reptiles with 175 species, 19 percent of all African amphibians with 119 species, 35 per cent of all African butterflies with 1300 species, and 39 per cent of all African mammals with 402 species (Plumptre and Cox, 2006:183). This high biodiversity area is protected through a network of over fifteen National parks and Wildlife reserves comprises about 70 per cent of all Uganda's conservation areas. IUCN (2003) refers to biodiversity as complex genes, species, ecosystems, and ecological processes that sustain life on earth, providing human society with food, medicine, natural resources, ecological services, and aesthetic benefits. It is a web where ranges of variability among living organisms and the ecological complexes occur and the ways in which they interact with each other and their environment (Ramesh, 2003). Evaluation done using the IUCN Red List

criteria shows that 40% of 40,177 species are now listed as threatened with extinction (irreversible) (Sharma, 2003, Gunawardene. et al. 2007: 1567). In light of this, the EBI (2003) concludes that the most feasible way to safeguard the ecology is to prevent degradation of habitats.

As stated by Basedau (2005) the oil industry employs mainly high-skilled workers to operate activities such as the running of the off-shore oil platforms and on-shore infrastructure, such as pipelines and refineries. The local population, however, has nurtured exaggerated expectations of employment opportunities. These hopes are likely to be dashed which, in turn, could lead to tensions between communities and oil companies. There could be an exception during the construction phase of the oil infrastructure when short-term employment of the local workforce is undertaken (cf. Waskow and Welch, 2005:122). The reality to be faced then is in comparison to other industries; the oil industry is predominantly capital-intensive and employs very little labour.

Environmental and health issues related to the extraction of natural resources have been also affecting human capital. A UNEP report published in 2009 points out that both environmental pollution and conflicts caused by the production of raw materials raise the health risks of local population (UNEP, 2009). It is not only the raw material, in this case oil, which can be considered as a source of danger, but in the influx of foreign workforce that Livelihood Assets "introduced various diseases among the indigenous communities" (UNCTAD, 2007:151), including HIV/AIDS spread by prostitution, alcohol and drug abuse (cf. Waskow and Welch, 2005:122).

2.5 Synthesis and gap analysis

This review of the contributions and limitations of existing literature provides a basis for developing the main proposition of the study; however, some work had already been done. If oil exploration effects are not well checked result in further damages once development stage kick starts, there is need to devise approaches and minimize impacts, communication, consultations and consistency of compensation are vital to community acceptance. Oil exploration induces infrastructural development focus on roads which lead to economic transformation this enhances standard of living, creating wealth and jobs. Oil exploration can create a shift in the sectors; this is a price of oil exploration activity.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the methodology that will be used during the study. It involves the research design, study population, sample size and selection, sampling techniques, data collection methods, data collection instruments, procedure of data collection, reliability and validity of instruments, data analysis plus measurement of variables.

3.2Research Design

The study is purely qualitative study in order to understand what impact what impact the exploratory activities has had on the host community of Bulisa from the peoples own perspective. In other words this study intends to capture the feelings of people that have been affected by the oil exploratory activities in their own words. To do this, the researcher gets close to the concerned communities in line with cresswell2018.

The research design is the overall strategy that a researcher chooses to integrate the different components of the study in a coherent and logical way, thereby, ensuring you will effectively address the research problem; it constitutes the blueprint for the collection, measurement and analysis (Labaree, 2009).

3.3 sampling

The study uses a purposive sampling design to identify the people who have actually been affected by oil exploratory activities. These includes; community Development officers(CDO), sub county and local council one chairman, students, councilors and other politicians as well as the common persons that are the original residents of the district of Bulisa. According to Amin (2005) a target population is the population to which the researcher ultimately wants to focus the results. The target population of the study will be 30 respondents drawn from the two out of four divisions of Bulisa, Bunyoro-sub region and will include those involved in or with knowledge about the social economic effects of oil exploration activities on the wellbeing of communities and included: 15 area residents, 4 politicians, 6 sub county administrators, 5 local council members.

3.5 Sampling techniques and procedure

The study will use simple focused sampling and purposive sampling, Simple random sampling will be used because respondents had equal chances of being selected or picked. The entire process of sampling will be done in a single step with each subject selected independently of other members of population and purposive sampling procedures. Purposive sampling will be used to select different activities in the area of investigation in order to get firsthand information from the residents.

Table 1: Category, target population, sample size and sampling technique that were used in the study

Category	Target Population	Sample size	Sampling Techniques
Municipal Administrators	10	6	Purposive sampling
Oil companies	0	0	Purposive sampling
Area residents	25	15	Simple random sampling
Local councils	5	5	Purposive sampling ling
Politicians	10	4	Purposive sampling
Total	50	30	

3.6 Data Collection methods

Data will be collected from primary and secondary sources. Secondary data will be got from the existing reports and magazines whereas primary data will be obtained by distribution of interviews conducted on the respondents. Mugenda and Mugenda, (2005) state that interviews are used to obtain vital information about the population and ensure a wide coverage of the population in a short time.

3.6. Data collection instruments/tools

3.6.1 Interview guides

Interview guide is a structured framework used in qualitative research to direct conversations during interviews. It provides a list of questions or topics to ensure consistent coverage across interviews while allowing flexibility for exploration. This guide helps maintain focus, encourages in-depth responses, and ensures relevant topics are covered. In a qualitative

interview, the researcher usually develops an interview guide in advance to refer to during the interview (or memorizes in advance of the interview). An interview guide is a list of questions or topics that the interviewer hopes to cover during the course of an interview (Yamane 1967)

3.6.2 Observation protocol

An observation protocol is a structured guide for collecting data during an observation, ensuring consistency and reliability in the process. It outlines what to look for, how to record observations, and how to analyze the collected data. Protocols are used in various fields like teaching, research, and even driving, to systematically document and interpret observations.

3.7 Ethical Considerations

The researcher will follow ethical guidelines in research because norms promote the aims of research, such as knowledge, truth, and avoidance of error. The ethics framework is essential will focuses on observing, voluntary informed consent of the participants. Participants informed consent will be obtained through a letter (from UCU) given to respondents that clearly specified what the research involves, including clearly laid down procedures and explained the ways in which their confidentiality will be assured. The respondent's names will be withheld to ensure anonymity and confidentiality in terms of any future prospects and also informed that data will be shared, results, ideas, tools, resources. Respect for intellectual property shall be adhered to and no use of unpublished data, methods, or results without permission. Proper acknowledgement or credit for all contributions to research shall be prioritized to avoid plagiarism.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF FIELD FINDINGS

4.1 Introduction

The findings on the positive socio-economic impacts ("resource blessing) of oil and gas exploration activities are in agreement with other authors (Anderson and Theodori, 2009; Brasier et al., 2011), who found that economic rejuvenation including increased business activity are largely perceived among the primary positive impacts of development linked to oil and gas industry. However, its noticeable that the most mentioned positive socio-economic impacts were not directly linked to oil and gas exploration but rather indirect impacts suggesting that during exploration of oil and gas, direct benefits may be limited.

The extractive industries development is often linked to employment of local people (Wilson and Stammler, 2016), however the study showed that relatively few people mentioned it as a benefit associated with oil and gas exploration in their area suggesting that probably not many of them had acquired jobs during the exploration phase. The notion that oil and gas exploration is associated with direct increases in employment (Munasib and Rickman, 2015) was not highly reflected in the local people's perceptions. The findings show that local content policy instruments that would have ensured that local people access employment opportunities in exploration of oil and gas were not effectively implemented in the two villages studied. This would have promoted local participation in the oil and gas sector thus catalyzing positive synergies between the extractive industries and the local economy (Ablo, 2015). The current scenario may be a recipe for conflicts because the sector did not create the expected employment for majority of the local people (Omofonmwan and Odia, 2009)

4 .1.2 DISTIBUTION OF RESPONDENTS.

GENDER	FREQUCY	PERCENTAGE
MALE	14	46
FEMALE	16	54

4.1.3 DISTRIBUTION OF RESPONDENTS BY AGE

AGE	FREQUENCY	PERCENTAGE
18-25	2	6.7
26-40	15	50
41-60	6	20
60+	7	2.3
TOTAL	30	100%

4.2 The impact that exploratory activities have contributed to increase in economic activities in Biiso town council Bulisa district

Perceptions of the socio-economic impacts were consistent across all categories of respondents except gender and average household monthly income. Increase in household income was mostly mentioned by men suggesting that it's mainly men whose income may have improved in the two villages during the time of implementing oil and gas exploration activities. This site where the current study was conducted is fishing villages where women mainly rely on buying and selling of fish. It was observed in the FGDs of fishermen that fish catches had reduced during the exploration phase because some parts of Lake Albert were inaccessible because oil companies were carrying out their exploration activities. This therefore could have negatively affected their income during the period of oil and gas exploration.

This shows that oil and gas exploration can have asymmetric effects on men and women in relation to income benefits (Cust and Poelhekke, 2015). In his paper, (Ross, 2008) found that the oil industry reduces the participation of women in the labour force by crowding out the economic sectors that employ women thus negatively affecting their income. Elsewhere in Africa, oil and gas exploration has been found to disrupt the most important economic livelihood options for women thus negatively affecting their income (Adusah-Karikari, 2015). This if not addressed will perpetuate patriarchy and eventually hinder women from making a significant contribution to the local and national economy (Ross, 2008).

It was also noticeable that more low-income earners mentioned increased cost of land, increased land conflicts and increased fear of displacement due to new oil and gas discoveries. This shows that land ensure rights of the poor may be more threatened in areas of oil and gas exploration than high income earners. Earlier studies by Byakagaba et al. (2018) in the same area found that land rights abuses among poor households increased during the period oil and gas exploration activities were being implemented because they did not have adequate.

The chairperson of Biiso village said: The incidences of crime such as theft increased due to population increase and high levels of unemployment of the youth during exploration. The FGDs of men, women, and youth indicated that there was increase in conflicts between

indigenous Banyoro and immigrant Alur communities because of competition over employment opportunities linked to oil and gas activities.

The ability to generate Financial Capital also dependent on wages or proceeds of work and living costs in a household's success in developing a livelihood strategy. In contrast to rural areas where losses in earnings and income are often cushioned by subsistence form of life, monetary income is essential to survival in urban economies. As such, increasing costs of living which is not matched by increasing incomes becomes a burden for most households whose income generating opportunities are limited. Oil production is often accompanied by the influx of high-skilled foreign workers who easily cause increases the demand for certain goods and services. Unmet demand eventually also causes prices to rise. Irrespective of the these increases, income sources often remain unchanged, limiting the ability of local populations with no links to the oil sector to pay for goods that were previously affordable (ibid:122). This implies lower savings and less financial capital accumulation.

Land conflicts were mentioned as a phenomenon that had become common majorly because of oil and gas in all the FGDs held. A participant in FGD of men in Kaiso said: "rich people from Kampala and the land had been bought 10 years ago yet we don't have a practice of privately-owned land in this area. Land in this area is customarily owned and access is communal. They are grabbing this land in anticipation of this area developing due to oil". The land question came into question because every one that was compensated got money that improved their livelihood. Its common that whenever there is compensations, there will always be a complaint of grabbing because everyone wants to benefit. Some locals accused their own political leaders for conniving with rich people to grab their as said by Mr. Akiki 'the chairman brought some men to buy our land at a very cheap price some years before the compensation yet they knew that it was going to pay well in the future but he did not warn us.

4.3 The impact of exploratory activities on the socio wellbeing of the people of Bulisa

Increase in wage rate was mentioned by relatively very few respondents compared to other benefits suggesting that the oil and gas exploration activities did not affect the labour market in the villages studied. This is contrary to studies (e.g. Davis and Tilton, 2005; Brasier et al., 2011) which suggest that wage rates increase with discovery of extractives to attract the labour it needs. The findings therefore suggest that the view that wage rates increase due to increase in labour demand in areas where there is oil and gas (Brown, 2014) may not be the case in the exploration phase. This scenario puts the local people in a precarious condition considering that there was a surge in prices of commonly used commodities but with no wage increase in the two sites studied.

This is similar to what Brasier et al. (2011) found when they studied local people's perceptions on oil and gas industry in Pennsylvania and New York, USA. Other authors (Van Der Ploeg and Poelhekke, 2017; Gamu et al., 2015) found that price inflation is acute in areas where extractive resources are located. In the current study, price inflation was attributed to the influx of in-migrant communities that were anticipating an avalanche of jobs in the oil and gas sector by the key informants. They increased the aggregate demand for commodities thus causing price inflation because the demand was higher than the supply of commodities. This further provides evidence of spikes of commodity prices that is associated with "resource curse" theory on extractives (Van Der Ploeg and Poelhekke, 2017) in the upstream phase of the oil and gas value chain. While most studies tend to associate price inflation with later phases of the oil and gas value chain, the findings provide some insights that it can also occur during the exploration phase. This if not addressed may negatively affect non-oil and gas businesses and exert pressure on individuals not directly employed in the oil and gas sub sector.

Spread of social ills such as prostitution, drug abuse, child abuse, petty crime was mentioned across all social categories of the respondents suggesting that this was more or less universally recognised. Social ills especially prostitution have been reported to be common in mining and oil exploration areas by several authors (Laite, 2009; Darkwah, 2010; Pegg, 2006) and are linked to in-migration and pull of oil wealth that may attract individuals with deviant behaviours (Karl, 2007). Other studies (e.g. Chindo, 2011; Kasimbazi, 2009) reported increased abuse of alcohol, prostitution, crime, violence and banditry as some of the negative

socio-economic impacts of oil and gas exploration activities. The findings from the current study further show that oil and gas exploration activities can result into breakdown of the social fabric in the area. This potentially can make the areas where oil and gas exploration activities are being implemented to be less attractive for permanent settlement because of the fear of social ills. Mr ahumuza said that 'the emergence of motels and hotels where truck drivers in Biiso reside in the night resulted into prostitution since the truck drivers were getting young girls and using them'

4.4 The impacts of exploratory activities on the environment of Bulisa.

According to one of the managers of an eco-lodge located in Biiso, there was increased disturbance to wildlife during exploration, drilling and road construction. He mentioned that majority of the animals moved further away from operational areas. He said: "during surveys, some endangered species of animals were "wiped off" such as "the rid buck." However, the number of animals has not changed much apart from a few that are being knocked down by vehicles on the road". Motorists do not respect the regulations on speed limit while driving in areas designated for wildlife conservation.

Oil exploration involves moving of relatively heavy equipment such as mobile rigs that affect the soil structure thus increasing erodibility and clearing of land for pad construction (Epstein et al., 2002). These may have occurred in the study area thus contributing to the perceptions that were generated from those individuals that participated in the study. In their paper, Espinosa et al. (2014) stated that placing roads within protected areas can seriously reduce their capacity to sustain wildlife populations. Exposure to noise can contribute to hearing impairment, heart diseases, annoyance, sleep disturbance and poor performance in school (Passchier-Vermeer and Passchier, 2000). Soil erosion may affect the sustainability and productivity of arable land (Pimentel et al., 1995), reduce soil biodiversity (Lal et al., 1999) and can cause food insecurity (Pimentel, 2006). Wildlife disturbancecan cause changes in behaviour and locally affect temporal and spatial distribution of wildlife (Bejder et al., 2006). This may increase human wildlife conflicts in areas of oil and gas exploration in case the wild animals stray into people's settlements and gardens.

Conversely, as there are negative effect on the environment, the locals appreciate the fact that there community is being developed and tend not to follow the vand wagonof the negatives only. 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. Mr. Obed area counlor said'we shall appreciate all the troubles caused on the environment but we are so happy that now our area is being put into focus in terms of road construction and other exploratory activities, now we can fill the national cake.'

CHAPTER FIVE

SUMMARY, DISCUSSION OF FINDINGS, CONCLUSION ANDECOMMENDATIONS

5.1. Introduction

This chapter dealt with the summary, discussion, conclusions and recommendations related to the socio-economic effects of oil exploration among Hoima municipality communities, Uganda. The issues were to establish the effects of oil surveying to changes in prices of commodities in Hoima Municipality; to examine road construction effects to economic transformation in Hoima Municipality; and, to ascertain the effects of collection of seismic data to influx of people in Hoima Municipality.

5.2 Discussion of the Findings

The findings on the positive socio-economic impacts ("resource blessing) of oil and gas exploration activities are in agreement with other authors (Anderson and Theodori, 2009; Brasier et al., 2011), who found that economic rejuvenation including increased business activity are largely perceived among the primary positive impacts of development linked to oil and gas industry. However, its noticeable that the most mentioned positive socio-economic impacts were not directly linked to oil and gas exploration but rather indirect impacts suggesting that during exploration of oil and gas, direct benefits may be limited.

The road constructed has been efficiently been utilize by the people of Biiso town council. The road connecting from Hoima to Bulisa through Biiso town council was purposely to connect the town to the two towns of Hoima and Bulisa. Along this road now lie some very good structures such as motels, hospitals and good homestead bungalows. These imply that the infrastructure is being put to good use and the local people are making money off the resource not just letting it to be redundant. The manager of Olins motel Mr. Osbert said 'this motel was built from the money my boss got from the compensation of the road being obstructed' this means that the road has really helped the people to improve their livelihoods.

The complaint mechanisms being put in place to rectify any shortcoming from the locals were being put in place because they had the numbers of the companies that were working in the area where as also their own mechanism was already in place like 6they would tell the

councilors their complaints. These were put in place to ensure that no one is affected negatively by the exploratory activities such as falling debris during construction and the company said in case it happens then there will be a compensation for the affected persons. Luckily enough most complaints were of land grabbing which was very rampant but the locals didn't have any way to get compensated because they had earlier sold their land to the current landlords at a cheap price way lower than the compensation prices.

Destruction of traditional and social structures 'Compensation was good but the some of us were being displaced because the only land we had was the one that was being compensated so we had to live our social environment' a statement by one of the locals. Yes it is well said that everyone benefited but some people were being forced to go to other environment rather than the one that they have grown in and the found it had to adopt in the new ones so they had to come back to Biiso to rent so they can be able to stay in the same environment. Others that could handle different environments went away but the local people claim that they miss their friends and relatives that left them. Mr Mbazira said 'I miss my uncle who used to stay here now he very far away from me' this was very common among the locals though they say the compensation was good to happen.

The extractive industries development is often linked to employment of local people (Wilson and Stammler, 2016), however the study showed that relatively few people mentioned it as a benefit associated with oil and gas exploration in their area suggesting that probably not many of them had acquired jobs during the exploration phase. The reason for not employing many locals directly to the oil and gas sector is because it's a highly specialized sector so it requires skilled people yet the locals re not skilled to fit the sector. The notion that oil and gas exploration is associated with direct increases in employment (Munasib and Rickman, 2015) was not highly reflected in the local people's perceptions. The findings show that local content policy instruments that would have ensured that local people access employment opportunities in exploration of oil and gas were not effectively implemented in the two villages studied. This would have promoted local participation in the oil and gas sector thus catalyzing positive synergies between the extractive industries and the local economy (Ablo, 2015). The current scenario may be a recipe for conflicts because the sector did not create the expected employment for majority of the local people (Omofonmwan and Odia, 2009).

On the effects of collection of seismic data to influx of people in the Municipality, Findings were that Oil companies did not listen to the community views while collecting seismic data; community was not pleased with the way the seismic data collectors communicated with them. In the same way, Sibson (2011) pointed out that the distribution of population and its concentration is a major point of concern when addressing possible effects of seismic activities. A simpler yet effective way to understand possible threat from oil exploration, population residing in an area is the 'population potential' which defines the number of persons within a given distance from a point. Population potential is an indicator of population pressure on a centre or a node assumed to be the point of maximum population concentration which diminishes outward from the node. The high values of population potential denote a higher concentration of population and vice versa. Natural neighbor interpolation finds the closest subset of input samples to a query point and applies weights to them based on proportionate areas in order to interpolate a value.

5.4 Conclusion

The researcher went out to find the potential negative socio economic impact on the host communities of Bunyoro sub region. The objectives were to find the impact of these activities on the business activities, socio wellbeing and the impact that they can have on the environment. The study has shown that the views of the proponents and critics of the "resource blessing" and "resource curse" theories in relation to oil and gas industry were reflected in the local people's perspectives on the socio-economic and environmental impacts of oil and gas exploration. "Resource blessing" theory was reflected mainly by infrastructure development and increased business opportunities. The positive socioeconomic impacts that are directly linked to oil and gas exploration activities such as increased labor wage rate and employment were the least mentioned suggesting that not many people had experienced them. Perceptions of the socio-economic impacts were more or less similar across all social categories of respondents except gender and household monthly income. Increase in household income was mostly mentioned by men and high-income earning household suggesting that there may be inequality in terms of opportunities that can enhance income between men and women and high- and low-income earners in the areas of oil and gas exploration.

The views of the "resource curse" theory were also reflected in the perspectives provided by respondents that participated in the study and they include: price inflation, increase in social ills and environmental degradation especially noise pollution, soil erosion and wildlife

disturbance. These may negatively affect local residents' view on oil and gas thus causing tension with government or companies involved in exploration and other phases of oil and gas value chain.

While the findings may not be conclusive on the socio-economic and environmental impacts of oil and gas exploration, they provide insights on the perceptions of the local people which may be important in designing policies and strategies that will ensure oil and gas improves local livelihoods as reflected in Uganda's policy and legal framework governing the oil and gas sub-sector. This will require strengthening of the infrastructure and human resource of agencies mandated to enforce social and environmental safeguards in areas of oil and gas exploration to prevent and mitigate social and environmental impacts. It will also be important to implement local content policy instruments and building capacity of local people to enable them to effectively participate in various components of oil and gas exploration. There is need to address price inflation through fiscal incentives and infrastructure development that will increase supply of commodities in areas of oil and gas exploration.

5.5 Recommendation

The oil exploration companies should seriously put into consideration the impact mitigation and enhancement framework, as well as a social management plan in order to make those people whose environment has been directly impacted to have means of livelihood and a sense of belonging with improvements in the quality of their environment with respect to farmlands, houses and rivers.

The local residents should be encouraged to form cooperatives to go into farming of non-traditional export crops on large scale. For those who would be doing farming and trading alongside any other business, there should be collaboration between the fishermen and the oil companies since oil exploration has been done among the fishing communities on Lake Albert. Cooperatives will help them to develop the capacity as a group to supply the oil companies with any supply needed and thus the community will benefit from the resource.

Bulisa is among 14 municipalities that are already benefiting from the municipal infrastructure development projects (USMID) which will expand urban infrastructure and enhance the capacity of the municipalities to generate own source of revenues, improve urban

planning and strengthen financial management, procurement, environmental and social systems.

For positive and satisfactory influence of oil activities among communities in Hoima municipality and all major stakeholders (Government and oil multi-national companies) should embark on meaningful empowerment in form of sustainable employment, practical skill acquisition for youths and women including free health care and social services for the elderly.

Ensure that the Department of Petroleum Exploration, Production and Development (PEPD) effectively performs its regulatory function of monitoring and controlling the activities of the petroleum exploration and production including the processes of oil licensing, enforcement of the implementation of the Corporate Social Responsibility and the Global Memorandum of Understanding (GMoU) signed by both the petroleum exploration and production Multinationals and their host communities.

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APPENDICES

APPENDIX I: INTERVIEW GUIDE FOR THE RESPONDENTS

1. Gender …….

2. Marital status ……

3. For how long have you been in Hoima Municipality?.....

4. What is the highest level of education you have attained?.....

5. What do you think are the effects of oil exploratory activities on the increase business activities within your area?.....

7. How have the exploratory activities affected the social wellbeing of people in this area at large?

.....

8. Do you think exploratory activities had an impact on the environment?.....

9. Besides the economic sector, what other sector has exploratory activities affected and how?

……

10. Do you think road construction during oil exploration had significant?

……

Thank you for participating.