

**OIL EXPLORATION: THE LEGAL IMPLICATIONS OF OIL
EXPLORATION ON ENVIRONMENTAL SUSTAINABILITY IN HOIMA
DISTRICT**

BY

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**A DISSERTATION SUBMITTED TO THE FACULTY OF LAW IN
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MAY, 2022

DECLARATION

I, Emmanuel Ekima do declare that this dissertation is entirely my own original work and it has never been submitted or presented before any higher institution of learning, either in part or as a whole for any academic award anywhere else, with the exception of quotations and references contained in published works, which have all been identified and acknowledged here-in after.

Declared by :

EKIMA EMMANUEL

.....

SIGNATURE

...../...../.....

DATE

APPROVAL

This is to certify that this dissertation has been done under my supervision and that i am now satisfied that it at this moment ready for submission to the Faculty of Law of Uganda Christian University, Mukono for consideration with my approval.

EMMANUEL ELAU

.....

SIGNATURE OF SUPERVISOR

...../...../.....

DATE

DEDICATION

This research work is dedicated to my family most especially my,wife, daughter,mother and siblings whom I have given me their moral and spiritual support.

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This work would not have been possible without the support of the supervisors. I thank them for their supportive and constructive guidance throughout the period I was writing this dissertation. Their advice, commitment and encouragement finally made this dissertation a success.

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LIST OF ABBREVIATIONS

MNC	-	Multi-National Company
EIAs	-	Environment Impact Assessments
MOEMD	-	Ministry of Energy and Mineral Development
NC	-	National Content
NEMA	-	National Environment Management Authority
PAU	-	Petroleum Authority of Uganda
PSA	-	Petroleum Sharing Agreement
UNOC	–	Uganda National Oil Company

ABSTRACT

The critically analyze oil exploration: the legal implications of oil exploration on environmental sustainability in Hoima district. The study hinged on the following objectives: to critically and rationally analyze the law on environmental management in Uganda in relation to oil and gas activities in the oil rich Hoima District, to examine the challenges to the practical application of the legal provisions pertaining to the law on environmental management in the oil rich District of Hoima, to analyze and make a comparative analysis of the current situation, obstacles and opportunities that exist in Uganda and other oil producing nations in Africa, and to establish the best strategies for sustainable oil exploration for better environmental protection in Hoima district. The study adopted a cross sectional design and purely qualitative approaches. A sample of 58 out of 64 respondents was used. The sampled respondents included Residents of Hoima, District Employees, Oil Company Officials and Officials from the Ministry of Energy and Mineral Development. The data was collected using questionnaires, interviews and secondary data. The data was analyzed using content thematic analysis. The key issues on sustainability in the oil sector like adherence to health, safety and environmental regulations and increasing the contribution of oil activities to the society in Hoima have not been addressed as noted by 80% of the residents. Findings revealed that residents of Hoima are only recipients of decisions, policies and directives. They have not ably participated in processes that form and inform oil resource management but are now recipients of polluted substances. The residents lack information on oil management and also do not know where and how to access information related to oil management. In situations where Hoima residents have been invited to meetings, dialogues and workshops related to oil, they are only informed about pre-determined decisions and policies. There is limited information available to the key stakeholders on oil and gas, and the government is yet to develop the capacity of the key stakeholders at the district and community level to effectively engage in the oil sector. However, there are challenges of coordination and capacity among the stakeholders to help combat pollution and harmful environmental degradation activities. There has also been limited involvement of local governments, civil society and communities in providing the oversight role in relation to monitoring of oil and gas exploration activities. There is also limited engagement between oil companies and the community, even though oil companies have community liaison officers on matters of environment and environmental sustainability in Hoima. Therefore, it is important for oil companies to strengthen

the functionality of this sector by effectively engaging the community when addressing their concerns. Oil companies should also incorporate their corporate social responsibility projects in the district development plans, and work hand in hand with local government and communities to implement planned development projects. On the other hand, government should be prompt in the clean-up of the affected areas, by enacting and enforcing stringent environmental laws that will protect oil producing areas. NEMA and other government agencies should ensure adequate public participation in the EIA process as required by the law. Public education campaigns should be undertaken to ensure that the public is aware of their right to access information and participate in decision-making processes.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

The focuses on examining oil exploration: the legal implications of oil exploration on environmental sustainability in Hoima district. There are various kinds of pollutants or pressures through the prospecting phase, the exploration and the exploitation phase. For example, the discharges of drill fluids. However, the severity of pollutants depends on a number of factors that include the phase of exploration and/or production, the size of the project and the sensitivity of the recipient ecosystems and biodiversity. This chapter presents the introduction, background to the study, problem statement significance of the study, study justification, scope of the study and the chapterisation.

1.1 Background To The Study

Oil plays a vast and vital role in our society as it is organized today. Oil represents much more than just one of the main energy sources used by mankind¹. Besides being an important energy source, petroleum products serve as feedstock for several consumer goods, thus playing a growing and relevant role in people's lives. On the other hand, the oil industry holds a major potential of hazards for the environment, and may impact it at different levels: air, water, soil, and consequently all living beings on our planet². Oil and gas exploration and production are associated with many environmental and socioeconomic impacts. Within this context, the most widespread and dangerous consequence of oil and gas industry activities is pollution. Despite this, many nations throughout the world would still cherish to discover oil and gas within their territories. This is due to the fact that the availability of such natural resources is seen as a point of economic transformation and in fact can determine the development fortunes of such nations³.

The oil industry, especially the exploration of oil, has destructive environmental impacts or what Watts refers to as engendering ecological violence. Oil extraction involves several environmental

¹ M.Kibuuka. Oil Exploration in Uganda: Evaluating the environmental impacts of the exploration process Msc. Thesis Makerere University 2011

² R. Kivumbi. Stakeholder involvement in oil exploration in Buliisa; MA Thesis 2013: Makerere University Unpublished

³ id

pollution processes⁴. A UNCTAD report indicates that oil and gas exploration impact on the environment in many negative ways by exposing it to oil leakages and spills, gas flaring, and deforestation as a result of the creation of access routes to new areas⁵. Gas flaring without temperature or emissions control pollutes the air and releases unacceptably high levels of carbon dioxide into the atmosphere⁶. In Ogoniland for example, two independent studies have revealed that total petroleum hydrocarbons in the streams located there are between 360 and 680 times the European Community permissible levels⁷. Oil spillages are also quite frequent in oil fields in the global south. Oil spillage massively pollutes water bodies thereby threatening fisheries and reducing tourism, harming bird life and severely affecting ecological ocean life (UNCTAD 2007). The environmental pollution caused by oil drilling also results in a destruction of livelihoods in local communities making it difficult for the present and future generations to make a living off of their land. Farming and fishing activities, the mainstay of these economies, literally grind to a halt with the exploration of oil⁸.

Focusing on oil in Uganda, prospecting for oil in Uganda's Albertine Rift started in earnest in 2003–04, and the government has currently licensed five exploration areas (EAs) out of a total of nine, both onshore and offshore in Lake Albert⁹. In order to effectively manage the oil, the government has enacted the National Environment Management Act¹⁰. It also highlights the need for a long-term national strategy to ensure optimal impacts from oil and gas exploitation by maximising value along the value chain¹⁰. It is, however, more a set of principles than a detailed governance guide, and is short on specifics such as, for example, the all-important question of how the environment will be protected by various players¹¹.

⁴ M. Kibuuka. Oil Exploration in Uganda: Evaluating the environmental impacts of the exploration process Msc. Thesis Makerere University

⁵ E. Kyoburungi. The Emerging Legislation on Wetland Conservation in Uganda. LLB Dissertation, Kampala, Uganda, 1997

⁶ US Non-Governmental Delegation to the Niger Delta 1999.

⁷ id

⁸ Kasimbazi, B.E. (2012). "Environmental Regulation of Oil and Gas Exploration and Production in Uganda" in the journal of energy & natural resources law vol 30 no 2 2012 pp.192-196

⁹ M. Kibuuka Oil Exploration in Uganda: Evaluating the environmental impacts of the exploration process Msc. Thesis Makerere University (2010)

¹⁰ id

¹¹ A. Kibenge (1995). Assessment Report on The State and Status of Environmental Education in Uganda for the Inter-Governmental Authority on Drought and Development

Although discovery of oil in commercial quantities could be a blessing or a curse, there are associated severe environmental problems that may come with it¹².

Despite Article 245 of the Uganda Constitution calling for “measures intended (a) to protect and preserve the environment from abuse, pollution and degradation; (b) to manage the environment for sustainable development; and (c) to promote environmental awareness¹³, these are far from being achieved. These rights, governed by NEMA, have been reiterated throughout many of Uganda’s leading environmental legal frameworks such as the National Environment Act (NEA)¹⁴, the National Forestry and Tree Planning Act (2003), and the National Oil and Gas Policy (2008). All of these documents, however, face issues regarding implementation and enforcement.

1.2 Statement of the Problem

Environmental impacts occur during exploration which vary from long-term to short term habitat change within the oil and gas field, production activities (including facility component maintenance or replacement), waste management (for example produced water), noise (for example from well operations, compressor or pump stations, flare stack, vehicle and equipment), the presence of workers and potential spills. Meanwhile, it is apparent that such oil projects comes with a huge environmental impact which if not well managed could cost the nation more than the benefits derived from oil activities. These activities could potentially impact on the resources. Given that Uganda has a limited experience in managing oil resources; institutions are not well established to effectively manage the associated environmental impacts. Moreover, to date, not many studies on legal framework for environment protection in the oil sector in Uganda have been done. This study sought to contribute towards closing this knowledge gap. In this context, the study was conducted in the context of the impact of oil exploration on environment sustainability in Hoima District.

¹² R.M Kityo The effects of oil and gas exploration in the Albertine Rift region on biodeversity; A case of protected areas (Murchison Falls National Park). Kampala(2011).

¹³ The 1995 Constitution of the Republic of Uganda

¹⁴ The 1995 Constitution of the Republic of Uganda. Article 39 of the Ugandan constitution of 1995 states that “every Ugandan has the right to a safe and healthy environment,” along with the subsequent rights:” a) the right to freedom from pollution, environmental degradation and activities which threaten life, health, or livelihood; b) the right to protection and preservation of air, soil, water, flora, and fauna; c) healthy food and water; and d) a safe and healthy working environment

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of the study was to critically analyze oil exploration: the legal implications of oil exploration on environmental sustainability in Hoima district.

1.3.2 Specific Objectives

The study was premised on three specific objectives: The specific objectives are as hereunder:

- i. To critically and rationally analyze the law on environmental management in Uganda in relation to oil and gas activities in the oil rich Hoima District.
- ii. To examine the challenges to the practical application of the legal provisions pertaining to the law on environmental management in the oil rich District of Hoima
- iii. To analyse and make a comparative analysis of the current situation, obstacles and opportunities that exist in Uganda and other oil producing nations in Africa
- iv. To establish the best strategies for sustainable oil exploration for better environmental protection in Hoima district

1.3.3 Research questions

The study attempted to answer the following research questions

- i. What law is in existence on environmental management in Uganda in relation to oil and gas activities in the oil rich District of Hoima?
- ii. What are the challenges to the practical application of the legal provisions pertaining to the law on environmental management in the oil rich District of Hoima ?
- iii. What is the current situation, obstacles and opportunities that exist in Uganda and other oil producing nations in Africa?
- iv. What are the best strategies for sustainable oil exploration for better environmental protection in Hoima district

1.4 Significance of the Study

The significance of the study is to critically analyse the impact of oil exploration on environment sustainability in Hoima District.

Ugandans need a firm commitment from their government to ensure environmental conservation is a national priority, not just in word but also in deed. Uganda can effectively address the environmental impacts of petroleum development through good law enforcement mechanisms. The study will help strengthen capacity of Government of Uganda institutions to manage the environmental impacts of the oil and gas sector. The study will help develop academic programs to manage and respond to the environmental impacts of the oil and gas sector. The study will increase knowledge of the oil and gas sector for Ugandan civil society to participate in decision-making processes. The researcher hopes that this study will help promote conservation efforts throughout the Albertine Graben and call upon Ugandan nationals, no matter their level of expertise, to take a stand to protect their lands from environmental degradation due to poor extraction procedures.

1.5 Justification of the Study

Natural resource extraction holds the potential to heavily impact all cross-sectors of development. If not approached in an ethical and sustainable fashion, misuse and mismanagement of this division could lead to environmental degradation, reduced health of human beings and other organic matter and social instability, as has been seen in numerous oil producing nations throughout the world and the African continent. Given this background the study sought to critically analyse the impact of oil exploration on environment sustainability in Hoima District.

1.6 Scope of the Study

The study was conducted in Hoima District. Hoima District is bordered by Masindi District to the northeast, Kyankwanzi District in the east, Kibaale District to the south, Ntoroko District to the southwest and the Democratic Republic of the Congo across Lake Albert, to the west. Hoima, the location of the district headquarters, is located approximately 230 kilometres (140 miles), by road, northwest of Kampala, the capital of Uganda and the largest city in that country.

The study focused on the period 2006 to 2019. This period stretches from 2006 when oil and gas exploitation began in the Albertine Graben. The oil companies in the Albertine Graben are tending towards production.

1.7 Synopsis of the Study

This study shall have (5) five chapters.

Chapter I analyzes the law on environmental management in Uganda in relation to oil and gas activities in the oil rich Hoima District.

Chapter II addresses the practical application of the legal provisions pertaining to the law on environmental management in the oil rich District of Hoima

Chapter III deals with the current situation, impact of the resource and obstacles and opportunities that exist for meaningful environmental protection in the oil rich District of Hoima.

Chapter IV provides conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter puts across deliberations from existing body of knowledge. The chapter presents the literature review of related literature that is presented on the basis of the study objectives. The purpose of literature review is to help the researcher get familiar with other researcher's findings about the topic under investigation, as well as identify any gaps in the literature. The sources for literature review include; text books, online journal articles, and academic papers

2.2 Theoretical Framework

2.2.1 Theory of environmentally responsible behavior (ERB)

The ERB theory was proposed by Hines, Hungerford and Tomera. The model argues that possessing an intention of acting is a major factor influencing ERB. The Model of Responsible Environmental Behavior indicates that the following variables; intention to act, locus of control (an internalized sense of personal control over the events in one's own life), attitudes, sense of personal responsibility, and knowledge suggested whether a person would adopt a behavior or not¹⁵. This theory considers the major variables that play a part in the individual process of ERB adoption. According to the theory, the internal control centre has a very considerable impact on the intention of acting, which determines an individual's ERB substantially¹⁶. This model also highlights the existence of a relationship between the control centre, attitudes of individuals and their intention to act. The authors asserted that the control centre directly affects an individual's attitudes which can lead to an improved intention of acting and improved behaviour. Thus, the theory concentrates more on existing interactions between parameters that influence a person's behaviour than on the singular impact of a single variable. In waste management processes, no single factor is responsible for current behaviors or sufficient to initiate behavior or cause

¹⁵ G. Hanna. Wilderness-related environmental outcomes of adventure and ecology education programming. *The Journal of Environmental Education* 27 (1995): 21-32.

¹⁶ P.C Stern PC, Dietz , Abel , et al. A Value-Belief-Norm Theory of Support for Social Movements: The Case of Environmentalism. *Human Ecology Review* 6 (1999): 81-97.

behavior change¹⁷. From the theory, knowledge alone is grossly insufficient to act responsibly towards the environment, while some individuals' knowledge on the environment and its regulations could prompt them to have a good attitude which could translate to good intentions to act, other individuals may go through the internal and external control, such as being influenced by the actions of others or holding strongly to a belief to act rightly despite the actions of others towards the environment¹⁸. Although, separate constructs of attitudes, control center and intention of acting may not be enough for creating an intention to act, united under one overarching concept they become a base on which predispositions for pro-environmental behavior are formed.

The attitude-behavior model, as a theoretical basis for elucidating the relationship between environmental attitude and ERB, indicates that environmental attitude crucially determines an individual's environmental behavior. Based on ERB, environmental attitude has been found to positively affect an individual's ecological behavior. Based on the above, environmental attitude, experience may be regarded as precedents of ERB as this aims at better environmental protection and sustainability. Moreover, most studies apply their ERB models using one nature-based environmental conservation, and more rigorous testing of multi-group models should be undertaken by using various nature-based recreational settings. Additionally, a longitudinal analysis of a model of nature-based on (conservation) ERB is needed to support regulators by helping to develop a sophisticated assessment of sustainable environmental conservation in the oil and gas operations.

2.3 Literature Review

2.3.1 Academic Works

A major challenge in oil and gas exploration and production is that the ecological significance of long-term chronic exposures to low-level releases of many chemicals associated with hydrocarbon production activities is largely unknown (NRC 1985; Boesch et al. 2017; Capuzzo 2017). This may be due to the fact that these low level chemicals do not immediately induce environmental catastrophes to the magnitude of oil spillage. Meanwhile, it is apparent that a

¹⁷ P.C Stern, Dietz , Abel , et al. A Value-Belief-Norm Theory of Support for Social Movements: The Case of Environmentalism. *Human Ecology Review* 6 (1999): 81-97.

¹⁸ G. Hanna. Wilderness-related environmental outcomes of adventure and ecology education programming. *The Journal of Environmental Education* 27 (1995): 21-32.

prolonged accumulation can induce a substantial ecological change of variable scales (Gray et al. 1990; Lissner et al. 2011; Osenberg et al. 2012; Olsgard and Gray 2015). In view of this, it becomes conspicuous that neglecting the immediate and long-term environmental impacts of Ghana's oil and gas exploration and production activities will have a detrimental effect on the surrounding biodiversity and ecosystem. Osenberg et al. (2012) established that in projects where environmental impacts and management are ignored or poorly considered, the expected economic gains in the long term become unproductive or counter productive and sometimes elusive¹⁹. It is not enough to identify the likely hazards of Uganda's oil and gas exploration and production without recommending measures to deal with or at least minimize these dangers. Recommendations even become more essential in view of the fact that Uganda is not well experienced in such an industry; institutions and legislations are not fully established or formulated to cope with the environmental hazards associated with such an industry. This study gave explicit recommendations based on the findings as well as lessons from similar studies elsewhere. In creating a nexus, the previous study was silent on environmental impacts of oil activities yet this study unearthed how oil exploration can be done with minimal damage to the environment.

Shepherd noted that the oil and gas industry is operating in increasingly remote geographical locations and harsher environmental conditions, with unconventional processes to extract hydrocarbons²⁰. Ultimately, companies share the same primary goal of needing to produce hydrocarbon as efficiently and cost effectively as possible. Initially this strategy was only associated with upstream, but companies are increasingly focused on accessing and managing key asset-related data to improve decision making across the entire enterprise from field to refinery. In creating a nexus this study focuses on looking at the adequacy of the legal framework under Mid-stream operations of the Oil and Gas Sector in Uganda. Despite the adoption of joint collaboration to sustainable development in most developed countries, the concept is not fully established and/or implemented in the policies of most developing countries of which Uganda is included. This study examined the current legislation and policy frameworks of Uganda including institutional establishment that aim to minimize the negative impacts of oil and gas exploration in Hoima District.

¹⁹ Id

²⁰ Shepherd, . Oil in Uganda: International Lessons for Success 2013

Ruhanga and Manyindo in their study on environmental sustainability noted that originally the oil and gas industry is one of the riskiest industries when it comes to health and safety of its employees. Interruption in oil production caused by fires and accidents easily lead to huge economic losses and potential hazards to humans and environments²¹. Reviews the switch from the industrial to postindustrial revolution from a risk perspective. In bridging the gap identifying a change in understanding that production necessarily implies risk. Risk has also proven not to be merely a technical issue but to have a distinct social profile²².

Shrivastava in his study on oil exploration in India clarifies the disregard management paradigms generally have for ecology. He proposes two alternatives, industrial ecosystems and egocentric management. The first considers harmful by-products of operations as potential useful input products of other production processes, while the second focuses on better aligning an organization with its natural environment²³. There are several effects on employees' health that a geological survey can produce. He concluded oil and gas production causes chemicals and physical agent exposure, specifically on drilling mud; petroleum products; treatment chemical; radioactive sources²⁴. Markussen recommended that all risks must be identified and managed through wisely incorporated resources in order for quality operation to be long lasting. Verma, Johnson and Maclean undertook research on the benzene and total hydrogen exposures in the upstream petroleum oil and gas industry and formed several safety concerns. However, this study, considered the effects, relevance and effectiveness aspects of the framework. As to whether a policy measure is cost effective is beyond the scope of this study.

Over the past years, the petroleum industry has faced several complex challenges. The oil industry should invest pro rata to the increasing demand for energy in the world, and on the other hand, in view of the more competitive activities in these sectors, this industry should reduce the total cost of production of hydrocarbon resources, while simultaneously adhering to the

²¹ I. Ruhanga and I. Manyindo. Uganda's environment and natural resources: Enhancing parliament's oversight ,Uganda Wildlife Society, Kampala.(2010)

²² R.M KityoThe effects of oil and gas exploration in the Albertine Rift region on biodeversity; A case of protected areas (Murchison Falls National Park). Kampala(2011).

²³ id

²⁴ E. Kasimbazi, supra note 1, at 106

environmental laws and social responsibilities²⁵. Some significant challenges for oil and gas industry include Price fluctuation; increasing pressure on managers by shareholders focusing on value creation instead of output because of low returns on investments; complexity of drilling and production process; increasing demand for oil and gas in most regions²⁶. The challenges mentioned above are a set of effective factors that have hit major oil and gas producing companies in the process of implementing sustainable development policies. As mentioned earlier, the production of every barrel of crude oil, refining and transportation of petroleum products to the customer, due to the high pressure- high temperature conditions of underground reservoirs, and the use of a variety of chemicals to safely drill and produce hydrocarbons, is an industry that causes contamination and pollution.

The planet is threatened by rapidly rising population and the accompanying impact on the environment. However, the environment will not be protected unless societies develop a satisfactory level of social and economic capital. The appropriate balance of environmental, social and economic capital is the challenge of sustainable development. The availability of a plentiful and economic supply of energy is a requirement for the economic and social pillars of sustainable development²⁷. Oil and gas will be a major component of the global energy mix for many years until alternate sources of energy become available and economic. During this transition period, the oil and gas industry has an important role to play in managing its operations safely and in reducing emissions, discharges and ecological impact while providing energy at a reasonable cost. This study reviews some of the most critical environmental challenges facing the world today including pollution, biodiversity and global climate change, and review the progress and challenges for the International Oil and Gas Industry. Suggestions for the future role of government were also be presented.

The impacts on air quality during exploration activities would include emissions and dust from earth-moving equipment, vehicles, seismic surveys, well completion and testing, and drill rig exhaust. Pollutants would include particulates, oxides of nitrogen, carbon monoxide, sulphur

²⁵ K. Tomlinson. Oil and gas companies and the management of social and environmental impacts and issues: The evolution of the industry's approach 2017

²⁶

²⁷ A.D Tantau, Khorshidi, & A.S Mojarad. International Oil Companies Sustainability after Oil Price decline. In Proceedings of the International Conference on Business Excellence (Vol. 11, No. 1, pp. 157-167). De Gruyter Open. 2007

dioxide, and volatile organic compounds²⁸. Nitrogen oxides and VOCs may combine to form ground-level ozone. Impacts would depend upon the amount, duration, location, and characteristics of the emissions and the meteorological conditions (for example wind speed and direction, precipitation, and relative humidity). Emissions during this phase would not have a measurable impact on climate change.

Industrial wastes are generated during routine operations (lubricating oils, hydraulic fluids, coolants, solvents, and cleaning agents²⁹). These wastes are typically placed in containers, characterized and labeled, possibly stored briefly, and transported by a licensed hauler to an appropriate permitted off-site disposal facility as a standard practice. Impacts could result if these wastes were not properly handled and were released to the environment. Environmental contamination could occur from accidental spills of herbicides or, more significantly, oil. Chemicals in open pits used to store wastes may pose a threat to wildlife and livestock. Possible impacts to health and safety during production include accidental injury or death to workers and, to a lesser extent, the public for example from an OHV collisions with project components or vehicle collisions with oil or gas workers³⁰. Health impacts could result from water contamination, dust and other air emissions, noise, soil contamination, and stress for example associated with living near an industrial zone. The potential fires and explosions would cause safety hazards³¹. Increased or reckless driving by oil or gas workers would also create safety hazards. In addition, health and safety issues include working in potential weather extremes and possible contact with natural hazards, such as uneven terrain and dangerous plants, animals, or insects.

Kharaka and Otton who carried out a study on environmental impacts of petroleum production: initial results from Kabinda petroleum environmental research sites asserted that poor planning in oil industries may sometimes give rise to the resource being a resource curse. First there is an agency problem, or conflict of interest, involving members of the organization these might be

²⁸L. Olupot . Oil and Gas in Uganda: A critical Assessment of the benefits and Challenges of the exploration to the Residents in Buliisa: Msc Thesis Makerere University(2012)

²⁹ id

³⁰ Kasimbazi, supra note 1, at 106

³¹ D.P. Leslie-Anne. The status of the right to public participation in international Environmental Law: An Analysis to the Jurisprudence Year Book of International Environmental Law Vol 23, No.1 (2012). Pp.80-155

owners, managers, workers or consumers³². The process of planning for development increases the amplitude of public finances and public expenditure programmes. In bridging the gap, the impatience for quick growth has often led to hasty decision making and consequent deficiencies in the planning, organization and execution of programmes yet this study is silent about this matter.

According to Kasimbazi (n.d) in his article entitled legal and environmental dimensions of Oil Exploration in Uganda indicates that the National Oil and Gas policy is the basis for planning in the oil industry³³. The NOGP promotes high standards of transparency and accountability in licensing, procurement, exploration, development and production operations as well as management of revenues from oil and gas. The policy also supports disclosure of payments and revenues from oil and gas using simple and understood principles in line with accepted national and international financial reporting standards³⁴. The policy confers on the Ministry of Energy and Mineral Development (MEMD) the main roles of Government in managing petroleum resources, that is, policy making and implementation; regulation of the sub-sector; and managing the commercial/business aspects. The MEMD is therefore the lead agency in implementation of the National Oil and Gas Policy for Uganda. Because the oil industry presents both great promises and great risks to Uganda, the MEMD provides civil society and the broader public with methods to express concerns about oil regulation. If the civil society discovers that a regulation is not being followed or enforced, it can have more options to respond to than initiating a long and costly court case against an oil company or government. However, the worry is that the poor planning for the NOGP may result into oil being a resource curse in Uganda this study shows the relationship between oil resource and environmental degradation

Furthermore, Kasimbazi (2011) in his study on Environmental Regulation of Oil and Gas Exploration and Production in Uganda” notes that that NOGP names transparency and accountability as guiding policy principles on oil management. If these principles are adhered to instances of crisis in the industry witnessed in countries like Nigeria and Angola can be avoided. It is against this background that citizens in Nigeria and Angola have labelled oil and gas a resource curse. Openness and access to information are described as fundamental rights, and

³² id

³³ Kasimbazi, B.E .(2012). “Environmental Regulation of Oil and Gas Exploration and Production in Uganda” in the journal of energy & natural resources law vol 30 no 2 2012 pp.192-196

³⁴ Kasimbazi, supra note 1, at 106

disclosure of information is treated is very vital in relation to stakeholder involvement. This information helps stakeholders to get details about resources and how they are being exploited in the country³⁵. The policy's future action points include the adoption of a new law regulating the payment, use and management of petroleum revenues, and participation "in the processes of the Extractive Industries and Transparency Initiative (EITI)" which supports improved governance through the verification and full publication of company payments and government revenues from oil, gas and mining³⁶. The policy emphasizes the role of different government authorities in the implementation of the oil and gas policy. However, the policy is silent on the issue of plan enforcement hence how to hold the different players in the oil industry accountable. In relation to local communities "all efforts shall be made to emphasize peaceful resolution of disputes". The study seems silent on the information that helps stakeholders to get details about resources and how they are being exploited in the country.

Neff, Nancy and Donald in their article titled "offshore oil and gas development activities potentially causing long-term environmental effects offers a picture of the extensive economic developments and other potential benefits for oil host states accruing as a result of good coordination³⁷. This, according to her, is due to the fact that extractive industries can 'generate sizeable revenues, create jobs and business opportunities, and often bring new roads and access to water and power to isolated rural areas in which they are typically located'³⁸. This situation should bring about economic growths and developments such as reduction in poverty and infrastructural development to host states. However, in many developing states with oil resources as the main source of revenue, their cases are different, as oil resources and their revenue management have continually fuelled violent conflicts rather than having a positive impact on the lives of the people³⁹.

Olupot in his study titled *Oil and Gas in Uganda: A critical Assessment of the benefits and Challenges of the exploration to the Residents in Hoima* notes that Oil resources-induced conflicts in many cases create two or three parties to the conflict - the government of the host

³⁵ V.T. Krishnarayan, M. Geoghegan and Y. Renard. Assessing capacity for participatory natural resource Management. CANARI Guideline Series 3. 21pp. 2001

³⁶ N. Lubwama, N. The effects of oil and Gas Production in Africa. 2013

³⁷ Neff, J M., Nancy N. R and Donald F. "Offshore oil and gas development activities potentially causing long-term environmental effects. "Long-term environmental effects of offshore oil and gas development: 149-173.(1987)

³⁸ Kasimbazi, supra note 1, at 111

³⁹ id

state, the oil producing companies (which in most cases are MNCs) and the host local communities, which in this research will be referred to as oil village communities. The revenues from oil resources are maximized by the state and the MNCs, leaving the host oil communities in a state of alienation and deprivation⁴⁰. In many cases, such as in Nigeria's Delta oil region, such negative impact easily manifests in form of environmental degradation and poverty and has been a cause for grievance by oil communities⁴¹. However, beside the physical effects of oil resources on the host communities, there are other intense fundamental factors, such as coordination which may help stop these conflicts⁴². Incidentally, the situations of struggle for power, leadership and access to the control of oil resources benefits arise out of the nature of the new relationship that exists between the parties that are directly or indirectly involved in oil production and utilisation. The study is silent on the government of the host state, the oil producing companies (which in most cases are MNCs) and the host local communities and how these may impact on the environment.

⁴⁰ Olupot, supra note 1, at 78

⁴¹ Kasimbazi, B.E .(2012). "Environmental Regulation of Oil and Gas Exploration and Production in Uganda" in the journal of energy & natural resources law vol 30 no 2 2012 pp.192-196

⁴² G. Mamanga. Oil exploration in Uganda and the Human Rights Accountability Mechanisms

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents and describes the approaches and techniques the researcher used to collect data and investigate the research problem.

3.2 Research Design

The choice of research design was influenced largely by the methodology as well as the philosophical assumptions guiding the research process. The study was purely a qualitative study where interview and questionnaire data were collected. Qualitative research enabled the researcher to explore new areas, deal with value laden-questions, build theories, and to do in-depth examination of phenomena. A descriptive cross sectional survey design was adopted for this study as it is intended to permit in-depth study of fundamental themes. Kothari (2004) states that cross sectional survey; contain multiple wealth of details, totality and variation which allows the author to understand fully how and where intervention may have worked collectively with correlated general effects. A cross sectional survey contributes significantly to a researcher's own learning process by shaping the skills needed to do a good research (Kothari, 2004). The above design is a simple and least costly alternative.

3.3 Study Population

The researcher based his study on the study population of 64 respondents who included 25 Residents of Hoima, 12 District Employees, 14 Oil Company Officials and 13 Officials from the Ministry of Energy and Mineral Development. Creswell (2009) formula as quoted by Earl-Babbie (2013)⁴³.

3.4 Sample Size and Selection

Sekaran (2003) describes a sample as a subset of the population. It comprises of some selected members who are referred to as subjects. The study was based on a sample size of 140 that was drawn from a population of 64.

⁴³ M. Earl-Babbie. The Practice of Social Research, 10th edition, Wadsworth, Thomson Learning Inc., ISBN 0-534-62029 (2013)

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

Category	Target Population	Sample Size	Sampling technique
Hoima Residents	25	23	Simple random
Oil Company officials	14	13	Purposive sampling
MEMD Officials and members of the legal profession	13	12	Purposive sampling
Hoima District Employees	12	10	Simple random
Total	64	58	

Source: Primary data (2021)

3.5 Sampling technique and procedure

Selection of respondents to have representative samples was based on the non-probability sampling methods (purposive sampling technique). According to Creswell (2009), purposive sampling methods are outstanding in the phenomenological studies where the objective is to identify and clarify enriching phenomenon. Similarly, purposive sampling was adopted in sampling oil company officials and officials from MEMD. Simple random sampling technique was used to sample Hoima residents and Houima District employees⁴⁴. According to Amin (2005), simple random sampling ensures that every member has an equal chance of being recruited into the sample. Simple random sampling provides for greater precision and veracity. A sample frame was constructed and then the members were randomly sampled. A sampling frame is a complete list of members of the target population from whom the sample could be drawn (Early-Babbie, 2013)⁴⁵.

3.6. Collection methods

Consistent with the research orientation and research design and in line with the research purpose, the study adopted three data collection methods namely questionnaire, interview, focus group discussions and documentary review. Interviews, and questionnaire surveys were used as the main methods for primary data collection.

⁴⁴ J.W Creswell . Research Design: Qualitative, Quantitative and Mixed Methods Approaches 2nd Edition(2009)

⁴⁵ Earl-Babbie, supra note 1, at 78

3.7 Primary Data Sources

Primary data was got through self-administered questionnaires, focus group discussions, interview guides to respondents following systematic and established academic procedures⁴⁶.

3.7.1 Questionnaire Survey

Ezeani (2005) defines a questionnaire as a pre formulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives. The questionnaire consisted of open-ended questions. Some of the items were structured items since the close ended question is the most appropriate way to formulate the different questions for measuring different items from different variables. The questionnaire was administered to Oil Company employees and the Employees in the Ministry of Energy and Mineral Development using electronic means that is email⁴⁷. The questionnaire was administered in a period of two weeks after which the collected surveys were subjected to analysis. Questionnaires were used because they increase the degree of reliability due to the many items in them and they as well enhance the chances of getting valid data⁴⁸. The questionnaires was used as the main data collection instruments for all the respondents. The design of the questionnaire was guided by the objectives of the study and the literature reviewed.

3.7.3 Interviews

The interviews were used to collect in depth information from members of the legal profession, Ministry of Energy Officials. The researchers used a variety of selection techniques to supplement interviews, such as using structured interviews, psychometric tests and work sampling. During the interviews, the researcher was able to probe and ask follow up questions for further clarification. Some interviews were taken using phone calls given that some respondents were not easily accessed physically given the SOPs of social distancing. The researcher used a transcriber to transcribe the interviews, while interviewing the participants. The main reason for using a transcriber was to buy time to read through interviews and commence data interpretation as early as possible. This was in line with Ragin (2011) who argues that

⁴⁶ T. Bill, T. . The Practice of Social Research, 10th edition, Wadsworth, Thomson Learning Inc., ISBN 0-534-62029Boesch, D. F., & Rabalais, F. (2011).Long-term environmental effects of offshore oil and gas development.Taylor& Francis e-library.

⁴⁷ M. Ezeani. Social Science, Research, Conceptual, Methodology and Analysis. University of Lagos: Nigeria(2009)

⁴⁸ id

transcribing is an essential process which helps qualitative researcher's make sense of and understand interviews' experience and perception⁴⁹.

3.8 Secondary data

Documents helped to make a comparative debate between Nigeria and Uganda. Related literature from authentic sources (text books and journal articles) was reviewed to supplement the primary data. A small portion of these documents was listed in the 'works cited' section of the report, which inventories only documents were referred to specifically in this report. To counteract the lack of environmental research done, the researcher conducted analytical studies of relevant environmental laws and political frameworks including the National Oil and Gas Policy (2008), UNOC Reports, Petroleum Authority of Uganda, MEMD Reports, Law reports, the National Environment Act (2014), the National Environment Management Plan (2014), the Constitution for the Republic of Uganda (1995), among various other contingency plans, environmental outlooks, and frameworks. These sources were essential to this study. The researcher made use of internet research tools and methods, as well as local Ugandan news sources, to further extend their research on Uganda's environmental issues. In the documentary analysis of qualitative data, good documentation was considered since it cannot be underestimated as it provides necessary background and much needed context both of which make re-use a more worthwhile and systematic endeavor⁵⁰.

3.9 Quality control of data collection

Data quality control techniques ensured that data collected was valid; and the instruments were first tested to ensure validity.

3.9.1 Validity and Reliability

The instruments were reviewed by the researcher to evaluate the relevance of each item in the instrument to the objectives and rate each item on the scale of very relevant (4), quite relevant

⁴⁹C.C Ragin. Constructing Social Research: The Unity and Diversity of Method, Pine Forge Press, 1994, ISBN 0-8039-9021-9 Regulation. Unpublished PhD Dissertation. University of Stellenbosch, South Africa(2011).

⁵⁰ T. Bill, T. . The Practice of Social Research, 10th edition, Wadsworth, Thomson Learning Inc 2016

Boesch, D. F., & Rabalais, F. (2011).Long-term environmental effects of offshore oil and gas development. Taylor& Francis e-library.

(3), somewhat relevant (2), and not relevant (1)⁵¹. The validity and the reliability of the instruments was established through a pilot test of the questionnaire and interview guide to ensure consistency and dependability and its ability to tap data that would answer the objectives of the study⁵². The results were subjected to a reliability analysis.

3.9.2 Ethical Considerations

There are several reasons why it is important to adhere to ethical norms in research. First, norms promote the aims of research, such as knowledge, truth, and avoidance of error. The ethics framework is essential as it entails the voluntary informed consent of the participants. The following were observed: the researcher gave adequate information about what the study involved and an assurance that the respondents consent to participate was free and voluntary rather than coerced⁵³. For example, a prohibition against fabricating, falsifying, or misrepresenting research data promotes the truth and avoids error. Secondly, since research often involves a great deal of cooperation and coordination among many different people in different disciplines and institutions, ethical standards promote the values that are essential to collaborative work, such as trust, accountability, mutual respect, and fairness⁵⁴. Thirdly, participant's informed consent was obtained through consent forms that clearly specify what the research involved, including clearly laid down procedures that the participants were expected to follow and explain the ways in which their confidentiality was assured. The researcher sought the participants consent further by showing them introductory letters from Uganda Christian University. It is also imperative to describe possible risks and benefits of the research. The signing of the voluntary informed consent by each individual participant was confirmation that they are not being coerced to participate in the study but are doing so willingly. The researcher explained to the participants that a video tape was used to record interviews. The researcher made the participants aware of their right to opt out of the study if they so wish and that recording was only going to be done with their approval. In all the interviews, the participants consent to the use of audio and video tapes was sought. In order to avoid bias, the researcher interviewed the

⁵¹ T. Bill, T. . The Practice of Social Research, 10th edition, Wadsworth, Thomson Learning Inc 2016

⁵² C.C Ragin. Constructing Social Research: The Unity and Diversity of Method, Pine Forge Press, 1994, ISBN 0-8039-9021-9 Regulation. Unpublished PhD Dissertation. University of Stellenbosch, South Africa(2011).

⁵³ C.C Ragin. Constructing Social Research: The Unity and Diversity of Method, Pine Forge Press, 1994, ISBN 0-8039-9021-9 Regulation. Unpublished PhD Dissertation. University of Stellenbosch, South Africa(2011).

⁵⁴ Groves,A Fowler,T Couper,Y Lepkowski, U, Singer,O and Tourangeau, P. (2009). Research methods for business. United Kingdom: John Wiley & Sons Ltd.

respondents one after the other and ensured that he informed them about the nature and extent of the study.

3.10 Data Analysis

Data analysis was conducted at three levels namely; descriptive, explanatory and predictive. In analyzing qualitative data, content and thematic analysis was used. Video tapes and field notes were from time to time used for further reference during the period of writing up. On completion of the transcription, the researcher carried out a detailed review of the data by reading the transcribed material thoroughly and carefully. Using content and thematic analysis as the key qualitative data collection techniques, the researcher coded and labelled the data using an open coding system. The data was disaggregated and analysed for similarities and differences. The use of disaggregation of data helped the initial research findings to be explored in greater detail to further generate themes and categories. The researcher labelled and sorted the raw data into themes and categories thus producing an indexed document. The indexed document was categorised by general themes that have a page link corresponding to the raw data from which the themes were developed and derived. The coding began with one whole transcript at a time coding phrase by phrase or sentence by sentence. At the end of it all, the notes were checked against the recorded interviews and against the codes generated.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.0 Introduction

This Chapter presents the findings, analysis and interpretations to the findings. Findings from the surveys, interviews and from documentary sources were used. The task was preceded by a discussion of the response rate and the background characteristics of the respondents. The presentation of quantitative results relies on figures and percentages. For qualitative results and those from documentary sources, the results are presented under each of the respective study objectives.

The number of questionnaires distributed were 58 and the same number was returned making a response rate of 100%. In this research, the response rate is defined as the percentage of total usage questionnaires returned by the respondents (Bill, 2011). Ragin (2011) noted that the most important aspects of a probability sample is that it represents the population and a perfect representative sample is one that exactly represents the population from which it is taken. The number of respondents interviewed was 15 yet the expected number of respondent was 15. However, in any study there will always be non-respondents for some reasons. For most surveys, a response rate of 50 percent or higher is adequate, one of 60 percent or higher is good and one of more than 70 percent is very good (Creswell, 2009). Internationally accepted response rate for survey studies is at a minimum of 50 percent. Kothari (2004) suggests that a researcher should be able to explain the active response rate, which he differentiates from the total response rate Kothari (2004) recommends that the most common way of doing this computation is to exclude the ineligible respondents which gives the active response rate.

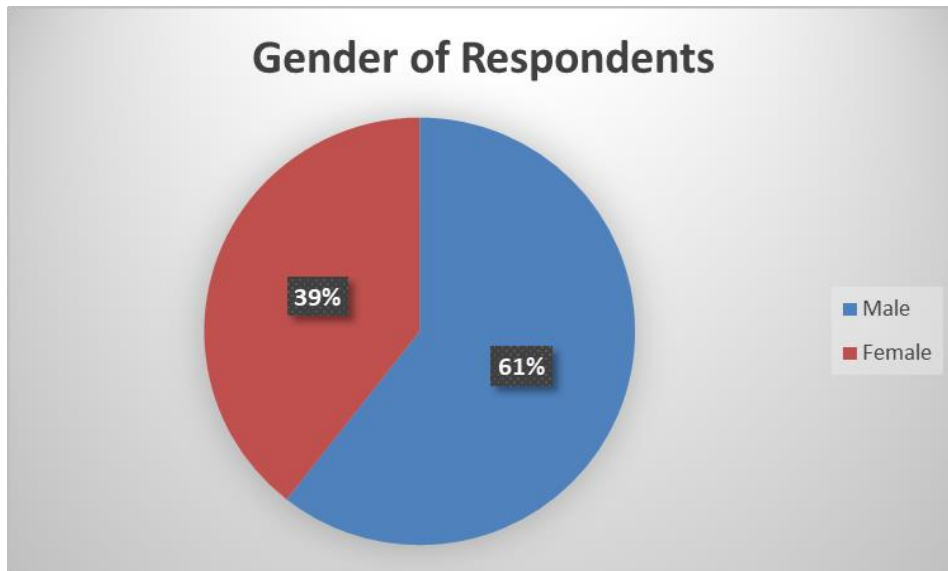
4.1 Findings on Background Characteristics

This section presents findings on demographics of the respondents, namely; Age, gender, education, marital status and district of origin.

4.1.1 Gender of Respondents

To establish the gender of the respondents, they were asked to state their gender and below are the results that were recorded in figure 1

Figure 4.1: Gender of Respondents



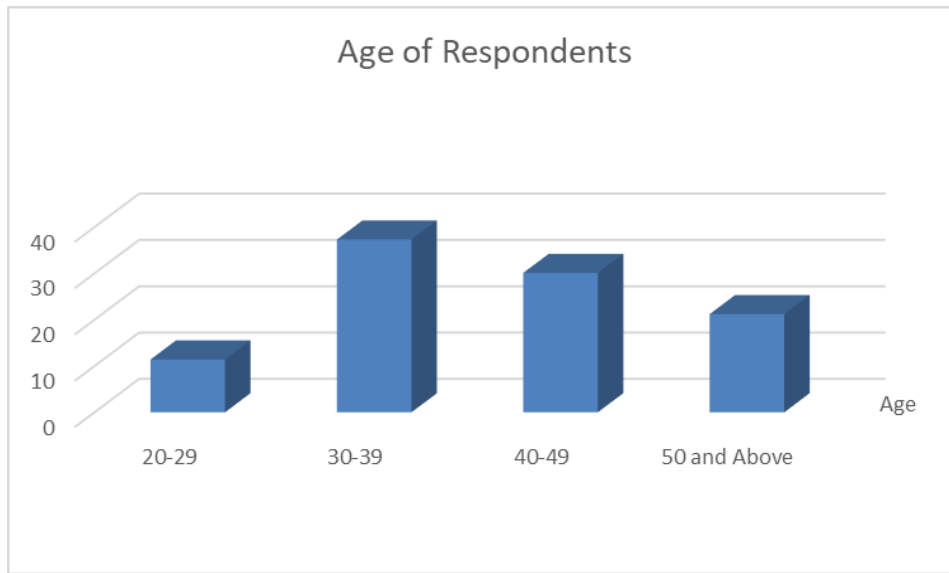
Source: Primary Data (2021)

From figure 4.1 above, that the majority of the respondents were male (61.6%) and female were (39%). Although the findings on sex indicated a discrepancy in favour of males, the study was representative of all sexes since both male and female were included in the study sample.

4.1.2 Age of Respondents

To establish the age structure of the respondents, they were asked to state their age groups and below are the results that were recorded in figure 3.

Figure 4.2: Showing the age of Respondents



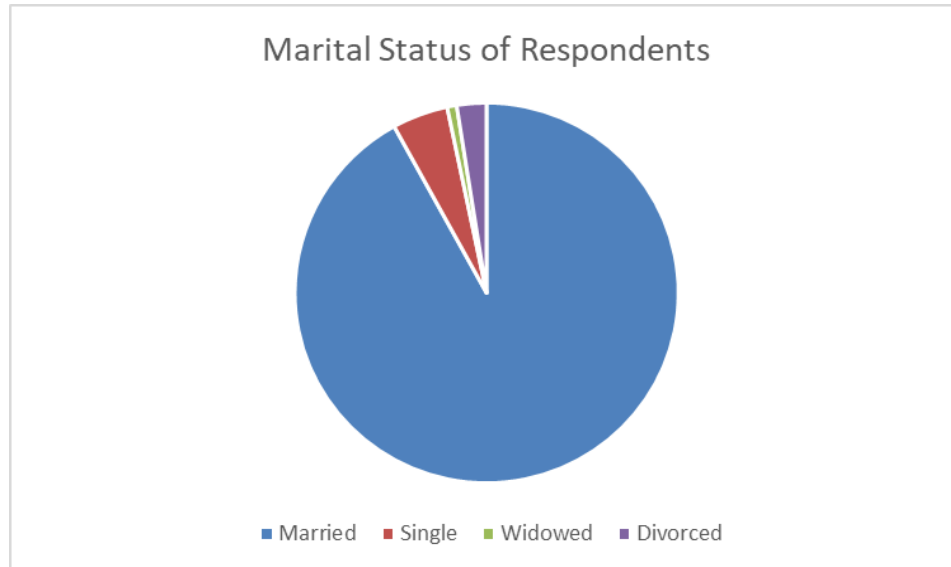
Source: Primary Data

From the above figure 4.2, the majority of respondents who took part in the study were between 30-39 years (37.3%), 30.1% were between the age of 40-49, those between 20-29 years were 11.4% and those that were above 50 years and above were 21.2%. This indicated that all categories of respondents in reference to different age groups were represented in this study. Age has a significant influence on environmental sustainability.

4.1.3 Marital Status of the Respondents

To establish the marital status of the respondents, they were asked to state their marital status and below are the results that were recorded in figure 3

Figure 4.3: Showing the Marital Status of Respondents



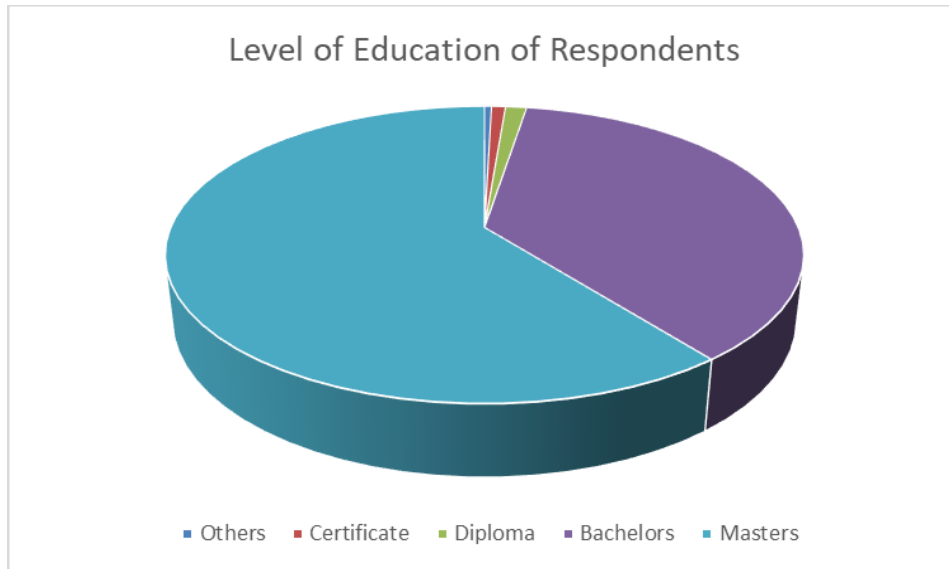
Source: Primary Data

From the above figure 4.3, the majority of respondents who took part in the study were married making up 91.9% of the respondents and those that were single were 4.7% and the widowed were 0.8%. This indicated that all marital status categories were represented in this study. This indicated that the data collected was representative of respondents of different marital status. Both men and women mentioned marital status are a typical characteristic of occupations.

4.1.4 Level of Education of the Respondents

Respondents were also asked to state their level of education and findings are shown in figure 4 in details below.

Figure 4.4: Showing the level of education of the respondents



Source: Primary Data

Figure 4.4 indicates that the majority of the respondents most of the respondents (97.5%) had attained at least a master's degree and those who had attained a diploma level of education were 1.3% and the rest of the population were 1.2% were drop outs. Basing on the above findings, I can conclude that the institutions have competent staff to perform its operations. These results suggest that being public institutions and having a variety of activities to perform, a certificate should be at least the minimum level of education for its staff. In a related study, Kivumbi (2013) concluded that as the level of education increased up to secondary; it had little effect on total factor productivity for every additional year of education and this may also impact on environmental sustainability. Ng and Feldman (2009) noted that meta-analysis showed that highly educated workers tend to display greater creativity and demonstrate more citizenship behaviours than less educated workers. Hence, it could be concisely said that education at any point is a screening device in selecting employees and also a human capital device that may induce greater performance.

4.3 Empirical Results

In this section, the empirical results for each of the specific research objective is presented, analysed and interpreted with an overall goal of critically analyzing sustainable oil exploration: the legal implications of oil exploration on environmental sustainability in Hoima district.

4.3.1 Objective One: the law on environmental management in Uganda in relation to oil and gas activities in the oil rich Hoima District

4.3.1.1 National Oil and Gas Policy, Uganda

In February 2008 Uganda's Ministry of Energy and Mineral Development published the National Oil and Gas Policy (NOGP), which explicitly recognizes many of the challenges associated with natural-resource wealth, including the need to mitigate the potential for negative economic and fiscal impacts that often stem from a sudden influx of revenue in the extractive industry sector⁵⁵. The NOGP outlines internationally recognized mechanisms for managing such impacts, with the aim of turning finite oil wealth into sustainable development outcomes. It also highlights the need for a long term national strategy to ensure optimal impacts from oil and gas exploitation by maximizing benefits to Ugandans along the industry "value chain". The overarching goal of the policy was that oil and gas development in Uganda will 'contribute to early achievement of poverty eradication and create lasting value to society'.

The failure to exploit resources sustainably and to ensure that citizens take part in decision making and employment greatly contributes to conflicts emanating from natural resource endowments. Furthermore, the lack of the involvement of citizens in the exploitation and use of the natural resource sector greatly hinders the trickledown effect of a resource like oil, resulting in negative effects to the economy. Objective 7 of the NOGP aims at ensuring optimum national participation in oil and gas activities through strategies such as promoting state participation in production sharing agreements; promoting use of the country's materials, goods and services in the oil and gas sector, and promoting the employment of Ugandans in the sector, among others. In the same spirit, Objective 8 of the NOGP seeks to support the development and maintenance of national expertise through strategies such as the provision of goods and services to the sector

⁵⁵ J.Oloka-Onyango. *Courting the Oil Curse or Playing by The Rules? An Analysis of the Legal and Regulatory Framework Governing Oil in Uganda*: CRPD Working Paper No. 58 December 2018

by national enterprises and entrepreneurs and broadening the national education curricula to prepare the necessary workforce for engagement with the sector. The NOGP is a very important document and sets a high standard for the future governance of oil in Uganda. It is, however, more of a set of principles than a detailed governance guide.

4.3.1.2 Petroleum Act 2013

The Petroleum (Exploration, Development and Production) Act, 2013 was enacted to regulate petroleum exploration, development and production in Uganda; guide the establishment of the Petroleum Authority of Uganda and the National Oil Company; as well as regulate the licensing and participation of commercial entities in Uganda's petroleum activities. In addition, the Petroleum (Refining, Gas Processing and Conversion, Transportation and Storage) Act, 2013 was enacted to regulate oil refinery activities in Uganda.

S.52⁵⁶ requires the Minister to “make a public announcement of areas to be opened for petroleum activities and shall, in the announcement, make the impact assessments conducted available to the public, affected local authorities, government agencies and associations or organisations which are likely to have a particular interest in the matter”. Interested parties may then “present to the Minister, in writing, their views on the intended petroleum activities”, although the Act does not oblige the Minister to consider these comments in any way⁵⁷.

The section does not provide other steps in petroleum licensing, development and production. The researcher notes that interested parties should have access to oil companies' bids, environmental impact assessments, and data which does not jeopardise the commercial interests of the companies. These interested parties should then have a formal mechanism for presenting comments and concerns. This will ensure that the government manages the oil industry with the primary aim of benefiting its citizens.

4.3.1.2 The National Environment Statute, 1995

The National Environment Act is a framework law on environment and establishes the National Environment Management Authority (NEMA) as the overall body, charged with the

⁵⁶ S 52 of the Petroleum Act

⁵⁷ See Petroleum Act

management of environmental issues and provides for sustainable management of the environment. The National Environment Act of 1995 sets out the general legal framework and policy objectives for the sustainable management of Uganda's environment. It encourages participation by the Ugandan people in the development of policies, plans and processes for managing the environment, as well as the equitable use of natural resources for the benefit of present and future generations. The Authority in consultation with the lead agencies is empowered to issue guidelines and prescribe measures and standards for the management and conservation of natural resources and the environment. The Act provides for environmental monitoring and impact assessment; environmental audit; environmental restoration orders and improvement notices; environmental easements; environmental performance bonds; licensing and standard setting; use of economic and social incentives; civil and penal sanctions, including community service, among others. It establishes the Policy Committee on Environment; the National Environment Fund and a collaborative framework with lead agencies and other stakeholders in environmental management.

Taking into account the wetlands Policy and the National Environment Management Policy, the National Environment Statute was enacted⁵⁸. Section 19 of the Act imposes an obligation on all developers to carry out EIA for projects that may have an impact on the environment and are likely to have a significant impact on the environment or will have a significant impact on the environment. Such projects include exploration for the production of petroleum in any form and oil refineries and petrochemical works⁵⁹.

The Environmental Impact Assessment Regulations of 1998 provide for several considerations in conducting EIAs. These include ecological and social considerations. The sectoral laws have specific EIA requirements to supplement what is already provided in the National Environment Act. For example, the National Forestry and Tree Planting Act 2003 under section 38⁶⁰ require an Environment Impact Assessment for any person intending to undertake a project or activity, which may, or is likely to have, a significant impact on a forest. The Uganda Wildlife Act Cap

⁵⁸I. Ruhanga I and J. Manyindo J. *Uganda's environment and natural resources: Enhancing Parliament's oversight*, Uganda Wildlife Society, Kampala. ISBN: 978-82-7701-086-1.

⁵⁹M. Ntambirweki. *The evolution of policy and legislation on wetlands in Uganda: Kampala, Uganda*

⁶⁰ National Forestry and Tree Planting Act 2003 S38

200, under section 16, requires a developer desiring to undertake a project that may have a significant impact on any wildlife species or community to carry out an Environment Impact Assessment in accordance with the National Environment Act. NEMA also has EIA Guidelines for the Energy Sector, which applies to oil exploration projects. The guidelines provide ministry officials, developers and practitioners with a simple overview of their tasks during the EIA process.

The Act lists energy projects/activities among those that should be subjected to an EIA before they can be granted approval for implementation. In the oil sector the listed activities include: exploration, extraction, refinery storage (surface/underground) transmission of oil/gas via pipeline installation, transport of oil/gas by other means and retail. Sections 35 - 38⁶¹ stress the need for environmental impact assessment for activities and developments in wetlands. At the same time the law governing wetlands must be seen within the total context of the Environment Statute in general and especially the provisions relating to pollution, environmental restoration orders, environmental easements, public awareness, and enforcement of the law.

Essentially, an EIA performed by an oil company must clearly identify any/ all possible environmental and social impacts that could arise from a given project, and document the appropriate environmental management and control measures that must be implemented to mitigate these measures. These measures are collectively known as project environmental management and monitoring plans (EMPs).

The Act further outlines the basic steps and requirements of the Ugandan Environmental Impact Assessment (EIA) process as the main tool for communicating environmental information related to oil exploitation activities among stakeholders. The EIA Regulations of 1998 further specifies the rules and procedures for carrying out an environmental impact study.

Under the EIA Regulations *“the developer shall take all measures necessary to seek the views of the people in the communities which may be affected by the project”*. Based on the project brief submitted by the developer, the NEMA determines, in consultation with other government

⁶¹ S.35 National Environment Act

agencies, (a) whether the project has a significant impact on the environment and (b) the level of EIA required. If the project brief adequately addresses environmental concerns, approval can be issued without the need for further assessment.

The Environmental Impact Assessment is carried out by experts approved by the NEMA. Once the impact study is completed, the developer must submit an environmental impact statement (EIS), including a description of the project, potential impacts and mitigation measures, possible alternatives, knowledge gaps and an economic analysis. The EIS *“shall be a public document and may be inspected at any reasonable hour by any person”*. The NEMA will invite written comments by people who are most likely to be affected by the proposed project, and by the general public. The invitation to submit comments should be publicized through national or local newspapers, other mass media and lower-level governments. It should contain specified information (for example location, proposed mitigation measures, benefits to community) and *“be in languages understood by the majority of the affected persons”*. Depending on the comments received, the NEMA may issue a certificate of approval, reject or modify the proposal. The developer should be given an opportunity to answer to any presentation and to provide further information. The law provides for participation of the stakeholders during the scoping phase and as part of the consultations on the environmental impact statement. It requires the main documents to be publicly available and determines timelines for input and decision-making.

However, while in other countries it is generally recognised as good practice that when a decision has been taken the authorities again inform the public of its content, especially any mitigation measures, this requirement appears to be partially missing from the statute (NEA).

EIAs are often not made more widely public despite being public documents. Concerns have therefore been raised over the usefulness of the EIA process overall; over NEMA’s own compliance with EIA procedures and its monitoring of company operations; and over the adequacy of existing provisions of environmental protection legislation. International development partners such as the World Bank are now focusing on supporting an increased capacity on the part of NEMA even as the environmental aspects of the new oil legislation are being developed.

Section 19 and paragraph 6(j) of the third schedule provide that projects for the exploration of petroleum require a project brief and EIA. Sections 24 to 32, among others, provide for the establishment of standards to establish the criteria and procedures for the measurement of air quality and water quality, and standards for control of noxious smells, noise and vibration, etc. Section 52 makes it an offence for any person to fail to minimise the waste generated by his or her activities. NEMA's ambitious mandate, and critical role in ensuring oversight of environmental aspects of the oil and gas sector, including through ensuring public consultation about potential impacts, positions it as an essential actor in securing minimal damage to Uganda's environment by the industry. However, it is underfunded, overstretched and lacks the trained human resources to monitor and enforce environment and social impact regulations contained in its mandate. If these gaps are left unaddressed, there is a real danger that environmental risks associated with oil will not be effectively managed. The NOGP asserts the need to protect the environment as part of management of the petroleum sector. Objective 5.3.9 seeks to ensure that oil and gas activities are undertaken in a manner that conserves the environment and biodiversity. To achieve this objective, the state is required to carry out due diligence on oil companies applying for licences in the country with regard to their technical and financial capabilities together with their environmental standards.

The NOGP further tasks the government with doing the following: ensure availability of the necessary institutional and regulatory framework to address environment and biodiversity issues; ensure presence of the necessary capacity and facilities to monitor the impact of oil and gas activities on the environment and biodiversity; require oil companies and their contractors/subcontractors to use best practices in ensuring environmental protection and biodiversity conservation; and require oil companies and any other operators to return all sites on which oil and gas activities are undertaken to their original condition as an environmental obligation. The policy also realises the need to upgrade the relevant environment and biodiversity legislation to address oil and gas activities. However, when asked about the relevant environment issues, a respondent pointed out that *Also, shareholders should know that environmental issues affecting local communities can affect the social contract between the community and organizations, thereby affecting survival. To ensure a sustainable environment, government should support regulatory bodies in improving environmental sustainability practices in firms through mandatory reporting requirements*"

On the issue of Pollution, the policy notes that legal action for compensation for pollution damage shall be brought before the court in the court area where the effluence or discharge of petroleum has taken place or where damage has been caused. But the mention of generic pollution liability needs to be specified to, for example, the placement of tailings, use of chemicals and drilling fluids, as well as wellhead/pad activities, spillage and discharge due to overreliance on diesel to generate field power. The operator should be held liable not simply for activities directly related to drilling, but also for all ancillary activity in the fields. Under section 191, the Minister can make regulations for the conservation and prevention of the waste of natural resources, whether petroleum or otherwise, and the carrying out of EIAs for that purpose

Other applicable laws that are related to EIAs and applicable in the areas of operation of oil and gas activities include; the Uganda wildlife Act Cap 200, sections 16 and 17; The National forestry and tree planting Act, section 38; The Mining Act 2003; Investment code, section 19. All these send a signal for EIAs to be carried out before any oil exploration or production activities (Kasimbazi, 2012). Surprisingly, the National Oil and Gas policy of 2008 that sets out all operations of the petroleum activities in Uganda does not explicitly talk about EIAs but it gives an over view of the need to protect the environment and conserve biodiversity under principle 5.1-5. On the same note, the Petroleum (Exploration, Development and Production) Act, 2013 Section 3 gives a wealth of environmental principles to be complied with by the licensee or anyone responsible for any petroleum activities. This is to be in accordance with NEMA act and other applicable laws. Although both the Policy and Act do not particularly talk about EIAs but rather environmental requirements, the 1999 Model Petroleum Sharing Agreement (PSA) does under Article 22 which requires the licensee to carry out Environmental Impact studies putting into consideration all aspects such as the marine life, wildlife, impacts on human life and also the potential impacts on the neighbouring areas. Environmental impact statements are also required to be submitted in the work programmes and budgets of the licensee indicating how they have progressed with the proposed mitigation measures and how they hope to proceed in upcoming programs. Further, NEMA embarked on revision of its existing laws since 2012 to incorporate emerging issues and amongst are environmental issues related to oil and gas. Much as it has made significant progress in this regard, the revision has taken a long period than planned and this has impacted on the EIA process (OAG, 2015). The notable gaps that needed to be addressed so as to act as a guide in the EIAs mitigation included absence of air quality standards,

comprehensive waste management guidelines for the petroleum sector, and guidelines for monitoring ground water quality which are key for proper impact mitigation (Borthwick et al, 1997, OAG, 2015). This delay of review has been felt gravely during EIA reviews and Environmental Audits (EAs) since there are no standards to measure it up to. These carry out day-to-day monitoring of projects in the petroleum sector so as to identify if there is any impact on the environment. Under here the District Environment Officers (DEOs), as long as they are gazetted as Environmental Inspectors by NEMA, have the powers to discontinue any project that has potential to distract the environment. They also provide review comments on EIAs and Environmental Audits to NEMA for their districts, and are required to conduct site-verification inspections to inform their reviews. However this is not always the case in Hoima and other oil rich Districts in Uganda.

4.3.2 Objective Two: the challenges to the practical application of the legal provisions pertaining to the law on environmental management in the oil rich District of Hoima

There are a number of environmental degradation related concerns that have been raised by the people in Hoima. As a result of oil exploration, the health risks may be particularly high for people with underlying health problems, for young children and the elderly and for pregnant women. When oil is pumped out of the ground, the gas produced is separated and, in Hoima, most of it is burnt as waste in massive flares. Oil production involves the burning of hydrocarbon gases. The flaring off of natural or associated gas is done as a by-product of the drilling of crude oil from reservoirs in which oil and gas are mixed. One hundred percent of the gases were being flared, resulting in pollution of the area. The impact of gas flares on the local?

A resident noted that gas flaring has affected the health of people most especially the excessive light emitted at night when the exploration process was going on. In recent years in Hoima, communities, NGOs and some health professionals have raised concerns about the impact of gas flaring on human health ecology and climate as well as peoples' health and property is evident in Hoima.

This practice has been going on for almost two years now. The burning of this "associated gas" has long been acknowledged as extremely wasteful and environmentally damaging. Flares, which continue for 24 hours a day in many areas, cause serious discomfort to people living near the flare sites. Flaring creates noise pollution and communities may have to live with permanent

light. When gas is flared, the combustion is often incomplete, so oil droplets fall on waterways, crops, houses and people. NGOs and some health professionals have also raised concerns about the impact of gas flaring on human health. The health risks may be particularly high for people with underlying health problems, for young children and the elderly and for pregnant women. Despite these repeated expressions of concern, neither the government nor the oil companies have carried out any specific study to look at the impacts of flaring on human health. This serious failure leaves thousands of people facing unknown short- and long-term risks. The exposure of people to potentially serious risks to health requires that decisive and swift action is taken to investigate and monitor their health status, to protect vulnerable groups and to end the practice of flaring.

In the open responses of the questionnaire survey, the respondents revealed that flaring has been hazardous to their health. This has left hundreds of people in Hoima and the outskirts facing unknown short- and long-term risks. Three respondents supported the argument that the environment has not been tempered with. Further the respondents revealed that oil companies have the obligation to protect them from the hazards and this represented 60% of the total interviewed. One member of the District Council revealed that there is a plan to help prevent such environment health harms in Hoima

Kasimbazi (2021) underlines the problem of gas flaring in the petroleum sector. The oil industry is associated with greenhouse gas emissions through flaring and other carbon monoxide and carbon dioxide emissions, with resulting implications for global warming. The industry now faces a new challenge: the demand for alternative green energy; and the demand for zero AG flaring.

Kasimbazi(2021) decried the method of gas flaring by the oil companies operating in the Niger Delta area. He stated that these companies employ the "open-pipe flare" which is very damaging to the environment. This method has no provision for pollution abatement. Consequently, the flame produces the worst level of atmosphere pollution and nuisance. Gas flaring has also been identified as having disastrous impact on agriculture. He further states that there is about 100 percent loss in yield of all crops cultivated about 200 metres away from the stations (a flare site), 45 percent loss for about 600 metres away and about 10 percent loss in yield of crops about one

kilometer away from the flare. Economic trees such as oil palm trees, cotton trees, etc have been withered away by flared gas (Kasimbazi, 2021).

On the whole, the Hoima environment has suffered degradation as a result of oil and gas exploration leading to air pollution, water pollution and land degradation from oil spillage and gas flaring. Such devastating activities on the environment of the people of Hoima who rely on the environment for livelihood has resulted into a number of multiplier effects on the people. These effects range from economic to social dimensions as well as health dimension. The study revealed that a number of social vices experienced in the region are direct effects from the economic implications introduced into the region by oil activities. The region is faced with myriads of environmental problems and diverse socio-economic constraints that are making life unbearable for the people of the region. As Ainebyoona (2020) rightly noted, the negative impact of petroleum development on the ecosystem of Hoima has given rise to intense land degradation, rapid agricultural decline, fisheries depletion, rampant and destructive oil spillages, continuous gas flaring and toxic water contamination among others. This study has been able to establish the fact that oil exploration and exploitation in Hoima region by oil multinational corporations have wrecked havoc on the people of this region since 2015. The greatest negative tendency associated with this exploration and exploitation is environmental degradation. This problem is reflected in cases of water pollution, air pollution, soil degradation, deforestation and atmospheric changes among others. The effects of all of these on productivity and health needs of the people of the region cannot be quantified. Indeed, the combined effects of these problems routed in mismanagement and neglect on Hoima and the oil multinational corporations have resulted in poverty. The carrying out of EIA has been more theoretical than practical in the District of Hoima. To enable smooth Implementation of approved EIAs by the developer, mitigation measures are identified with the help of other applicable laws.

No mitigation measures and monitoring for the identified impacts; and this is evident with the lack of a comprehensive environmental management plan to deal with biodiversity, air quality, water, fisheries, wastes, oil spills and pollution, affected communities, tourism. Most documents such as EIA reports are written in English an official language and yet some Ugandans especially in rural areas cannot read it. A respondent pointed out that *we are the down trodden and we have no one to speak to after all they own the resource and we have nothing*

Pollution is also a major effects of oil exploration and production: The Petroleum (Exploration and Production) Act and the Regulations made the Act control and the National Environment Act, and the Water Act control pollution during oil exploration. It is reported local people are already affected by the strong bad smell from the mud pits that are dug during oil exploration and moreover the mud pits have been deposited properly. The Oil and Gas Policy makes provisions for protection against activities that affect health. However, no measures have been taken to control the effects of the activities in Hoima.

Dumping of wastes on the land that has been taken. The residents complained that they are not consulted when it comes to land acquisition. Very few residents have been allowed to have a say on their land yet the company uses it for activities that pollutes the environment like dumping of wastes. A local leader said that ⁶²

'Peoples' land is being given to oil companies for development and so people are being forced away. They are given meagre compensation which cannot sustain them. If they were given millions to go and settle elsewhere it would be good, but the money is not sufficient and as such, there are many complaints from residents ranging from the ills of land grabbing to environmental degradation by the oil companies. When you are removed from your land it becomes very difficult to get another place and this can cause conflict, as some may resist leaving unless the two parties have agreed amicably'. Kasimbazi (n.d) notes that even if relocations were to take place, some local activists claim that the relocations plans do not take into account the traditional way of life of the affected communities. Many evictions do take place without the involvement of local governments which means that the evictees are left without national or local government support and above all, the evictions occur against the backdrop of endemic poverty and daunting development challenges faced by the communities and the country at large

The carrying out of EIA has been more theoretical than practical in the District of Hoima. To enable smooth Implementation of approved EIAs by the developer, mitigation measures are identified with the help of other applicable laws. Other applicable laws that are related to EIAs and applicable in the areas of operation of oil and gas activities include; the Uganda wildlife Act Cap 200, sections 16 and 17; The National forestry and tree planting Act, section 38; The Mining

⁶² Interviews conducted with local leaders in Kasemene 5th October 2020

Act 2003; Investment code, section 19. All these send a signal for EIAs to be carried out before any oil exploration or production activities (Kasimbazi, 2012). Surprisingly, the National Oil and Gas policy of 2008 that sets out all operations of the petroleum activities in Uganda does not explicitly talk about EIAs but it gives an over view of the need to protect the environment and conserve biodiversity under principle 5.1-5. On the same note, the Petroleum (Exploration, Development and Production) Act, 2013 Section 3 gives a wealth of environmental principles to be complied with by the licensee or anyone responsible for any petroleum activities. This is to be in accordance with NEMA act and other applicable laws. Although both the Policy and Act do not particularly talk about EIAs but rather environmental requirements, the 1999 Model Petroleum Sharing Agreement (PSA) does under Article 22 which requires the licensee to carry out Environmental Impact studies putting into consideration all aspects such as the marine life, wildlife, impacts on human life and also the potential impacts on the neighbouring areas. Environmental impact statements are also required to be submitted in the work programmes and budgets of the licensee indicating how they have progressed with the proposed mitigation measures and how they hope to proceed in upcoming programs. Further, NEMA embarked on revision of its existing laws since 2012 to incorporate emerging issues and amongst are environmental issues related to oil and gas. Much as it has made significant progress in this regard, the revision has taken a long period than planned and this has impacted on the EIA process (OAG, 2015). The notable gaps that needed to be addressed so as to act as a guide in the EIAs mitigation included absence of air quality standards, comprehensive waste management guidelines for the petroleum sector, and guidelines for monitoring ground water quality which are key for proper impact mitigation (Oloka, 2018). This delay of review has been felt gravely during EIA reviews and Environmental Audits (EAs) since there are no standards to measure it up to. These carry out day-to-day monitoring of projects in the petroleum sector so as to identify if there is any impact on the environment. Under here the District Environment Officers (DEOs), as long as they are gazetted as Environmental Inspectors by NEMA, have the powers to discontinue any project that has potential to distract the environment. They also provide review comments on EIAs and Environmental Audits to NEMA for their districts, and are required to conduct site-verification inspections to inform their reviews. However this is not always the case in Hoima and other oil rich Districts in Uganda. A respondent pointed out *I highly doubt whether*

environmental Impact Assesement were carried out by all the companies in Hoima area before commencing project work in exploration.

The Oil Companies are required to hire certified Environmental practitioners to carry out EIAs on their behalf before commencing any project and they are supposed to comply with all legislation governing EIAs. They are also required to do selfmonitoring basing on existing legislation and best environmental practices. However this is not always the case in Hoima and other oil rich Districts in Uganda. A respondent relatedly pointed out *they do what they want to do and no body can raise a fingure* The Oil companies, which are required to abide by the EIA conditions of approval, have not shown enough commitment to abiding by best environmental practice, for example regarding self-monitoring and self-reporting.

On the other hand, government agencies like UWA, MWE, and the DLG show much interest in ensuring that the oil and gas impacts are mitigated, but their influence is limited to providing review comments on EIAs submitted to NEMA, and conducting routine monitoring following project approval. Just like in other African countries, however, their ability to do effective reviews or monitoring through site visits/ inspections is curtailed by limited financing (Schwarte, 2008), lack of testing equipment, and inadequate skills to determine impacts in the sector (OAG, 2015). As a result, these Lead Agencies take long or even do not submit their review comments when consulted by NEMA and therefore NEMA goes ahead with the process without their input (Ibid). This implies that in some cases, NEMA approves EIAs without corroborating information submitted by the developers in the EIAs. This is a glaring inefficiency. In spite of the above imperatives, NEMA in fact rarely does such detailed consultation, preferring to only do it if the stakeholder consultation by the developer is deemed inadequate, or to verify the authenticity of any complaints from concerned stakeholders concerning a certain project. However, it is not clear when consultation would be deemed inadequate by NEMA. However, the actual problem may well be failure to prioritise areas for inspection, since according to OAG, NEMA does not rank areas to monitor according to associated risk. Therefore, it cannot determine where to concentrate its resources.

4.3.3 Objective Three: Comparison between Uganda and Nigeria(current situation, obstacles and opportunities that exist)

In analyzing the problem of underdevelopment in the Niger Delta, Aaron(2006) posed the following questions: why has the Niger Delta remained underdeveloped for decades despite the fact that it contributes about 90 percent of the nation's wealth? Why is there stagnation in the mode of life and living standards of the people for decades? Are there concrete signs that the communities and rural dwellers in the Niger Delta are moving further away from the zone of underdevelopment? (Azaiki, 2003). In summarizing the answers to the above questions posed by Azaiki, some scholars and environmental experts have linked the problem of underdevelopment in the Niger Delta region to oil exploration and environmental degradation in the region. However, the reasons for the underdevelopment of the oil producing communities in the Niger Delta region is a direct consequence of oil exploration and environmental degradation in the region. To them, underdevelopment has largely been understood in the context of lack of social amenities such as pipe-home water, good roads, hospitals, schools and employment opportunities. Corroborating the above assertion, (Osana, 2019) opined that "experience of the area has shown that even when shell provided these amenities, they only facilitate the exploitation of the communities as evidenced in the construction of its access roads that link up its various oil and gas fields and not necessarily to develop the host communities" Osaghe (1995), in similar vein, recounted that the neglect and underdevelopment is the plight of every community in the Niger Delta region due to oil exploration which has resulted to adverse environmental degradation.

In his own observation, Azaiki (2003) identified ecological disaster such as flooding, environmental pollution caused by oil spillage and gas flaring (which lead to air and water pollution), desecration of the natural vegetation and wild life as some of the most serious factors retarding development in the Niger Delta region and this is the same case in Hoima oil rich District. All the aforementioned factors are direct consequences of oil exploration in the region. The Niger Delta region is underdeveloped in all its ramifications, despite the fact that it is the bread basket of Nigeria. Whittington (2001) aptly described the economic dilemma of the region when he stated that "the oil region in Nigeria seems to be stuck in time warp, with little real change since oil was discovered 45 years ago. Away from the main towns, there is no real development, no roads, no electricity, no running water and no telephone." The

underdevelopment is so severe, the youth of the region are the hardest hit by lack of development. This is why many of them have resorted to militancy in an effort to focus national and international attention to their plight. Despite all the claims by the oil companies to be involved in the development of the region, it is to the contrary. The pervasive underdevelopment made Whittington to note that, "the government and oil companies have profited by hundreds of billions of dollars since oil was discovered, yet most Nigerians living in the oil producing region are having their health under threat due to pollution and the same calamity has befallen the Hoima residents.

It is as a result of the economic and social consequences of oil exploration in the Niger Delta region that made the World Bank in its report in 1995 lament that 'despite the vast oil reserve, the Niger Delta remains poor. The research notes that over 6,000 oil spills occurred in the Niger Delta region and about 2-million barrels of crude oil leaked into the environment. This calls for serious concern knowing that this ecosystem is a major source of livelihood for the inhabitants of the region. oil exploitation has increased the rate of environmental degradation and has perpetuated food insecurity as a result of death of fish and crops as well as loss of farm lands and viable rivers for fishing activities leading to loss of livelihood.

It is worthy to state clearly that, the destructive consequences of oil spill in Hoima District with its attendant hazards and negative effects on both the aerial and terrestrial environment is equivalent to an irreversible chain effect on both the bio-diversity and safety in populated areas and that adversely affect crops and agriculture through contamination of the ground water and soils and also the contamination and death of aquatic animals thus leading to downward trend in the economic activities and negatively affect the health of the inhabitants of the affected communities.

The gruelling and difficult geographical terrain of the Niger Delta region of Nigeria have contributed significantly to the cost of infrastructure and that had actually made the development in the area to nothing but a mere pipe dream. However, in Hoima the terrain has not been a problem to infrastructural development only that the people have complained of the destruction of the eco system and cultural site under the umbrella of infrastructural development. As well the Niger Delta environment has suffered degradation as a result of oil and gas exploration leading to air pollution, water pollution and land degradation from oil spillage and gas flaring. I

also state that such devastating activities on the environment of the people of the Niger Delta region who rely on the environment for livelihood has resulted into a number of multiplier effects on the people. These effects range from economic to social dimensions as well as health dimension.

The Niger Delta region has given rise to intense land degradation, rapid agricultural decline, fisheries depletion, rampant and destructive oil spillages, continuous gas flaring and toxic water contamination among others. The greatest negative tendency associated with this exploration and exploitation both Hoima and Niger Delta is environmental degradation. This problem is reflected in cases of water pollution, air pollution, soil degradation, deforestation and atmospheric changes among others. The effects of all of these on productivity and health needs of the people of the region cannot be quantified. Indeed, the combined effects of these problems routed in mismanagement and neglect on the part of the Nigerian state and the oil multinational corporations have resulted in poverty. There is no doubt that the disastrous effect of oil spill impedes agricultural productivity and fishing to be specific, which in the long-run has an adverse consequence on the economic life of the inhabitants of this region.

4.3.4 Objective Four: Best strategies for Sustainable oil and gas Exploration

The petroleum industry has for long been plagued by operational conflicts which centre around such concerns as widespread environmental degradation, human displacement, inadequate compensation for losses imposed in the oil producing communities and inadequate community level involvement which often leads to alienation of indigenous population. Increased worldwide environmental threats have prompted the awareness of various environmental problems and challenges. There are numerous environmental problems, ranging from climate change to depletion of the ozone layer, air and water pollution, desertification, loss of habitat and a host of others, which are detrimental to mankind. Closely related to these, are the activities of the companies. Just as humans leave footprints in the sand as a mark of where they have been, entities also leave visible marks on the environment, termed environmental footprints. Environmental experts have infact identified oil spillage as the major variable which have impacted negatively on the communities in Hoima. Oil spillage incidents occurred in Hoima. According to these experts, the situation resulted in the spilling of barrels of oil into the

environment. The impact of these oil spills on the communities is varied and devastating. A mass of empirical evidence generated by scholars support the idea.

As organisations' awareness of environmental issues increase, the oil companies are beginning to respond to the challenge of sustainable development by moving from the narrow consideration of their economic performance only, to include their environmental impacts (Lamberton, 2000). Empirical evidence indicates that one or two companies now make environmental disclosures in annual reports.

In relation to the challenges to sustainability, a respondent pointed out that *“Also, shareholders should know that environmental issues affecting local communities can affect the social contract between the community and organizations, thereby affecting survival. To ensure a sustainable environment, government should support regulatory bodies in improving environmental sustainability practices in firms through mandatory reporting requirements”*

NEMA has got to enforce the standard procedures of Environmental Impact Assessments (EIA) for construction processes by “screening” to categorize projects according to the level of assessment they require, and “scoping” to identify key environmental issues and impacts, ending up with a plan for public involvement and Terms of Reference for the EIA. Environmental costs of building and construction Conservative estimates show that the building and construction sector worldwide can help realize emission reductions of 1.8 billion tonnes of carbon dioxide, hence boosting the Kyoto Protocol obligations (UNEP SBCI, 2017). A respondent noted that *“Noise-reduction strategies and porous pavements ranked lowest in both cases, meaning that they do not deliver quality on many of the (important) criteria. Porous pavements had a negative score on the criterion of visual impact because of the perceived negative impact on aesthetics. The process should aim at combating the main causes of environmental degradation and addressing policy gaps and environmental awareness creation*

The lack of understanding limited oil companies' leaders cognitive abilities to identify potential improvements for achieving sustainable value , and to increase citizens support for both their sustainability projects and continuing operations in the region. Sustainability presents multifaceted problems, and the four areas of sustainable value framework provide the holistic approach to ensure success. So I mean the issue is that the government has got to put a proper

regulatory system in place to ensure that some of these environmental factors are taken into consideration. Now the oil industry shares part of the problems.

The mixed views of participants are consistent with the four quadrants of a sustainable value framework, (a) waste control, (b) reputation and legitimacy, (c) innovation, and (d) equitable value. The framework implied that a planet saving behavior is integral to organizational performance. Leaders of sustainable organizations activate a holistic mindset for managing the multiplicity of sustainability issues to achieve a common future and make development sustainable.

An integrated sustainability effort that focuses on (a) waste control, (b) corporate legitimacy, (c) new technology (innovation), and (d) equitable value could result in improved agricultural productivity and achievement of sustainable development. The government could use the findings to develop new policies and regulatory framework to ensure good governance for the betterment of the local people.

The findings from this study evidence the importance of improved understanding of sustainability for delivering sustained social change. In general, 65% of the participants' responses revealed positive social outcomes from the sustainability programs of the oil company. Furthermore, participants agreed that sustainability programs of the

Oil production involves multileveled processes and support systems; therefore, sustainability performance measurement should include an evolving dynamism of economic, social, and environmental (triple bottom line) factors. The sustainability instrument panel would be the basis for assessing performance against the triple bottom line factors as stakeholders monitor and audit the results of the key business processes. The transparent nature of the sustainability instrument panel would encourage collaboration among the oil company stakeholders to gain trust in the local communities. Improved decision-making and sustainability assessment processes should result from the design, development and implementation of the instrument panel. The sustainability instrument panel could provide a basis for improving effectiveness and efficiency of sustainability programs through catalyzing increased stakeholder engagement.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

This chapter presents the discussion, conclusion and recommendations of the study

5.1 Discussion

This study confirms the adverse effect of increase in oil spills, environmental degradation in Hoima. Oil spills are usually due to continuous incidence of vandalism and corrosion, which destroy wild life and pollute the environment such that agricultural activities become impossible in the affected areas (Oloka, 2018) similarly notes.

Findings revealed that oil activity ruins activities in the long run because of the unwholesome environmental degradation that accompany exploration of crude oil in the region. Oil driven environmental factors affecting human life include gas flaring, oil well blowouts, and improper disposal of drilling mud, and pipeline leakages as observed in and in suggesting the prioritisation of sites for the clean-up exercise Dedan (2019), equally notes that high risk areas may not necessary imply the most contaminated zones, but based on the observed levels of hydrocarbon contamination and importance of the zone to the livelihood of the inhabitants.

This study also supports the assertion that the nature of operating equipment used by the oil companies, including pipeline vandalization by errant youths of the region are contributory factors to the number of oil spills on the environment. This result is in tandem with the observation in on the socioeconomic consequences of oil spill on the environment, recommending an improvement in the infrastructure and equipment in order to prevent oil spills and the attendant youth restiveness resulting from deprivation.

5.2 Conclusions

Residents of Hoima are only recipients of decisions, policies and directives. They have not ably participated in processes that form and inform oil resource management but are now recipients of polluted substances. The residents lack information on oil management and also do not know where and how to access information related to oil management. In situations where Hoima residents have been invited to meetings, dialogues and workshops related to oil, they are only always informed about pre-determined decisions and policies.

There is limited information available to the key stakeholders on oil and gas, and the government is yet to develop the capacity of the key stakeholders at the district and community level to effectively engage in the oil sector. Overall, there is quite a wide range of stakeholders in the oil sector at different levels international, national, regional, district and community levels. Stakeholders have been making efforts to fulfill their mandates. However, there are challenges of coordination and capacity among the stakeholders to help combat pollution and harmful environmental degradation activities. There has also been limited involvement of local governments, civil society and communities in providing the oversight role in relation to monitoring of oil and gas exploration activities.

There is also limited engagement between oil companies and the community, even though oil companies have community liaison officers on matters of environment and environmental sustainability in Hoima. Therefore, it is important for oil companies to strengthen the functionality of this sector by effectively engaging the community when addressing their concerns. Oil companies should also incorporate their corporate social responsibility projects in the district development plans, and work hand in hand with local government and communities to implement planned development projects.

5.3 Recommendations

The oil companies should work closely with government agencies, universities and research centers to combat the menace of oil spill incidents. More funds should be provided by all the stakeholders in the oil industry for further research in the development and use of oil spill models in the country. The adoption of the model developed in this research work and the procurement of other oil spill models would serve as a basis in carrying out more research in this area.

On the other hand, government should be prompt in the clean-up of the affected areas, by enacting and enforcing stringent environmental laws that will protect oil producing areas.

To improve the EIA process it is recommended that government takes measures to increase the influence of the dis-empowered stakeholders in the matrix, such as the public and the Lead Agencies. For the public, this can be done if NEMA and other government agencies ensure adequate public participation in the EIA process as required by the law; for Lead Agencies, it

will be necessary to equip them with adequate skills and resources to enable them execute their functions. Also, NEMA should enforce penalties for non-compliance, and push for greater regulation of environmental practitioners. This will increase the interest of the Oil companies and Lead Agencies in ensuring proper environmental management. Finally, NEMA should expedite formulation of adequate regulations and guidelines to operationalize the framework environmental laws; it should prioritise EIAs and monitor the most risky; and give regular and timely feedback to developers following monitoring. It should be emphasized that a number of the above recommendations can be implemented without using extra funding, and these can be done first to improve the EIA process, as funding is sought for the others.

Public education campaigns should be undertaken to ensure that the public is aware of their right to access information and participate in decision-making processes. The government should embark on developing a proactive information dissemination strategy that addresses the information needs of people at community level. Information gaps on critical issues in the oil and gas sector seem to be apparent; the current communication strategy should focus on these, as raised by the various stakeholders in this report. In addition, the role of NGOs, unions and other civil society stakeholders in disseminating information could be further strengthened.

The legislature, the public and law enforcement agencies should have a right of access to all information on the award of oil, gas and mining rights. All payments made to local government from the resource revenues should be published at a local level.

The government should produce and distribute clear and timely communications on the oil sector. These should include information on (a) how the revenue will be distributed and to whom (b) timelines for production (c) details on infrastructure projects (d) information pertaining to the award of rights to access the resource and procurement projects surrounding the industry. The Ministry should urgently establish Liaison Desks in the Albertine Graben to enhance access to information as well as quick responses to concerns on a case by case basis.

The Ministry of Energy and Mineral Development, the district local governments, and other government civic education actors should urgently conduct village-based meetings to explain to residents the various aspects relating to the exploration and production of oil, and in particular, how their compensation is being handled. The Ministry of Energy and Mineral Development

should, without any delay enhance information flow and awareness about oil and gas activities to communities and Ugandans at large in order to address the many challenges and concerns that were raised due to lack of or inadequate information. The Ministry of Energy and Mineral Development should ensure that it effectively implements its Communication Strategy by organising regular meetings of civil society organisations and other stakeholders that brings them together to discuss their differences, map out strategies of addressing mutual suspicion and engendering cordial working relationships amongst all parties in the oil and gas sector.

The oil companies should put in place a well-developed human rights policy and effectively implement it during all phases of oil exploration and production to guide on how to deal with the emerging human rights issues that are environment related. The oil companies should conduct human rights impact assessments prior to commencement of activities. Corporate social responsibility should be demand-driven. Oil companies should consult the people in order to come up with responsive programmes. The government on the other hand should devise a comprehensive and long-term plan that clearly shows all oil and gas exploration areas and exploitation activities, along with the places that will be affected by development of the oil- and gas-related infrastructure. It is also important to have a timeframe within which such activities and infrastructure will commence in the various locations in the region.

5.4 Areas for further Research

The researcher recommends that the next studies should consider or focus on the following areas

- i. The impact of oil spillage on human life and human activities in the Albertine Graben
- ii. Gas flaring and the quality of human life in Hoima District
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