

**WASTE MANAGEMENT IN OIL AND GAS INDUSTRY; A CASE STUDY
UGANDA.**

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**A DESERTATION IS SUBMITTED TO THE FACULTY OF LAW IN PARTIAL
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DECLARATION

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

Signed;

Date;

APPROVAL

This is to certify that, this dissertation entitled “**Waste Management in Oil and Gas Industry**”; **Case study; Uganda**. Has been done under my supervision and now it is ready for submission.

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Date;

DEDICATION

This research is dedicated first to the “ALMIGHTY GOD” for his love and enabling strength he bestowed on me in completing this work during the disturbing situation of the pandemic of Covid 19. Secondly to my beloved Mum Mrs. Sabina Margret Latigo, Husband Mr. Komakech Richard and all our children.

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ABSTRACT

Although waste management is permitted by the National Environmental Authority as a transporter of oil and gas waste and indeed does poses a radioactive materials handling license issued by the Atomic energy council of Uganda, questions have been asked as to whether oil and gas waste can indeed be managed in an eco-friendly way and whether the Ugandan laws do indeed make viable and enforceable provision to be able to handle oil and gas waste management.

This research analyzed the background of the study and the details of how Uganda's oil industry is managing the waste from oil and gas industry. This was done by analyzing the historical details of how and what is affecting the recently describe biggest onshore discovery in 20years oil and gas sector.

Uganda is soon joining the international oil producing community, with reserves going up to 3.5 billion barrels. However if not well planned and managed Uganda may just like other African countries to suffer from the oil curse which shall not only manifest through environmental health and safety degeneration but also economic retrogression as a result of waste management challenges. The legal policies in Uganda together with the different stake holders have embarked on how to promote environmentally sound oil activities in ensuring proper waste management in the industry.

The research appraise the laws, analyse, address challenges with proper comparison of the situation with some other countries like Norway, Sweden and other African countries like Ghana with proper recommendation on how waste management can be managed in a oil and gas industry.

It is clear that Uganda is not yet fully prepared to effectively manage EIAs in the Oil and Gas sector. Although the legal framework is generally in place, some supporting legislation to enable effective operationalization is lacking. Other constraints include inadequate finances, and knowledge gaps on the part of Practitioners and Lead Agencies.

The researcher used quantitative and doctrinal legal research with different literature to acquire this information that made the finding comparative with the different oil producing countries.

Finally, NEMA should expedite formulation of adequate regulations and guidelines to operationalize the framework environmental laws; prioritise EIAs and monitor the riskiest; and give regular and timely feedback report to developers and these recommendations can be implemented without extra funding.

CHAPTER ONE

INTRODUCTION

Although waste management is permitted by the National Environmental Authority as a transporter of oil and gas waste and indeed does poses a radioactive materials handling license issued by the Atomic energy council of Uganda, questions have been asked as to whether oil and gas waste can indeed be managed in an eco friendly way and whether the Ugandan laws do indeed make viable and enforceable provision to be able to handle oil and gas waste management. . It begins by providing an overview of the process of oil exploration and production in relation to the Ugandan situation. The research proceeds by reviewing the status of oil exploration in Uganda. It identifies the potential environmental, health and safety risks and dangers and examines the application of environmental impact assessment. This thesis will present, asses, study and evaluate the Treatment and Disposal of Legacy Drilling Waste Project which was implemented by White Nile Consults Limited (WNCL{ XE "WNCL:White Nile Consults Limited" }) in partnership with TEDA Landoo Oilfield Services Co. Ltd (TLOSCL), on behalf of Tullow Uganda Operations Pty Ltd (TUOP{ XE "TUOP:Tullow Uganda Operations Pty Ltd" }), under Contract Number 4700000866.

The overall aim of this thesis is to ensure environmentally proper, safe and cost effective management of legacy drilling waste generated from the oil and gas exploration activities undertaken by (TUOP). This study will also review the policy and legal instruments that have been developed to protect environment and regulate oil exploration and production in Uganda. Meeting this aim required the implementing parties (WNCL and TLOSCL) to safely evacuate the drilling waste from the Waste Consolidation Area in Kisinja (KWCA), transfer the waste to its treatment and disposal facility in Hohwa, and undertake waste management activities aimed at changing the characteristics of the waste from its hazardous nature to a non-hazardous state so as to make it safer for disposal.

In implementing therefore, WNCL has provided services and undertaken activities that entailed transportation of the waste and treatment and disposal of the waste, while ensuring quality management and socio- environmental protection through continuous monitoring of the waste management facility and processes, and management of social and environmental risks.

The waste transportation process was undertaken over a period of five months (Sept 2015-Feb 2016), using appropriate leak-proof equipment to move the liquid, solid and decommissioning

waste from the KWCA to the waste treatment and disposal facility in Hohwa. The transported waste consisted of:

1,841m³ of liquid waste consisting of drilling fluids;

13,473 tons of solid waste consisting of rock cuttings; and

8,384tons of decommissioning waste consisting of concrete, rubble, HDPE liners, sisal bags and other materials.

A record of the transported waste was made and kept both at the point of removal in the KWCA and at the point of receipt in the treatment and disposal plant. The waste was received and contained in facilities that were specially designed with required safeguards for safely containing the respective streams of waste transported, thereby limiting the migration of the waste materials and contaminants into the surrounding environment. The liquid waste was contained in specially built pits while the drilling solid waste was contained in specially constructed surface bunds where it was covered with HDPE material so as to protect it from possible impact by weather elements.

Treatment of the liquid waste was done by flocculation, with the aim of reducing the amount of solid content in the fluids and obtaining clear liquid with lower content of heavy metals, which would be safer for re-use in the facility's waste treatment operations. As a result of rains falling into the pits, the quantity of liquid waste treated rose to a total of 1999.37m³and with the addition of 96m³of process water; the total quantity of liquid handled was 2095.37m³.

Of this quantity, 30% was separated as solid sediment, giving 628.5m³ of slurry and 1466.759m³ of clear treated liquid which was all disposed of by re-use in the drilling solid waste treatment process. The generated slurry was handled as and was treated along with the other drilling solids.

Treatment of the drilling solids (rock cuttings and slurry) was done through two methods namely i) bioremediation and ii) stabilization and solidification. Similarly, disposal of the treated solid material was done through two routes involving re-use for making bricks and land filling in a sealing-type landfill. Treatment by bioremediation involved the use of naturally occurring microorganisms to remove organic and heavy-metal contaminants contained in the solid waste.

A total of 5,403 tons of the solid waste was treated through bioremediation, making up 40.11 % of the total quantity of solid waste transported from waste consolidation area. The bioremediation treatment process took 73 days which included 13 days for blending the solid waste with manure and peat soil; and 60 days of composting on the bio-platform. The biodegradation process produced 5,479.6 tons of compost of which 100 tons were disposed of by re-use and solidification in brick-making. In this process, the compost was mixed with stone dust, cement, and sand in the ratio 3:2:1:1 respectively, to produce 2,060 bricks which were made over a period of 11 days. As guided by the regulators, as per the letter of no objection issued by NEMA on 10th August 2016 in approving the waste treatment and disposal methodologies, the bricks are to be used only within the facility.

Treatment of the solid waste by stabilization and solidification involved the use of a binding agent in the form of Portland cement to immobilize the waste material and the contaminants it contained. A total of 14,296.9 tons of solid waste were treated by stabilization and solidification, including 8,917.8 tons that were not put through the bioremediation process and 5,379 tons of compost that was bio-treated but was not used to make bricks. The solid material that was treated by stabilization and solidification disposed of by landfilling. The transition from treatment of the solids by bioremediation to treatment by stabilization and solidification followed guidance from NEMA and discussions and subsequent agreement with TUOP to hasten the waste treatment and disposal process, since bio-treatment and disposal of the product by brick-making would have taken a much longer period of time to accomplish than the project time that was available.

The findings obtained from both external and internal laboratory analyses conducted on both the treated liquid and solid waste materials revealed significant changes in the physical, chemical and biological characteristics of the waste, thereby generally indicating successful conversion of the originally hazardous drilling waste into non-hazardous materials that were safe for disposal.

To ensure strict observance of and compliance of the project with requirements for environmental and social safeguards, an effective system was put in place consisting of a complete set of policies, strategies, plans and tools for assessing, managing and monitoring environmental and social risks and impacts, and for monitoring the quality of the processes undertaken during project implementation.

The cost of implementing the project was USD 5,395,793.38. The major challenges faced during the project included initial low awareness of local communities about the nature of the materials that were being handled and the processes through which this was done, which fueled fears; huge demands for employment opportunities which overrode the company's capacity to provide job opportunities; stoppages due to suspension of activities by the client; safety stand-downs imposed by the client and those caused by weather-related hindrances; and delays in issuance of work orders by the client.

The opportunities and benefits created by the project for the population of Uganda on the other hand included the provision of employment opportunities, development of capacity for working in the oil and gas sector and creation of awareness and appreciation among various stakeholders of the fact that oil and gas production and associated activities can be conducted very safely in the region, without necessarily endangering the environment and people within the region and elsewhere in the country.

Thus with the successful conclusion of the waste treatment and disposal activities on 22nd December 2016, the project was declared complete on schedule, a head of the 31st December 2016 deadline.

However, oil and gas production involves and creates a high risk on the environment.¹ The three main phases that are most harmful to environment are the exploratory drilling stage verifies the presence or absence of hydrocarbon reservoirs and quantifies the reserves;² development and production stage involving the processing of oil from the reservoir through formation pressure, artificial lift and other advanced recovery techniques until economically feasible reserves are depleted;³ and the decommissioning and rehabilitation stage. In some cases, the impact of environmental degradation is so devastating that a breach of human rights occurs.⁴

It is the role of the legal, institutional and policy framework to ensure that oil and gas processes are not harmful to the environment, and that after the life of the project, the decommissioning

¹Arthur Bainomugisha, Hope Kivengyere and Benson Tusasirwe, Escaping the oil curse and making poverty history; A Review of the Oil and Gas Policy and Legal Framework for Uganda. ACODE Policy Research Series, No. 20, 2006 page 3

²Ibid

³Ibid

⁴Inter-American Commission on Human Rights, Report on the Situation of Human Rights in Ecuador, OAS Doc OEA/Serv.L/V.II.96, doc 10, rev 1, 24 April 1997, Inter-American Commission on Human Rights www.cidh.oas.org/country.htm.

procedures are able to return the environment, as far as possible, to the natural state.⁵ However, environmental laws in emerging economies are often ineffective because they are substantively inadequate and/or because they are inadequately enforced. This has led to calls by academics, practicing lawyers and human rights and environmental activists for transnational oil companies to seek evidence-based methods to improve their performance in countries with inadequate environmental laws and adopt best practices. It is therefore prudent to plan for environmental protection from the outset to prevent or ensure minimal environmental disruption.⁶ This study will set out to examine implications of environmental law enforcement and compliance in the oil and gas exploration and production sector in Uganda, with special focus on the Albertine Graben.

1.1 Background of the study

With the increasing urbanization, waste management is a major global issue that governments face daily. The overproduction of waste has been causing negative impacts on our environment. Waste reduction and valorization need to be taken to the next level. There are many types of waste and in Uganda's situation all the waste hazardous industrial biomedical, electronic E-waste, radioactive. Waste management includes the collection, transport, valorization and disposal of these waste. More broadly, it includes any activity involve in the organization of waste management from production to final treatment not excluding the oil and gas industry.

1.1.0. Historical Trends and Factors

The discovery of oil in Uganda is traceable far back prior to independence. Oil exploration activities were started in the 1920s by W.J. Wayland, a Colonial Government Geologist of British Protectorate who documented up to 52 seeps of hydrocarbons in the Albertine Graben.⁷ The first well was drilled by the BP Company and the Anglo-European Investment Company of South Africa at a place called Butiaba-Waki in 1938⁸. However, the activities did not solemnize to continue due to interruption by the outbreak of the Second World War in the 1940s and the political instabilities that followed in the 1960s to the 1970s. In 1983 there was a confirmation of some presence of oil. But in 2006, commercially viable quantities of proven

⁵Esteves, A. M., and Barclay, M., *Enhancing the benefits of local content: integrating social and economic impact assessment into procurement strategies*, in *Impact Assessment and Project Appraisal*, 29:3, 214 (2011)

⁶ibid

⁷ Ministry of Energy and Mineral Development (2010) *Strengthening the Management of the Oil and Gas Sector in Uganda*. A Development Programme in cooperation with Norway.

⁸ Ibid

oil reserves were discovered in the Albertine graben region of Uganda estimated to be 6.7 billion barrels of crude oil.

Uganda's oil and gas potential already confirmed shows prevalence of about 3.5 billion barrels. By 2009, Heritage Oil and Tullow had drilled 27 oil wells, 25 of which were confirmed to contain commercially viable hydrocarbons. However more recent research shows that up to 55 wells that have been drilled 51 of these have hydrocarbons viable for commercial exploitation. Among these, significant productive wells are the following:⁹ The Kingfisher well, on Lake Albert Shore; Butiaba well, in Block 2; Delta Play Fairway, in Kaiso- Tonya Region, Block 2; the Kasemene well site, with Kasemene -1, Kasemene-2 and Kasemene-3A; Buffalo and Giraffe wells, in Block-1; Nzizi well sites, with Nzizi-2, Kingfisher 1A, Kingfisher 2 and Kingfisher 3A wells; Buffalo and Hartebeest wells, in the Delta area of Murchison Falls National Park.

Oil and gas deposits in Uganda today have been described as Africa's biggest onshore discovery in 20 years.¹⁰ Estimated reserves are about 6.5 billion barrels (which may increase with further exploration) with a daily production rate (flow rate) of 125,000 bpd, capable of rising up to 200,000 bpd in some places. Proven reserves don't merely place Uganda among the top 50 oil producers in the world as predicted by earlier writers" but actually leave Uganda in the 40th position in the ranking of global oil producing economies.¹¹

By 2006, major discoveries of oil had been made around Lake Albert in western Uganda and it is now established that Uganda has commercially exploitable reserves of oil¹² and gas in the Albertine Graben and commercial oil production is expected to commence soon.¹³ There are four major concerns that relate to oil exploration and production in the Albertine Graben region. The first one relates to the environmental concerns likely to arise during oil exploration and production and the second is whether the current policy and legal framework address those environmental concerns. The third concern is enforcement and compliancy with existing environmental laws relating to oil and gas. Fourth is extent to which policy, institutional and

⁹ Emmanuel Kaweesi, "Environmental Law Compliance and its implications for Oil and Gas Exploration and Production in Uganda" 2014 at 18.

¹⁰ Ibid

¹¹ 15 B. Shepherd (2013) Oil in Uganda: International Lessons for Success, at 2

¹² See note 15 above.

¹³ According to Tullow Oil, Uganda's lead operator in oil exploration, commercial oil production is expected to start in late 2012, www.busiweek.com/11/news/uganda/1040-uganda-oil-expectations-remain-high?tmpl=component&print=1&page (accessed on 9 September 2011).

legal framework support public participation in enforcement and compliancy with environmental laws.

The government of Uganda has embarked on the development of the new policy alongside other existing laws to ensure that the waste management strategies for oil and gas industry is properly controlled.

White Nile Consults Limited is a legitimate local company which to maintains a keen focus on valuing the customer, observing statutory requirements of laws and regulations, and offering systematic waste management solutions that match the waste management hierarchy.

WNCL owns a 159-acre piece of land in Hohwa village, Kaseeta Sub County, Hoima district. Of this, 11 acres were approved by NEMA for the construction a drilling waste treatment and disposal facility. The company is thus validly licensed to own and operate a drilling waste management facility under License No.: WD/HW/036/2016 (and earlier WD/HW/074/2015).

The facility provides services to oil companies with regard to treatment, recovery and disposal of drilling mud, drilling cuttings, drilling waste water, and other oil field drilling waste.

The facility is capable of adopting different technologies and equipment in suit the handling of a given quantity and type of drilling waste, of both hazardous and non-hazardous nature. The facility's primary focus is on prioritizing the recovery of resources from what would be waste and their subsequent re-use and recycling, thereby considering disposal only as a last resort.

In the context of the facility's operations, drilling waste treatment refers to changing the physical and chemical characteristics of drilling waste to make it non-hazardous or decreasing the quantity of generated harmful waste or decreasing or eliminating the hazardous substances. Drilling waste disposal on the other hand refers to the laying of the drilling waste in a place that meets internationally recognized requirements of environmental protection. The objective of treatment and disposal technology is to minimize the harm of drilling waste to human health and environment.

WNCL entered into a partnership with TLOSCL to go through a competitive bidding process through a contract was acquired to undertake a project to treat and dispose of legacy waste generated from oil and gas exploration drilling activities conducted by TUOP in Block EA-2 South. In this partnership, WNCL was the lead project implementer, while TLOSCL supported technology transfer to WNCL by providing and installing equipment for the treatment of the

fluids, and- based on their vast experience and expertise in the oil and gas sector, training the local (Ugandan) WNCL personnel to operate the equipment and conduct waste treatment activities.

The treatment and disposal of all of the said waste has been successfully completed through processes that are detailed in the second section of this report.

1.2 Statement of the problem

The government of Uganda embarked on the development of the new policy, institutional and legal framework to regulate the development of the Ugandan oil sector in the context of the Oil and Gas Policy, national environmental laws and international standards. The 1995 Constitution of Uganda for example establishes the right to a clean and health environment. This is supplemented by various legal instruments and regulations such as The Petroleum (Exploration, Development and Production) Act, 2013 which advocates for compliance with environmental principles and other applicable laws. However, in spite of these laws Uganda has not yet achieved the desired degree of environmental, health and safety compliance because these deterrent regulations imposed against violators are not effective due to weak enforcement, inadequacy of the law and lack of proper institutional framework. In addition, there seems to be no political will and commitment towards environmental health and safety law compliance as the government is seen to be bending towards development than environmental health and safety conservation which has led to weak enforcement of these regulations and the development of the oil and gas sector in the country presents potential environmental challenges.

This is cardinal because the main area where oil exploration and production¹⁴activities are going on coincides with Uganda's most important ecologically sensitive and biodiversity rich areas that need to be protected from the effects of the waste ineffective management from oil and gas sector. The rate of biodiversity loss in Uganda is so high. In 2004, it was estimated to be between 10-11% per decade, that is, about 0.8% annually. This was attributed to factors such as habitat loss, habitat modification and alteration, unsustainable harvesting, pollution and

¹⁴A. Heyes, Implementing Environmental Regulation: Enforcement and Compliance at p.2-4. See J. Kathman & Megan Shannon (2011): Oil Extraction and the Potential for Domestic Instability in Uganda" African Studies Quarterly, Vol. 12. Issue 3 (Summer 2011); See E. Kaweesi and B. Shepherd (2013): Oil in Uganda: International Lessons for Success.

introduction of alien species, however by this research is to find lasting solution in waste management that can be a solution to the above adverse situation in the oil region.

1.3 General Objectives of the study

To appraise the law governing waste management in Uganda today

1.4 specific objectives of the study

1. To analyze the laws in respect to waste management in Uganda today.
2. To address the challenges in relation to control, management and disposition of waste management.
3. To make a comparative analysis with other jurisdiction in respect to best practices
4. To make findings recommendations and conclusions

1.5 Research Questions

1. What extent does the legal frame work support public participation in enforcement of waste management in the oil and gas exploration and production in the Albertine Graben.?
2. What are the national, regional and international policy and legal framework governing the oil and gas industry in Uganda?
3. What are the identified environmental, health and safety impacts caused by oil and gas exploration and production sector in Uganda?
4. What is the extent of compliance to environmental, health and safety laws in Uganda?

1.6 Time scope

The study will include the period between 2009 and 2019 which is 10 years since most of the changes to the law came during that time in Uganda. The study will place emphasis on the development of the oil industry in Uganda, the activities and processes involved in oil and gas exploration and production, environmental impacts of oil and gas exploration and production standards basing on the international, regional and national legal frame work governing the oil and gas industry.

1.7 Scope of the Study

1.7.1 Geographical scope

The study will focus geographically on the Albertine rift also known as the Albertine Graben. when oil availability was announced up to 2019.

1.7.2 Content scope

The study will be restricted to assessing the implications of enforcement and compliancy with environmental laws in the Albertine Graben. While relying on the initial studies carried out in the kisinja waste consolidation area.

The study emphasis will be on the development of the oil industry in Uganda, the activities and processes involved in oil and gas exploration and production, environmental law impacts of oil and gas exploration and production standards basing on the international, regional and national legal frame work governing the oil and gas industry. The study will also examine compliancy with environmental impact assessments and extent laws support public participation in environmental law enforcement.

The types of waste moved during the transportation phase of the project comprised of 3 categories of materials, namely

1. Drilling fluids from Water Based Mud;
2. Solids/rock cuttings mixed with Water Based Mud; and
3. Decommissioning waste consisting of concrete, rubble, HDPE, sisal bags, among other materials.

1.8. SIGNIFICANCE OF THE STUDY

1.8.0. To the policy makers

- i. The environmental, health and safety standards law compliance is critical for the sustainable development of the oil and gas economy of a nation.¹⁵ Uganda is therefore preparing itself for the sustainable oil and gas production since the discovering of oil and gas in 2006. The findings of this study will be helpful in generating practical knowledge in the environmental health and safety regulations in oil and gas sector compliance and in turn it will assist policy makers and

¹⁵Bainomugisha, A. (2006): Escaping the Oil Curse and Making Poverty History, ACODE Policy Research Series, No. 20.

implementers in designing more meaningful interventions strategies that will enhance better implementation of compliance standards in the environmental, health and safety standards compliance with International Regulations.

ii. The Study will help the government to understand the loopholes in the legal framework in proper management of petroleum revenues management in and offer remedies to the oil and gas

iii. To the Researchers.

The study is of great importance to students who want to learn more about the issues concerning Uganda's compliance with international environmental, health and safety regulations. The knowledge that will be acquired will be used as a reference since it will be a source of information for the students in regard to any issue that can arise from compliance of international environmental, health and safety regulations especially in oil and gas sector.

iv. To the students

The knowledge that will be acquired will be used as a reference since it will be a source of information for the students in regard to any issue that can arise from compliance and mechanism of implementation the effectiveness of the petroleum revenue management oil and gas extraction industry.

1.9 Methodology

This part of research discusses the type of research method used. It was conducted through a qualitative doctrinal legal research that is defined as '*a systematic exposition of the rules governing a particular legal category, analyses the relationship between rules, explains areas of difficulty and perhaps, predicts future developments*'.¹⁶A doctrinal legal research is a suitable method since it is concerned with documents rather than with people and society because it is based on legal concepts and principles of law, statutes, cases and rules concerning environmental compliance in the oil and gas industry in Uganda and henceforth allowed the researcher to adequately address and discuss the legal concepts relating to environmental laws as analyzed in the subsequent chapters.

¹⁶T. Hutchinson, N. Duncan; "Defining and Describing What we do: Doctrinal Legal Research"(2013); Deakin Law Review, Vol. 17, No.1,2012,pp 83-119.

Doctrinal legal research is a theoretical research and it is pure in nature. It is a library-based research that seeks to find the one right answer to a certain legal issues or questions. These sources include dictionaries, encyclopedia, major textbooks, treatises and journals.

This is research design enables the legal researcher to take one or a series of legal propositions as a starting point and focus of the research objective and designs the research methodology and structure around for them¹⁷. Conventional legal research takes place in a law library to locate authoritative decisions, applicable legislation and any secondary discussion, reads and analyses the material, formulates a conclusion and writes up the study results.

Library and desk research methods were employed to review national policy, international and regional legal framework that provides for environmental law compliance standards during the oil and gas exploration and production industry in Uganda. In the review, the strength and weaknesses of the legal framework were analyzed. Also important textbooks and articles were reviewed to obtain and contextualize scholarly opinions for the guidance of this paper. The research also reviewed Newspapers to ascertain the current trends in the industry. The paper also relied on some internet sources for secondary or tertiary information to support the study especially in ascertaining current global trends in the industry.¹⁸

1.9.1 Theoretical framework

Theoretically Uganda has been complying with international environmental health and safety regulations a way of ensuring safety of people and the environment in Uganda's oil and gas sector since it has ratified many of these treaties and conventions. However, the efficacy of this compliance in dealing with issues of implementation needs to be addressed in order to avoid likely accidents in the industry when productions of oil kick starts in 2025. The researcher will adopt the theoretical framework to explain the persistence of the compliance problems in the oil and gas sector.

¹⁷ Ibid

¹⁸Most of the literature used was got online search engines

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter therefore presents the theoretical framework of the research and review of relevant previous research.

The study is a critical analysis of the implications of enforcement and compliancy with environmental laws in the oil and gas exploration and production sector in Uganda. Despite much literature on legal aspects of environmental law, there is not a lot when it comes to the area of oil and gas exploration and production, so much so in the Ugandan context. Even the literature present may not easily be intelligible due to the novelty of its substance on environmental law in oil and gas exploration and production and in some cases has research gaps on legal aspects of compliance with environmental standards which need to be filled. This chapter therefore reviews scholarly literature related to the study. It involves review of books, journals, articles, legislation, case law and international instruments.

Alexandra S. Wawryk in his article "International Environmental Standards In The Oil Industry: Improving the Operations of Transnational Oil Companies in Emerging Economies"¹⁹ avers that emerging economies²⁰, also known as "developing countries", "Third World" countries, "emerging market economies", "emerging market systems" and "emerging markets", hold the majority of the world's proved oil reserves, and account for the majority of the world's production of crude oil.²¹ The exploitation of oil remains a priority for the governments of emerging economies, as the revenue that comes from subsurface resource exploitation is a major source of foreign income for emerging economies, of which the majority are among the poorest countries in the world, and have large foreign debts. The oil industry is

36 http://www.ugandaoilandgas.com/linked/international_environmentalstandards_in_the_oilindustry.pdf (accessed 3 May 2017)

37 There is no one clear, fixed and generally accepted definition of an emerging economy. For the purpose of this article, the term "emerging economies" refers to a group of countries that includes "countries in transition" from socialist to market economies, and "developing countries", that are, generally speaking, yet to undergo the industrialization and development of high-technology societies of the Western "developed" countries. Development Assistance Committee, *Development Cooperation Report 1997* (OECD, Paris, 1998) pAIOI; OECD, *External Debt Statistics* (OECD, France, 1997) at 4-5.

38 As a general guide, at the end of 2000 the OECD countries held 8.1% of the world's proven reserves of oil and accounted for 28.1% of world production of oil: BP Amoco, *Statistical Review of World Energy 2001*, www.bpamoco.com.

also a source of taxation revenue and employment, and offers the opportunity for the transfer of technology from developed to developing countries.

He further asserts that Oil and gas exploration and production has the potential to cause severe environmental degradation, not only to the physical environment, but also to the health, culture, and economic and social structure of local and indigenous communities.²² However, environmental laws in emerging economies are often ineffective because they are substantively inadequate and/or because they are inadequately enforced. This has led to calls by academics, practicing lawyers and human rights and environmental activists for transnational oil companies to voluntarily improve their performance in countries with inadequate environmental laws.

He examines five environmental principles or practices that are emerging in the environmental codes of conduct, statements of environmental principles, and environmental guidelines that have been developed by oil industry organizations, NGOs and IGOs, which can be identified as existing or emerging "best practice". This article identifies the types of standards that help to protect the environment and describes the organizations that are the most influential in developing these standards and guidelines in the oil industry. The article further describes five major practices for protection of the environment that are emerging in the international oil industry and that will, when adequately implemented, reduce the negative impacts of oil and gas exploration and production on the physical and cultural environment.

These practices are: environmental and social impact assessment (EIA and SIA); environmental management systems (EMS); environmental performance evaluation (EPE); environmental monitoring and auditing; and environmental reporting. It discusses the legal implications arising from the use of these standards and guidelines, and makes suggestions for future developments. These environmental principles and best practices will be widely examined in further chapters of this research study as well as health and safety principles which are not discussed in this article due to its being limited to environmental standards in the Oil and Gas Industry.

39 In some cases, the impact of environmental degradation on the culture and traditional lifestyle of the indigenous community is so devastating that a breach of human rights occurs. Inter-American Commission on Human Rights, *Report on the Situation of Human Rights in Ecuador*, OAS Doc OEA/Serv.L/V.11.96, doc 10, rev 1, 24 April 1997, Inter-American Commission on Human Rights www.cidh.oas.org/country.htm.

Seth Oppong, in his article “Common Health, Safety and Environmental Concerns in Upstream Oil and Gas Sector: Implications for HSE Management in Ghana”²³ explores the literature to identify common occupational injuries, diseases, and psychological wellbeing on oil rigs as well as the negative environmental impacts of the upstream oil and gas sector. He ends by making 1 recommendation for effective health, safety, and environmental (HSE) management. In the review of his literature, he showed that contusion (bruise), cuts and laceration are the commonest occupational injuries that workers on the oil rig suffer and that the injuries mostly affect the hand and finger, leg, and eyes of the offshore workers.²⁴

Finally, the literature review indicated that land-use problems, air pollution, acid rain, climate change, habitat disruption, environmental degradation, oil spills and leakages are some of environmental impacts of upstream oil production.²⁵ This review was concluded by recommending some measures for the management of the HSE hazards associated with the oil and gas sector resulting due to poor waste management in the oil and gas sector.

The most recent case is that of the British Petroleum (BP) deep-water disaster in 2010 (National Commission on the BP Deep-water Horizon Oil Spill and Offshore Drilling, January 2011). All these major accidents resulted in death and damage to equipment and property of the companies concerned. This paper, therefore, draws on what is known already in the literature about occupational health and safety issues and draws lessons on it for how developing countries such as Ghana should respond to the gargantuan challenges in such business.

Seth Oppong further discusses a range of environmental health and safety issues such as Occupational Injuries on Oil Rigs, Occupational Diseases on Oil Rigs, Psychological wellbeing of workers on Oil Rigs, the various Environmental Impacts and necessary recommendations to ensure better Health, Safety and Environmental management. The discussion concludes that workers on oil rigs elsewhere (Uganda inclusive) have suffered and continues to suffer numerous occupational injuries, occupational diseases, and psychological problems as well as environmental effects due to poor methods of waste managements and implementation of the legislations.

²³ Seth Oppong, common Health , Safety and Environmental concerns in upstream oil and gas sector.2018
43 Deth O, “Common Health, Safety and Environmental Concerns in Upstream Oil and Gas Sector: Implications for

44 HSE Management in Ghana” Academicus International Scientific Journal (Academicus International Scientific I journal), issue: 9 / 2014, pages: 93106, on <http://www.cceol.com>Ibid

Emmanuel Kaweesi, in his article “Environmental Law Compliance and its Implications for Oil and Gas Exploration in Uganda” connotes that Environmental law compliance is a phenomenon which connotes the undertaking of all development activities in a way that conforms to environmental laws, standards, and other regulatory requirements.²⁶ Environmental law compliance covers a number of dimensions such as compliance with environmental quality standards, Strategic Environmental Assessment (SEA), Environmental Impact Assessment (EIA); respect of environmental rights especially the right to a clean and healthy environment, transparency and accountability, public participation and many others.²⁷ Environmental compliance is ensured through the processes of environmental enforcement.

Emmanuel Kaweesi first concentrates on the history and current status of oil exploration and production in Uganda, and then discusses the main processes of oil exploration and production which have significant implications for environmental law compliance. It precedes on a theory that if no preventive or at least mitigation measures are taken, the activities can lead to disastrous environmental consequences. The paper further discusses the national, regional and international standards regulating the oil and gas industry in Uganda. But the only way to forecast those consequences is by ensuring a sound environmental law compliance regime for the oil industry. Hence the paper delves into the legal and policy environmental law compliance requirements for Uganda and the extent of compliance by the current operators. Because environmental law¹ compliance is very broad, the paper concentrates on those issues which in the view of the author are core.

He contends that accordingly, inquiry is made into the extent of compliance with Environmental Impact Assessment (EIA); Strategic Environmental Assessment (SEA); Environmental Quality Standards; Environmental Monitoring; Environmental Audits and Reviews; Pollution control; and Transparency and Accountability. The paper concludes that there is no environmental law: compliance in Uganda’s oil and gas industry despite the several national, regional and International regulation standards and proposes a number of recommendations. This confirm the situation of the waste management that should have been

⁴⁹ I hooper, D. (2006). *The Impact of Management’s Commitment on Employee Behavior: A Field Study*. Paper (resented at the 7th Professional Development Conference & Exhibition, of American Society of Safety Engineers I Middle East Chapter, Kingdom of Bahrain, and July 18 - 21. See also Cooper, M. D., & Phillips, R. A. (2004). Preparatory analysis of the safety climate and safety behavior relationship. *Journal of Safety Research*, 35, 497-

50 Emanuel K, “Environmental Law Compliance and its Implications for Oil and Gas Exploration in Uganda” at

one of the core component to be implemented in order to safeguard the nationals from the severe impact as exhibited in Ghana and Norway.

Emmanuel Kaweesi is however similar to Alexandra S. Wawryk in such a way that he discusses in detail environmental law compliance whereby he brings out that there is need to strengthen enforcement of Environmental Law standards in Uganda. The distinguishing factor is that this research study involves detailed analysis of environmental standards as well as health and safety standards such as the Occupational Health and Safety Act of 2006.

On this subject Sophie Des Clers observes that Africa has 8% of the world's oil reserves and nearly 50% of this is in Sub-Saharan Africa. That the impact of oil production on African national economies has however been mixed with numerous instances of high environmental and social effects and records of human rights abuse.²⁸⁵¹ With due respect, although the author acknowledges possibility of environmental devastation due oil and gas exploration and production activities she offers very little guidance on how this should be ameliorated, and if anything, the study focuses on Central and West Africa but not East Africa or the Albertine Graben in particular.

The UNEP notes that oil and gas exploration and production cannot go without ecological effects. That the matrix of activities undertaken during exploration and production expose the environment to many deleterious incidents ranging from oil spills, damage to land (terrestrial contamination), accidents and fires, and incidents of water and air pollution.³² Those environmental impacts can in broad terms be categorized into human, socio-economic and AFIEGO (2010) Proceedings Report of the Training Workshop on Oil Governance for National Development; Strengthening the oversight role of selected Members of Parliament and CSOs, at page 21 Des Clers (2007) Mitigating the Impacts of Oil Exploration and Production on Coastal and Wetland Livelihoods in West and Central Africa. UNEP (1997) Environmental Management in Oil and Gas Exploration and Production: An Overview of Issues and Management Approaches, at 2-3 cultural impacts; atmospheric impacts; aquatic impacts; terrestrial impacts and eco-system impacts. The activities are also associated with many potential emergencies.²⁹

²⁸ C. Ebrahim-zadeh „Back to Basics: Dutch Disease. Too Much Wealth Managed Unwisely" (2003) *Finance and Development* 40 (1): 50-51

²⁹Des Clers (2007) Mitigating the Impacts of Oil Exploration and Production on Coastal and Wetland Livelihoods in West and Central Africa.

The Ministry of Energy and Mineral Development also concedes that the development of the oil and gas sector in the country presents potential environmental challenges. It observes that it is so unfortunate for Uganda and in fact the rest of Africa to note that oil activities take place in the most ecologically sensitive and bio-diversity rich areas.³⁰ That with face of such an environmental satire, the planning efforts needed should intensify beyond ordinary. The author concedes that unregulated actions by the oil and gas industry can destroy habitats, lead to biodiversity damage and rapture important ecosystem services such as fresh water, and that bioenergy and emissions from the industry can indeed lead to the acceleration of global warming.

Miguel De Cervantes in “Donor Engagement in Uganda’s Oil and Gas Sector:³¹ An Agenda for Action. A Briefing by Global Witness, Oct 2010 on the Resource Curse (Paradox of Plenty) defines the term “*resource curse*” is a phenomenon by which natural resource wealth often results in poor standards of human development, bad governance, increased corruption and sometimes conflict.³² According to Miguel De Cervantes, a celebrated 16th century Spanish author, gratification of wealth is not found in mere possession or in lavish expenditure, but in its wise application.³³

It therefore follows that when a country experiences a sudden large increase income the consequences may be harmful. For example, in the 1960s, Netherlands experienced a vast increase in its wealth on discovering large Natural Gas deposits in the North Sea but unfortunately this apparently positive development had serious negative repercussions on important segments of the county’s economy as the group of the “Dutch Guilders” who dealt in the resource became stronger, making other natural gas exporting sectors more expensive and less competitive.⁶¹

Terry³⁴ further argues that weak public institutional setup leads to overdependence on oil, and as a result of timing, pre-existing institutions are weakened or partially formed due to the influx of rents from petroleum thus resulting into a state that depends on the profits of oil (renter state). Politically, authoritarian rulers use Petro dollars to pass favourable legislation, create

³⁰The Ministry of Energy and Mineral Development report of 2018 at page 30.

³¹Miguel De Cervantes in “Donor Engagement in Uganda’s Oil and Gas Sector: An Agenda for Action. A Briefing by Global Witness, Oct 2010 on the Resource Curse (Paradox of Plenty)

³²Miguel De Cervantes in “Donor Engagement in Uganda’s Oil and Gas Sector: An Agenda for Action. A Briefing by Global Witness, Oct 2010 on the Resource Curse (Paradox of Plenty)

³³Miguel De Cervantes in “Donor Engagement in Uganda’s Oil and Gas Sector: An Agenda for Action. A Briefing by Global Witness, Oct 2010 on the Resource Curse (Paradox of Plenty)

³⁴ *ibid*

varsity militaries and to buy off opposition support, to wit engaging in useless and unpalatable military adventures.³⁵

According to Bell and Faria,³⁶ in developing countries where institutions are still maturing, the magnitude of receipts and difficulties of control suggest the need for a special legislation directed to a particular problem posed by such revenues. The revenue management law must be adapted to the needs of the institutions and legal framework of the country. They argue that many times formal codes adopted are merely “show” laws due to lack of resources, experience, overriding economic and political considerations or lack of culture of compliance. Other laws governing public procurement, public information, disclosure of contracts, conflict of interest and judicial review are of equal relevance.⁷⁴they warn against the danger of assuming that norms and mentality will change when production and revenue accumulation takes off. This suggests that other factors such as the compliance with legislation and implementation thereof are very crucial that can affect the sector like in failure to manage the waste since the laws can be manipulated by the foreign countries who may be engage in the exploration of oil and gas.

According to Yergin,³⁷ oil wealth management depends on the county’s capacity to plan properly. That the rush for oil production leads to reliance on foreign ill-equipped geologists, leading to premature exhaustion of oil deposits due to quick and large perceived and anticipated oil rewards.³⁸ He argues that oil is a commodity intimately intertwined with national and global I politics and power and a country’s success depends on its capacity to plan and strictly implement I such plans. Otherwise, as Yergin says, oil can be a “fool’s gold” which is what poor country I planners have continued to confuse with the “oil curse”.

Emmanuel B Kasimbazi³⁹, in the article “Environmental Regulation of Oil and Gas Exploration and Production in Uganda”⁴⁰ indicates that Uganda has only recently discovered oil, and production is to begin soon. However, it is important to note that the process of oil exploration

67 ibid

³⁶Bell and Faria, environmental protection in oil and gas industry in developing countries at page 100

³⁷ D. Yergin The Prize: The Epic Quest for Oil, Money and Power,2008, New Edition, Free press, New York.

³⁸ D. Yergin , The Prize: The Epic Quest for Oil, Money and Power2008, , New Edition, Free press, New York.

³⁹ B Kasimbazi, “Environmental Regulation of Oil and Gas Exploration and Production in Uganda”

in | Uganda is not new. It was first carried out by Wayland⁴¹ in the 1920s⁴², who documented up to 52 oil and gas seeps in the Albertine Graben.⁴³ Petroleum exploration activities ceased, because of the Second World War, until 1983, when geologists resumed exploration activities in the Albertine Graben, revealing reasonable oil presence.⁴⁴ This led to the creation of the Petroleum. However there has been no proper waste management plans in the country to support the oil and gas industry and the environment generally.

Emmanuel Kasimbazi identifies two major concerns that relate to oil exploration and production in the Albertine Graben region. The first one relates to the environmental concerns likely to arise during oil exploration and production and the second is whether the current policy and legal framework address those environmental concerns. He analyses the available legal tools for the environmental management of petroleum exploration and production in Uganda. As observed earlier, oil exploration and production are associated with several environmental risks, which require comprehensive and effective regulation. He, therefore, reviews the policy and legal instruments that have been developed to regulate oil exploration and production in Uganda to protect the waste management and environmental risks.

Conclusion

In light of the foregoing discussion, it is clear that Uganda is soon joining the international oil producing community, with reserves going up to 3.5 billion barrels. It is also noteworthy that due to the long history of fuel scarcity in Uganda compared to the exponential consumption rates, Ugandans are so optimistic that probably the imminent production of oil at home may be a great blessing. However, it is also clear from the above that if oil exploration and production activities are not well planned and managed Uganda may just like other African countries, suffer from the oil curse which shall not only manifest through environmental health and safety degeneration but also economic retrogression. Uganda has laws and policies which can

⁴¹ B Kasimbazi, "Environmental Regulation of Oil and Gas Exploration and Production in Uganda"

⁴² E J Wayland was a government geologist during the British Colonial Government. He documented substantial amounts of hydrocarbons in the Albertine Graben.

⁴⁴ National Environment Management Authority (NEMA), (2009), *Environmental Sensitivity Atlas for the Albertine Graben*, www.nemaug.org/atlas/Sensitivity_Atlas_2009_May.pdf (accessed on 2 September 2020), 86 See also Ibrahim Kasha, *History of Oil in Uganda*, New Vision Friday, 23 January 2009
⁸⁹ National Environment Management Authority (NEMA), (2009), *Environmental Sensitivity Atlas for the Albertine 100 Graben*, www.nemaug.org/atlas/Sensitivity_Atlas_2009_May.pdf (accessed on 2 September 2020), 13. See also 101 Ibrahim Kasha, *History of Oil in Uganda*, New Vision Friday, 23 January 2009.

promote environmentally sound oil activities but the question is whether the players in the industry are complying. This question continues to guide this study all through the subsequent chapters.

CHAPTER THREE

METHODOLOGY

3.0 Introduction.

This research will purely take a qualitative approach. It will be conducted using library and desk research methods. These desk research methods will be used to review government published data such as laws and policies which will be very helpful in the entire research process. Also important textbooks and articles were reviewed to obtain and contextualize scholarly opinions for the guidance of this paper. The research will also review Newspapers to ascertain the current trends in the industry. The paper will also rely on some internet sources for secondary or tertiary information to support the study especially in ascertaining current global trends in the industry.

The chapter presents items of data collection methods, instruments, ethical considerations, anticipated methodological constraints and limitations to the study.

3.1 Legal Context and Research Setting

3.1.1 Study Design

The study will be conducted using a mainly qualitative doctrinal legal research design which provides a systematic exposition of the rules governing a particular legal category, analyses the relationship between rules, explains areas of difficulty and, perhaps, predicts future developments.’

The researcher uses qualitative doctrinal legal research methodology to analyse the literature reviewed to appreciate and articulate the legal aspects of this research such as laws, statutes, case law as indicated in the literature review that doesn’t require the researcher to undertake data collection as this is knowledge that can be acquired through desk and library research methods. Henceforth, being of legal nature, the researcher has chosen this as the best method to analyse the literature involved.

3.1.2 Area of the Study

The area of the study will be the Albertine Rift, also known as Albertine Graben region of western Uganda covering a stretch of over 23,000 km². The Albertine Graben in which oil has been discovered in Uganda is located in the western part of the country, mainly in Masindi, Kibale and Hoima district around Lake Albert which forms the northernmost part of the

western arm of the East African Rift Valley. It is situated at the Uganda and Congo border further stretching to the border with Sudan. According to the petroleum geologists, the Albertine Graben is greatly enriched with oil. They assert that the Maputa and Waraga oil fields have approximately 100 to 400 million barrels of oil, whereas the Giraffe1 is expected to total at least 400 million barrels of oil.

3.1.3 Doctrinal Method as a Two-Part Process

Doctrinal method is normally a two-part process, because it involves first locating the sources of the law and then interpreting and analyzing the text. In the first step, it could be said that the researcher is attempting to determine an ‘objective reality’, that is, a statement of the law encapsulated in legislation or an entrenched common law principle.⁴⁵ However, many critical legal scholars would be quick to contest whether any such objective reality exists, as the very concept of objectivity is based in a liberal theoretical framework. Most would argue that the law is rarely certain.

As Christopher McCrudden comments, ‘if legal academic work shows anything, it shows that an applicable legal norm on anything but the most banal question is likely to be complex, nuanced and contested’.⁴⁶ However, if we take legislation as an example, the laws are passed by parliament and the words are written down. In that sense there is a positive statement of the law. It is at the next step where the law or rule is interpreted and analyzed within a specific context that the outcome becomes ‘contingent’ or conditional on the expertise, views and methods of the individual researcher.

3.2 Data collection Strategy

3.2.1 Documentary Review.

This is Desk Research technique that the researcher used to acquire data in this research⁴⁷ from existing documentary resources. This was utilized in this study majorly by using Government published data⁴⁸ including legal positions and statements on environmental management in the Albertine Graben. Government reports, periodicals, legislations and scholarly studies in relation to the study were reviewed.

⁴⁵ Hutchinson, *Researching and Writing in Law*, above n 66, 37

⁴⁶ Christopher McCrudden, ‘Legal Research and the Social Sciences’ [2006] (October) *Law Quarterly Review* 632, 648

⁴⁷ Hannah Bradby, ‘Review Essay: Qualitative Methods and Health Research’, *Qualitative Research*, 5.4 (2005), 543–46 <<https://doi.org/http://dx.doi.org/10.1177/1468794105057459>>.

⁴⁸ R. B. Johnson, ‘Mixed Methods Research Design and Analysis with Validity: A Primer.’, 2014 <http://www.ph-weingarten.de/zesa/Prof._Dr._Burke_Johnson_Mixed_Methods_PRIMER.pdf>.

3.2.2 Limitations of the Study

The study is hampered by insufficient published literature in the field of oil and gas exploration and production in the Ugandan perspective, especially on the subject of environmental law compliance. Also, because of the political nature of the oil resource, some information could not be accessed because of a lack of transparency especially to do with documents relating to oil and gas exploration and production. The technical nature of the processes and activities, even some of the relevant present literature may pose a difficulty to synthesize and contextualize on behalf of the researcher whose skills are just developing.

This was a purely doctrinal legal research based on desk and library materials so the researcher will not physically collect data from respondents. It was restricted to analysis of legal concepts and principles of law, statutes, cases and rules concerning environmental health and safety in the oil and gas industry in Uganda which is better suited to bring out the main objective of the study which is to determine whether there is compliance with environmental laws.

3.3 Research Design

This study will use a cross-sectional research design. In this type of research design, either the entire population or a subset thereof is selected, and from these individuals, data is collected to help answer research questions of interest. It is called cross-sectional because the information from X and Y that is gathered represents what is going on at only one point in time. In other words, a cross sectional study, takes a snapshot of a population at a certain time, allowing conclusions about phenomena across a wide population to be drawn. The study also will use this type of design because it is not costly to perform, does not require a lot of time and also captures a specific point in time. The researcher will be able to gather information without manipulating the study environment.

The benefit of a cross-sectional study design is that it allowed the researcher to compare the many different variables at the same time. The researcher for example, looked at the efficacy of the polluter pays principle and its relevancy to the environmental protection against the dangerous activities of oil and gas in Uganda, the implementation of the implementation of the polluter pays principle , its legal and regulatory framework , its implementation challenges and how its implementation can help in compliance and its liability and how such liability is assessed in Uganda's oil and gas industry as a way of protecting the environment against the dangerous activities of oil and gas sector.

The study will be qualitative in nature aiming at investigating the efficacy of the polluter pays principle as mechanism of protecting the environment against dangers activities of Uganda's oil and gas sector. Cross sectional design helped the researcher to gather enough data and information from a pool of participants with varied characteristics of polluter pays principles in Uganda's environmental perceptives. The design was selected to describe in-depth, the measures taken by government in designing the fiscal regime. A qualitative research approach will be adopted, in order to exploit the synergies offered by this kind of research methodology.⁸⁸ Primary Data will be collected from the interviews and secondary data collected through document review.

3.4 Research Population and Sampling Methodology

The study has been conducted using a sample of National environment Management Authority NEMA, The office of the Prime Minister which is responsible for the National Oil Spill Contingency Preparedness and Response plan in case of any oil and gas spill of the National and Lead Agency for emergency preparedness and Response system, The pollution control Authority responsible for insurance of pollution control license and determine license fees and penalties in case of breach, ministry of Environment since it's the one responsible for environmental protection, Green Peace an NGO which advocates for environmental protection and conservation, Uganda wild life Authority is also responsible for protection of wild life which might be affected by activities of oil and gas for example oil spill and gas flaring, Ministry of Energy and Mineral Development (MEMD).

These institutions (NEMA, OPM, PCA, GP, ME, UWLA, MEMD, and CNOOC) were picked for the study because they had primary information relevant to the study. For example, National Environment Management Authority, ministry of Environment and China National Offshore Oil Corporation (CNOOC) which was awarded the contract for extraction

3.5. Sampling Techniques

Purposive sampling technique was one of the method used to select key respondents from UNOC, ME, NEMA, OPM, UWA, PLC, PCA, MEMD; CNOOC because it was best suited for selecting information rich cases for in depth study that was necessary in this research.

3.6. Data Collection

The researcher has used both primary and secondary sources of data collection for the study. Through Primary Sources the researcher conducted a number of interviews with key stakeholders whereas through secondary sources, data has been collected by reviewing literature on existing materials on the subject matter.

3.7. Interviewing

The researcher used the interviewing technique and conducted a face to face interviews which comprises of sets of issues on what the researcher wished to draw data from the interviewee by interview guide.

3.8. Documentary Review

Document analysis was used by the researcher for reviewing existing published and unpublished information relating to the influence of polluter pays principle in protecting the environment against dangerous activities of Uganda's oil and gas industry. The researcher reviewed material from the internet. Text books, reports, journals among others. This helped the researcher to access all the relevant information on the study.

3.9. Validity and Reliability

Validity method has been used by the researcher to determine whether the device is truly measuring what was intended to measure using the Content Validity Index and the reliability method was used to determine the consistency among different administrations which was measured using the Cronbach Alpha Value.

3.10. Data Analysis

Qualitative data analysis has been used by the researcher in identification and transcribing the qualitative findings into different themes. The themes were then edited coded and arranged in different categories to generate useful conclusions and interpretations on the research objectives which were deduced for reporting in a narrative form.

3.11. Ethical Considerations

The research such as this may focus on topics that are sensitive and it would be difficult to illicit honest responses to some of the questions posed when a participant did not feel secure in knowing that their identity is protected. Privacy matters should be addressed from the inception of the research to the publication of the results. There should be safety nets put in place to guarantee confidentiality. The only amount of personal data that should be collected for the research is the minimal amount needed to insure a proper sampling of the population.⁹⁴

As such, the data obtained from the respondents will be treated purely as academic and confidential for the safety, social and psychological well-being of the respondents and appropriate documentation will be kept.

3.12 Conclusion

This short examination of research methodology has highlighted the need for an increased analysis and description by researchers of the doctrinal methodology they are using. The conclusion is that the doctrinal research methodology is a discrete method.

Chapter synopsis

3.13 Chapter one

It will cover the general introduction, background of the study, historical, theoretical, statement of the problem, justification of the study, significance of the study, objectives of the study and scope of the study.

3.13.2 Chapter two

It will cover the literature Review in regards to the legal frameworks relating to Environmental, Health and Safety Standards in Regulation involving the laws, regulations and policies.

3.13.3 Chapter three

It will address the challenges in relation to control, management and disposition of waste management.

3.13.4 Chapter four

It will make a comparative analysis with other jurisdiction in respect to best practices and will examine about the recommendations and conclusions.

CHAPTER FOUR

THE EXTENT OF COMPLIANCE TO ENVIRONMENTAL, HEALTH AND SAFETY LAWS IN UGANDA

The health and safety legal regime in Uganda is embedded in, among others; the Petroleum Exploration, Development and Production Act 2013 and the Occupational Health and Safety Act 2006. The purpose of the Act (Health and Safety) is to regulate health and safety standards for the health, safety, welfare and appropriate training of persons employed in workplaces. Section 18(1) requires the employer to monitor and control the release of dangerous substances into the environment.

Thus, where there is major handling of chemicals or any dangerous substance that is liable to be airborne or to be released into rivers or lakes or soil and which are a danger to animal and plant life, the employer is required to arrange for equipment and apparatus to monitor air, soil and water pollution and to arrange for the monitoring of these mediums, with a view to rendering them safe. Clause (2) states that the records of monitoring in subsection (1) should be kept and made available to the inspector. These provisions are applicable to all oil exploration companies because of the danger their operations may pose to the environment and human safety.

To capture recent trends in the industry on health, safety and environment standards. The government of Uganda has embarked on the development of the new legal framework law to regulate the development of the Ugandan oil sector in the context of the Oil and Gas Policy, national environmental laws and international standards. The Petroleum Exploration, Development and Production Act of 2013 introduces new aspects in the governance of oil and gas in Uganda in an attempt to set governance conditions related to Oil and Gas exploration and production. In my opinion, these are to be considered as international best practice.

The Act vests petroleum rights in the government of Uganda. Thus, the entire property in, and control of, petroleum in its natural condition in, on or under any land or waters in Uganda is vested in the government on behalf of the Republic of Uganda. Any person who intends to carry out petroleum exploration must therefore apply for a license from the responsible minister.

The Act introduces environmental principles. It thus requires every licensee and every person exercising or performing functions, duties or powers under it in relation to petroleum activities to

take into account, and give effect to, the environmental principles prescribed by the NEA and other applicable laws. This is in line with the provisions of the Rio Declaration such as the one on sustainable development mentioned above.

The Occupational Health and Safety Act requires that petroleum activities are conducted in such a manner as to enable a high level of safety to be maintained and further developed in accordance with technological developments and laws relating to health and safety. A licensee is also required to identify the hazards and evaluate the risks associated with any work performed in the course of petroleum activities carried out under the license that constitute a hazard to the health of an employee for the purpose of that work and the steps that need to be taken in order to comply with the provisions of the Act and regulations made under the Act. The Bill requires that necessary safety precautions are taken to ensure the safety of any persons employed or otherwise present or in the vicinity of any installation and to protect the environment and natural resources, including precautions to prevent pollution.

Today the major policies applicable include: the National Environment Management Policy, 1994; National Energy Policy, 2002; National Policy for the Conservation and Management of Wetland Resources, 1995; National Water Policy, 1999; Uganda Wildlife Policy, 1999; Uganda Forestry Policy, 2001; National Policy Framework for the Industrial Sector, 2008; Disaster Management and Preparedness Policy and the recent National Oil and Gas Policy, 2008. The major legislative framework is covered by the Constitution of the Republic of Uganda, 1995; the new Petroleum (Exploration, Development and Production) Act, 2013; Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013; Petroleum Supply Act, 2003 and the Petroleum (Exploration and Production) (Conduct of Exploration Operations) Regulations, 1993. Other relevant laws include the National Environment Act, cap. 153; Land Act, cap.227; Water Act, cap.152; Occupational Safety; Health Act, 2006; National Environment (Waste Management) Regulations, 1999; National Environment (Wetlands, Riverbanks and Lakeshores Management).

These are supplemented by a number of regional and international environmental health and safety law instruments divided into hard and soft law instruments. Soft law standards include the Rio Declaration (2012); Stockholm Declaration (1972); Johannesburg Declaration (2002) which advocate for environmental health and safety principles such as sustainable development and also encourage safety and healthy through advocating for healthy working conditions and enforcement

of labor laws The United Nations Environmental Programme (UNEP) further expounds on the importance of protecting the environment and using it sustainably such that future generations may also be able to utilize the same resources. International hard law standards include the International Labor Organization (ILO) Constitution which sets forth the principle that workers should be protected from sickness, disease and injury arising from their employment; Occupational Health and Safety Convention 1985; Promotional Framework for Occupational Safety and Health Convention 2006; Radiation Protection Convention 1960; Occupational Cancer Convention 1974; Asbestos Convention 1986; Chemicals Convention 1990; Basel Convention on Control of Trans-boundary Movement of Hazardous wastes and their Disposal 1989 which are all geared towards improving working conditions thereby ensuring that workers have a safe and healthy environment in which to work.

The environmental health and safety regulatory framework for oil exploration and production in Uganda is new and still inadequate in some areas, including environmental regulation. This is in addition to limited financial and human resources to implement its provisions and limited public awareness of the principles and provisions of the policy and legal framework. There is a relatively high risk of harm to environmental health and safety during oil exploration and production hence the need for measures to minimize such harm to the ecologically/biodiversity sensitive areas to be put in place. Thus, managing the ‘environmental health and safety in oil’ requires strategies that address environmental health and safety management sustainability.

EXISTING POLICIES, LAWS AND INSTITUTIONAL FRAMEWORKS

Policies

General Framework Policy: National Environment Management Policy – The overall policy providing a framework for Environment management in the country

Specific Policies: Originated from the framework policy intended to operationalize the different frameworks outlined for specific resources. A number of resources specific policies exist like;

- The National Wetlands Policy,
- National Forestry Policy,
- National Land Policy,

- National Land-use Policy
- Wildlife Policy
- National Water Policy
- Fisheries Policy

Laws

- The Constitution of Uganda
- National Environment Act
- Local Government Act
- National Forests and Tree Planting Act
- The Mining Act
- The Water Act
- The Wildlife Act

Regulations, Standards and Guidelines

- Audit Regulations
- EIA Regulations
- Effluent Discharge Regulations
- Hilly and Mountainous Areas Management Regulations
- Management of Ozone Depleting Substances and Products Regulations
- Noise standards and control Regulations
- Lakeshores and River banks Management Regulations

- Guidelines for Strategic Environment Assessment (SEA)
- Guidelines for Cultivation of Paddy Rice in Wetlands

The National Environment Act

This Act establishes the National Environment Management Authority (NEMA) as the overall body and principal agency responsible for coordinating, supervising and monitoring all aspects of environmental management in Uganda.

NEMA is empowered, in consultation with the lead agencies, to issue guidelines and prescribe measures and standards for the management and conservation of natural resources and the environment. NEMA is mandated to –

- integrate environmental considerations into socio-economic development policies and programmes;
- develop standards, guidelines, laws and other measures in environmental management; and
- coordinate government policies, liaise with lead agencies and international organizations in environmental management

At the apex of NEMA is the Policy Committee on the Environment, composed of 10 ministers charged with various sectors of environment. The Policy Committee is responsible for the formulation and implementation of policy guidelines, and coordinating environmental policies of various government agencies.

The Act establishes the Board of Directors, who is appointed by the Minister, with approval of the Policy Committee on the Environment. The members of the Board are appointed by virtue of their knowledge and experience in environment management. The principal role of the Board is to oversee the operation, policy and to review the performance of Management of NEMA and to establish procedures for the management of staff. They have basically an administrative function.

The Board is given the mandate to appoint technical advisory committees, including those on-

- Soil Conservation;
- licensing of Pollution;

- Biodiversity, and

- Environmental Impact Assessment.

The Act also enables local administrations to be involved in the management of the environment. The Act creates District Environment Committees, charged with the management of environmental issues at the District level. Environment Committees are created at the lowest levels of the local government structures to enable public participation in environmental decision-making at those levels.

This kind of institutional framework ensures that natural resources are controlled and managed by communities for their own benefit on sustainable basis.

Sustainable Development Measures under the Act

(a) Environmental Impact Assessment One of the key management tools provided by the Act is the requirement of environmental impact assessment (EIA) for projects likely to have a negative effect on the environment. Regulations have been making detailing the measures and processes that can be taken in conducting an EIA and environmental audits.

(b) Collaboration with local authorities The Act requires that the Government to collaborate with the local governments in the management of the following areas:

- Lakes and rivers;
- Lakeshores and riverbanks;
- Wetlands;
- Hilltops, hill-sides, and mountainous areas;
- Conservation of biological resources;

These environment management areas are specifically selected because of their immediate relevance to community use and hence, the need to involve local communities. The key emphasis is to permit the use of resources within their capacity to regenerate.

(c) Control of Pollution

The Act contains, in addition to these provisions relating to management of natural resources, important provisions on the control of pollution. Since pollution is a relative state of affairs, the Act provides for mechanisms to establish environmental standards and criteria for what is considered environmentally acceptable behaviour and phenomena. Where a person wishes to exceed the standards, which have been set, such a person must apply for a pollution license under Part VIII of the Act. Standards for the control of pollution are now in the process of formulation.

(d) Enforcement of the Law

The Act provides for a variety of mechanisms to ensure that the law will be enforced that go beyond the traditional command and sanction approach of criminal law. The following are some of the mechanisms:

Environmental easements

Under the Act, a person may apply for an easement to protect the environment. In view of the Constitutional provision relating to rights to a clean and healthy environment and the capacity of any person to enforce that right notwithstanding that his specific rights have been affected, this easement differs from the common law easement

It may be enforced by anybody who finds it necessary to protect a segment of the environment, or view even where a person may not own property in the proximity of the property subject to the easement.

Environment restoration orders and improvement notices

The Authority or a court may issue a restoration order requiring the person to cease the activities or to restore the environment as much as possible to its original state if the person's activities are likely to affect the environment. The order may be given pursuant to an action brought by an individual or upon the initiative of the Authority.¹⁶⁶ Restoration orders can be enforced by the Authority even without a court order and at the cost of the person violating the law.

Raising awareness

The need for popular awareness is a key requirement for enforcement of environmental legislation. NEMA is given the mandate to carry out education and awareness campaigns, to ensure that the public participates in environmental decision-making and enforcement.

Licensing and registration of activities and substances

The licensing of pollution has already been discussed above. There are other activities, which require specific permits. These include the import, manufacture, and disposal of hazardous chemicals, wastes and substances. In order to control the environmental effects of these substances, the law requires their classification and labelling.

The use of economic and social incentives

The Act clearly provides that management measures should be carried out in conjunction with the application of social and economic incentives including taxation measures and environmental performance bonds.

Use of Criminal law

Criminal law remains a veritable instrument for the control of behavior, because of the natural tendency of human beings to fear the infliction of pain, isolation or economic loss. Therefore, the Act provides for serious penalties against infraction of its provisions. Criminal law, however, cannot be the mainstay for the enforcement of environmental law, but is a necessary supplementary measure to the approaches outlined above.

The Land Act

The Land Act provides for the tenure, ownership and management of land. Subject to Article 237 of the constitution, all land in Uganda is vested in the citizens of Uganda and is owned in accordance with customary, freehold, mailo and leasehold land tenure systems. The customary mode of land ownership is recognized as a form of tenure and the occupants enjoy security of tenure on former public lands, for which, a certificate of title known as "a certificate of customary ownership" is granted to the owner of such land.

The colonial land settlement, which was made in the Buganda, Ankole, and Toro Agreements at the turn of the 19th Century, had dispossessed many people who occupied the land before the

agreements. The land was allocated to chiefs and other collaborators of the colonial regime in the form of freeholds or modified freeholds locally known as “mailo”. This left the former occupants as squatters on these lands. Under the 1995 Constitution, these occupants are protected and their protection has now been detailed by the Land Act. A bona fide occupant is defined as a person who, before the coming into force of the Constitution had occupied and utilized or developed any land, unchallenged by the registered owner or his agent for twelve years or more, or a person who had been settled on land by the government or its agent who may include a local authority.

A bona fide occupant is issued with a certificate of occupancy. The security of tenure of a lawful or bona fide occupant is, however, not prejudiced by the fact that he or she does not possess a certificate of occupancy. Under the Land Act, a person who acquires land is required to manage and utilize it in accordance with the existing environmental laws, and any use of land must conform to the law relating to town and country planning. The implication of this is that even customary tenants, occupants are required to observe the environmental laws. This provision obviously curtails the right of exclusive ownership of land as it makes it subject to the environmental laws.

The Act, like the Constitution provides, that the government holds in trust for the people, and protects environmentally sensitive areas such as natural lakes, rivers, ground water, natural ponds, natural streams, wetlands, forest reserves, national parks and any other land reserved for ecological and tourist purposes for a common good of the citizens of Uganda. Government has no powers to lease or otherwise alienate any natural resource mentioned above, but may only grant concessions, licenses or permits in respect to those natural resources

The new land laws are in line with the emerging environment management regime. By providing security of tenure to persons who till the land, the law has created and strengthened their interest in conserving the land as a resource. It is, therefore, expected that these new laws will spur public interest in natural resource conservation. It has been urged that this provision curtails investors as they cannot have exclusive ownership of these protected natural resources.

The Water Act

The Water Act is one piece of Uganda's environmental legislation with key provisions to enhance sustainable development of water resources. It provides for the use, protection and management of water use and supply.

Most of its provisions have the key objective of protecting the environment and in turn ensuring all water resource-based development is sustainable. Important aspects in the Act include the following-

Rights in water are vested in government;

All rights to investigate, control, protect and manage water are vested in the government of Uganda. Government is accordingly better placed to ensure that water resources are utilized sustainably.

Planning for water use;

The Act establishes the water policy committee, an inter-sectoral body, charged with coordinating the preparation, revising and keeping up to date the comprehensive action plan for the investigation, controlling protection, management and administration of water resources for the nation. Such planning may specify types of activities, development of works, which may not be done without the prior approval of the policy committee.

Control on the use of water resources;

The Act provides for the use of permits to use and supply water. A person who needs to construct or operate any water works or for waste discharge, needs permission. The permit system ensures that use of water resources is environmentally friendly and promotes sustainable development. These controls also ensure that water is not treated as a free good, but as a good with a value to be paid for. This economic valuation of water is an important incentive for its conservation. The Water Act, however, excludes abstraction of small quantities of water from the operation of the water permits.

Water easements;

An easement is the right of a person over the land of another person. Under Water Act, an easement may enable a holder of a water abstraction permit to bring water to or drain water from his land over land owned or occupied by another person. In the same way, an easement may enable a holder of a waste discharge permit to drain waste from his land over the land owned or occupied by another person. The works for which an easement is granted has to be maintained and repaired so as to comply with development that is sustainable.

Control over water works and water use;

An authorized person may enter land for the purposes of inspecting works for the use of water. He may take samples and make tests to find out whether water is being wasted, misused or polluted, or whether the terms of any permit are being met.¹⁷⁹ Non-compliance is an offence under the Act.

All these aspects of the Water Act have the object of sustainable use of water resources, which runs through the entire Act. Waste, misuse and pollution, which may lead to unsustainable use of water, are prohibited.

The Fisheries Act

This Act regulated fishing, conservation of fish, the catching of crocodiles and the sale and movement of their skins through issue of licences. It was amended by Section 92(3) of the Wildlife Statute by deleting from all its provisions any reference to crocodiles. The management of crocodiles was thus brought under the Wildlife Statute.

The Act provides for the protection of fish by regulating the size of nets, prohibited fishing methods, and makes provisions for conservation through the prohibition of fishing immature fish, declaring closed seasons and regulating vessels of non-citizens from fishing in Uganda without a valid licence. The Act also attempts to conserve fish by prohibiting the introduction of some species of fish or eggs that were not indigenous to Uganda, or the transfer of fish or fish eggs from one water body to another without the consent of the Chief Game Warden. It does not make express provisions for regulating international trade in fish species and should, therefore, be amended to match the present day conservation and management trends in fisheries resources.

Status of compliance and Enforcement of Environmental policies and legal frameworks

- Despite the excellent policies, laws and existing institutional frameworks at national and local levels we note with concern the escalating rate of environmental degradation and declining state of the environment due to inadequate compliance and Enforcement

This has resulted in;

- Dwindling Public Trust;
- sorry state of the environment and loss of the natural capital has created an additional burden on the state in terms of enforcement costs,
- As a result of the continued degradation, there are emerging security threats including- loss of livelihood support systems and creation of environmental refugees which is a national security issue; and
- Compromises the quality of benefits for future generations and the sustainable development agenda and the future we want that Uganda subscribes to.

AN ANALYSIS OF THE NATIONAL, REGIONAL AND INTERNATIONAL POLICY AND LEGAL FRAMEWORK GOVERNING THE OIL AND GAS INDUSTRY IN UGANDA

This chapter discusses how the quality of institutions that are used to oversee the production, exploitation and management of the Oil and Gas as a natural resource affects the economic growth of Uganda. The chapter essentially examines the governance practices in the exploitation of the Oil and Gas resource in Uganda and considers what the likely impact on Uganda's economic growth will be. The chapter tries to interrogate the effectiveness and ability of Uganda's institutions in managing the Oil and Gas sector and how this governance impacts on the overarching goal of realizing sustainable development in Uganda. The chapter provides evidence to suggest that there has been an attempt at embracing the principles of good resource management although not transparent and holistic enough. The chapter argues that although Uganda's institutions are well intended and enshrined in different petroleum legislations, they still face critical challenges that hinder effective management of the resource. The chapter asserts that the

challenge for Uganda is arguably not the technical approaches to managing oil revenues but rather the political economy context in which they are implemented or managed. Evidently, although the sector is still in its infancy, a lot more needs to be done to enable the government capture the synergies necessary for a robust and aligned management that will deliver positive results for the country. The chapter recommends that the Government should revise the national oil policy, enact enabling laws and create an environment for transparency and accountability in order to achieve good resource management for the oil and gas sector.

The discovery of commercially viable quantities of Oil in the Albertine Graben in Western Uganda was announced by the Government of Uganda in 2006 (Veit, Excell & Zomer, 2011). By end of 2014/2015, Uganda had twenty-one (21) Oil and Gas discoveries with an estimated accumulation of 6.5 billion barrels of Oil equivalent of which 1.4 billion barrels is recoverable. Uganda's Gas reserves are estimated at 672 billion Cubic feet of Gas with 499 billion barrels of non-associated gas and 173 associated gas (MEMD, 2015). There is still considerable potential of discovering more petroleum given that less than 40 per cent of the total area in Albertine Graben with the potential for petroleum production has been explored (see, MEMD, 2017, PEPD, 2017). Oil production is expected to lead to increase in government revenue and promotion of promote development in Uganda (Veit, Excell & Zomer, 2011). This expectation of national benefits from oil production has sparked interests in governance of oil wealth to avoid the experiences of other countries where discovery and exploitation of oil has attracted woes rather than wealth (see Kiiza, Bategeka & Ssewanyana, 2011).

The Government recognizes the critical importance of managing Oil resources well; to avoid the mistakes many other countries have faced (cited in Veit, Excell & Zomer, 2011). This chapter examines the governance institutions and practices in the exploitation of the oil and gas resource in Uganda and their implications Uganda's national development. It explores the challenges of implementation of institutions developed for good resource management. In particular, the authors address how the political economy context affects the full realization of the objectives of the governance institutions in order to find sustainable options for maximally harnessing oil for national development.

Some influential studies have shown the connection between resource-rich countries and the resource curse phenomenon (Sachs and Warner, 1997, 2011; Ross, 2001). The 'Dutch disease' is

one of the noticeable signs of the resource curse. The disease occurs when economic resources shift from a competitive sector such as manufacturing, known for creating economic growth, to a newly booming sector of an economy, especially in the natural resource field. One of the consequences of the disease is the appreciation of a country's currency relative to other currencies, which is often due to the windfall in government revenues from the booming sector of the economy (Rosser, 2007). The volatility of global market prices of natural resources, especially oil and gas, is another manifestation of the curse phenomenon (Sachs and Warner 1997). However, considerable research have been carried to determine how countries richly endowed with natural resources such as Oil and Gas are building and using institutions to attain good governance and optimum benefits from the resources (Anthonsen, Löfgren & Nilsson, 2009; Mehlum, Moene & Torvik, 2006; Isham, Wookcock, Pritchett & Busby, 2005; Collier & Hoeffler, 2005; Sachs & Warner, 1995). This is focused on determining how political and economic options taken by Governments typified by the quality of decisions made, policies and regulatory models selected and institutional frameworks adopted will affect the management of the resources (Weinthal & Jones, 2006; Ibadildin, 2011). Anthonsen, Löfgren and Nilsson (2009) submit that the quality of institutions is critical in explaining the consequence of resources in the economy. This is a marked departure from the existing discourse that posits quality of institutions as an intermediate or intervening variable. Historically, natural resources have had a decisive and positive role in supporting countries to attain economic growth (Karabegović, 2009; Mikesell, 1997).

The list of countries that have had sustainable growth because of natural resources include *Australia, Canada, the United States, New Zealand, Norway, Sweden and Denmark* (Karabegović, 2009). The experiences of these countries suggest that presence of natural resources is not by itself a conclusive basis for attaining economic growth and eradicating poverty (Ross, 2014). The quality of institutions or governance is more instrumental in cultivating economic growth (Schubert, 2006). Several scholars have rightly argued that the quality of institutions determines whether natural resources are a blessing or curse to a given country (Kaznacheev, 2017; Mehlum, Moene & Torvik, 2006). Frankel (2010) conducted an econometric analysis and concluded that possession of abundant natural resources does not lead to the resource curse syndrome. Rather, factors such as commodity price volatility, the Dutch Disease, political and civil unrest and poor institutional quality sets stage for a resource curse. Karl (2006) emphasizes that the resource curse problem is more political than economic. Barma et al. (2012) have also indicated

that governance indicators for most-resource rich developing countries are poor, thus attesting that the resource curse phenomenon has an institutional dimension. Other available evidence posits that the political setting, citizen vigilance and societal institutions determine and shape how natural resources are exploited, and the way the proceeds are put to use for the benefit of the society (Lederman & Maloney, 2012; Okuku, 2015). Given the evidence that strong and efficient institutions promote better resource management systems as evidenced there is much interest in the Ugandan model will work to achieve the successes evidenced in the Norwegian and Botswana models. The next section therefore explores Uganda's current oil resource management framework is fit for this purpose.

Uganda's Legal Framework for Oil and Gas

The Constitution of the Republic of Uganda vests the ownership and control of Petroleum in the Government on behalf of the people (Article 244 of the Constitution of Uganda). Accordingly, the Government of Uganda holds in trust for the people of Uganda all the natural resources, such as minerals and petroleum. Within the constitutional context, the primary framework that guides the management of Oil resources in Uganda is the National Oil and Gas Policy (NOGP) (MEMD, 2008, 2014). With the overarching theme of using the resource to eradicate poverty and create lasting value to Ugandans, NOGP recognises that to attain the ultimate goal, it should have as a primary objective the "development of institutions, including legislation and manpower, necessary for effective management and regulation of the sub-sector." The Petroleum (Exploration, Development and Production) Act 2013 governs upstream activities as is known as the Upstream Act. The Act provides for licensing and management of the Oil resources and the establishment of the principal institutions that are charged with overseeing and supervising the Oil exploration, production and distribution processes in the country.

The second relevant legislation is the Petroleum (Refining, Conversion, transmission and midstream Storage) Act, 2013 ("Midstream Act") that focuses on the subsequent process of refining. The Oil exploration and production activities are also guided by the following subsidiary legislations passed in 2016. These are:

- Midstream National Content Regulations
- Midstream General Regulations

- Midstream HSE Regulations
- Upstream General Regulations
- Upstream HSC Regulations
- Upstream Metering Regulations
- Upstream National Content Regulations

The Government of Uganda also developed a model Production Sharing Agreement (PSA) that is central in guiding negotiations with potential licensees in the Oil exploration and production activities. A model Joint operating agreement has also been put in place. The Oil fiscal regime is defined in the model PSA and the relevant tax legislation, including the Income Tax Act, (Cap. 340 of the Laws of Uganda), and the Value Added Tax Act, (Cap. 349 of the Laws of Uganda). The Public Finance Management Act, 2015, is another legal document that defines a framework for the collection, deployment and management of the revenue from the Petroleum resource. This includes the establishment of a Petroleum Fund (under Section 56 of the Act) that will keep the petroleum revenues collected by Uganda Revenue Authority and the Petroleum Revenue Investment Reserve that will keep the petroleum revenues for investment.

Additional laws relevant to the Petroleum Sector include:

- (a) The Land Act, 1998, which defines property rights in relation to land, and governs access and utilization of land in Uganda.
- (b) Access to Information (ATI) Act, 2005, that guides access to information especially of public interest in Uganda. The ATI Act grants every Ugandan citizen a right of access to state-held information, with exception to infringement of national security or sovereignty, and individual privacy.
- (c) Investment Code Act (CAP 92 of Laws of Uganda), which defines access to investment opportunities, especially in respect to a foreign investor. Crucially, Uganda is a liberalized economy and there are no ceilings or limits on foreign or local shareholdings.

(d) Penal Code Act, (CAP 120 of Laws of Uganda), which defines basic standards in (of) compliance in the country.

(e) Wildlife Act, (CAP 200 of Laws of Uganda), is significant in that a number of National parks and wildlife sanctuaries lie within the Albertine Graben. It is estimated that the Albertine Graben accommodates up to 39 per cent of Africa's mammal species, 51 per cent of its bird species, 19 per cent of its amphibian species and 14 per cent of its plant and reptile species (Viet et al, 2011).

(f) National Forestry and Tree Planting Act, 2003, is also important as the Albertine Graben region is home to a number of multiple-use natural and planted forest reserves.

(g) Public Health Act, (CAP. 281 of the Laws of Uganda), is also important in that Oil exploration and production activities have implications for the health of the citizenry. This is primarily because there will be public health perils if there are no deliberate quality controls imposed on oil production and products.

(h) Water Act, (CAP. 152 of the Laws of Uganda). This Act governs management of water extraction activities in Lake Albert for use in petroleum activities. It is pertinent in the sense that without proper environmental and water management guidelines, water resources would be polluted and mismanaged to the detriment of the society.

The Oil and Gas sector is also being developed and governed in accordance with the National Development Plan that is underscoring programs such as fiscal expansion for front-loading physical infrastructure investment, industrialization through resource beneficiation, fast-tracking skills development and strengthening governance or enabling business environment. The next section explores and analyses the different institutions and practices that have been put in place in Uganda to manage and regulate the Oil and Gas sector. Prior to the coming in force of the National Oil and Gas Policy (NOGP), Uganda's Oil and Gas activities were regulated under the Petroleum Exploration and Production Act, (1985) Cap 150 of the Laws of Uganda that was implemented by the Petroleum Exploration and Production Department under the Ministry of Energy and Mineral Development (MEMD). This was a single department handling all the Oil and Gas activities in the country. This 1985 law, covered exploration operations but did not have adequate provisions to cover development and production operations. The NOGP recommended the establishment of:

- The Petroleum Authority of Uganda to handle the regulatory functions;
 - The National Oil company to handle the commercial interest of the state and
 - Directorate of the Petroleum to advice on policy issues and resource management, these were eventually established under the Petroleum (Exploration, Development and Production) Act, 2013.
- Figure 1 shows the interaction of the recently established institutions together with other Government ministries, Departments and Agencies.

Uganda's Oil and Gas sector shares similar characteristics with the East Timor's governance framework which is internationally recognized as a robust system. The Timor Leste Model of Oil and Gas Revenue Management was developed with assistance from the Norwegian government. The model shows the interconnectedness of various institutions including civil society organizations for the prudent management/governance of oil and gas revenues in Timor-Leste. The Timor-Leste oil and gas revenue management model has been hailed for providing strong foundation for fiscal stability. Investing oil and gas revenues in foreign portfolio and reducing the possibility of the "Dutch Disease" (Mackechnie, 2013). The features of the model include the following:

The Parliament

The Parliament, which has overarching responsibility to provide checks and balances to the Executive, is critical in preventing the occurrence of the resource curse through judiciously using its 'power of the purse' (WBI, 2012). The National Oil and Gas Policy (2014) provide that the role of Parliament is to enact "petroleum legislation including legislation on petroleum revenues and monitoring performance in the petroleum sector through annual policy statements and budget approval processes" (MEMD, 2014). The role of Parliament can be exercised across the Oil and Gas value chain, starting from Upstream activities of exploration, development and production; to Midstream activities, of refining, storage and conveyance through pipelines, to Downstream activities of processing, marketing and distribution (Woolf, 2009; Tordo et al, 2011, WBI, 2012).

The depth of Parliamentary involvement varies among different countries, and this usually starts at the point of initial licensing and contracts of the companies extracting the resource. Given the importance of this level in developing a framework in which the resource will be exploited, some countries raise the profile of Parliament in having powers to approve and/or veto resource contracts

(WBI, 2012). In Azerbaijan and Georgia, the Parliament has constitutional powers to ratify or veto international agreements, including extractive industry contracts. In Egypt, a Production Sharing Contract can only take effect if approved by the Legislature. In Liberia, investment contracts are ratified by Parliament consequent to negotiation and signature by the line Minister (WBI, 2012). The Constitution of the Republic of Uganda mirrors the above practices, as it places considerable responsibility over the Parliament to provide oversight role in the management and exploitation of resources and other operations of the state of Uganda. Parliament of Uganda is accordingly the apex institution mandated to make regulatory laws for the management and exploitation of the minerals and natural resources such as Oil and Gas in the country and the sharing of royalties arising from petroleum exploitation and other related activities. The legal regime in Uganda is however not as strong as say in Liberia or Egypt, where the international agreements or investment contracts are only given effect after Parliamentary approval/ratification. In Uganda, the Minister responsible for petroleum (Minister of Energy) negotiates and enters into petroleum agreements (Section 9 of Upstream Act and Section 8 of the Midstream Act) and only informs Parliament. Although there is a National Resources committee of Parliament, the oversight role of parliament is not visible. As a result, parliament has no control of the negotiated contract terms and appears to be merely a bystander or spectator in the process. The Minister in essence is an extension of the executive and as such this process is prone to political interference and direction.

The only way this can be avoided is to allow the Petroleum Authority to negotiate and enter petroleum contracts instead of the Minister. This was the view held by several legislators during the discussion of the petroleum bills in 2012. In addition, government ought to open up to public scrutiny by providing full disclosure of the contracts, signature bonuses, royalty fees and other payments the government receives from companies. Parliament as well, should be empowered to exercise its oversight role in this sector.

What are the challenges affecting oil and gas industry in Uganda

One of the major challenges for the sector is that the agreements that the executive enters into have always been shrouded in secrecy. The executive argues that agreements have proprietary information that would be inimical to the interests of the investor if placed in the public arena (Veit, Excell & Zomer, 2011). This is a contentious matter and is part of the general point of contention of access to information (Veit, Excell & Zomer, 2011). For example, when Parliament

passed a resolution requiring executive to submit Production Sharing Agreements, the members of parliament were only allowed a glimpse of the signed PSA's. This does not auger well for the future developments in the oil and gas sector. Sections 151 and 152 of The Petroleum (Exploration, Development and Production) Act (2013) seem contradictory. Whereas Section 151 avers that the Minister may provide information about petroleum agreements to the public, Section 152 restricts access to information provided by a licensee to the Minister. In some countries such as Timor-Leste, information on contracts for the exploration, development and production of natural resource is in the public arena (WBI, 2012). The Ugandan legal regime is accordingly weak on accountability (Veit, Excell & Zomer, 2011) and is not even comparable to the regime in Sierra Leone where Parliament has access to resource contracts but with its obligation restricted to providing advisory role that can be accepted or otherwise (Revenue Watch Institute, 2009; WBI, 2012). In the execution of its legislative function, the Parliament of Uganda has enacted a number of laws, as highlighted above, to guide Oil operations in Uganda. The significant slip-up mentioned in this regard is that most of the laws passed by Parliament concentrate powers in the hands of the Executive (the Minister of Energy and Minerals Development), and this has implications on ensuring accountability and transparency in the Oil sector. In execution of its oversight role, the Natural Resource Committee of Parliament noted the following issues that have implications for the quality of governance of the Oil and Gas sector in Uganda (Parliament of Uganda, 2016).

- The Ministry of Energy and Minerals Development is constrained to competently execute its role due to its size and capacity as pitted against the scope of its operations and the widening mandate largely precipitated by the emerging Petroleum sub-sector operations.
- There is lack of an adequate monitoring and inspection regime to oversee mining and generally the extractive industry operations in the country.
- Parliament expressed concern over Government's slow pace in joining the Extractive Industry Transparency Initiative (EITI). This situation was attributable to the Executive's failure to put in place "regulatory and institutional frameworks" that would facilitate Uganda joining global transparency forums. This is recognition that Uganda has some distance in attaining acceptable governance standards

- The country lacks a Petroleum Technical Committee, which is provided for under Section 8 of Petroleum Supplies Act, 2003, and Petroleum Supply (General) Regulations, 2009. The Committee is supposed to advise the Minister on “legislation, technical standards, levies, taxes, prices of petroleum products, develop policies for improving supply of petroleum products - in the country, coordinate preparation of emergency petroleum plans, dispute resolution between participants in the industry and manage applications and licenses to the Petroleum Committee. The last fully constituted Committee had its term expiring in 2014.

- The Parliament also noted that the Executive has failed to provide the necessary finances for the operationalization of the Petroleum Fund as required under Section 9(2)(a) of the Public Finance Management Act. These parliamentary observations have however not led to desired changes because the Parliament only makes recommendations while the Executive is charged with implementation. Moreover, the limited influence of Uganda’s Parliament is largely attributable to the political system in which Cabinet Ministers who are Members of Parliament are selected from the majority party (WBI, 2012). In such a scenario, where the ruling party has an overwhelming majority, Parliament will have no firm basis to develop independent capacities (Barkin, 2009; WBI, 2012). No wonder therefore that it is a common practice in the Ugandan Parliament for the ruling party, the National Resistance Movement, (that controls 293 out of 400 members of Parliament) to have critical Parliamentary decisions made based on prior deliberations and commitment agreed on in the NRM party caucus. Parliament has generally become a rubber stamp of the NRM party decisions, as all Parliamentary institutions are under the control of the NRM which is the dominant party.

The Cabinet

The Cabinet is the Executive arm of Government that directly supervises the Ministry of Energy and Mineral Development. The Cabinet is responsible for approving policies and administrative mechanism to guide governance and operations. It also approves draft legislation that is submitted to parliament, and gives consent to production sharing agreements (MEMD, 2014). The Cabinet approved the National Oil and Gas policy and model production sharing agreement that have been used in the negotiation by MEMD with potential investors (MEMD, 2008, 2014). There is, however, a grey area over Parliamentary and Cabinet oversight. The Cabinet approves the Policy which guides the design and enacting of the appropriate legislation. If the policy was to be in

discord with the legislation, the framework does not provide how such a contradiction will be managed. For example, whereas the National Oil and Gas Policy places the responsibility for approving the policy on Cabinet, and the Minister providing policy guidance to the sector, the Petroleum (Exploration, Development and Production) Act 2013) provides in Section 8(b) that the Minister will be responsible for “initiating, developing and implementing the oil and gas policy”. On this count, it is possible for the Minister to change policy without recourse to any party in the country.

The Ministry of Energy and Mineral Development

The Ministry of Energy and Mineral Development is the parent ministry under which the oil sector is managed and regulated (MEMD, 2008). Section 8 of the Upstream Act, 2013, spells out the functions and powers of the Minister in this Ministry to include issuing and revoking licenses, submitting draft legislation to Parliament; developing policies and regulations; negotiating and approving agreements and field development plans; and promoting and sustaining transparency in the petroleum sector. The Act gives the Minister of Energy unlimited powers to negotiate grant and revoke oil licenses. The Minister of Energy in Uganda has evidently been given unusually strong powers to manage the sector and this has raised some eyebrows in many sections of the population (see, International Alert, 2011; WBI, 2012; Veit, Excell & Zomer, 2011; Golombok & Jones, 2015; ASF, 2015). The concentration of powers and responsibilities in a single person may breed risks. For instance, Section 47 of the Upstream Act gives power to the Minister of Energy and Mineral Development to open up areas for petroleum activities. The Act stipulated the process as follows:

An assessment must be made of the impact of petroleum activities on trade, industry and environment, possible risks of pollution and of the economic and social effects that may result from the petroleum activities. A report is then submitted to Parliament and the Minister makes a public announcement of the new areas to be opened, while impact assessments are made available to the public. Within 90 days, interested parties may present to the Minister their written views on the intended petroleum activities. Where the views are positive, the areas will be opened but where the views are negative. The Minister has the authority to determine whether or not to open the area. This evidently presents an opportunity for public involvement with one hand, but takes it away with the other by giving the Minister total discretion to decide whether or not to open the areas.

The Minister is also mandated to develop a model Production Sharing Agreement, which has to be approved by Parliament. Once approved, this model is supposed to guide future agreements. The Act has been criticized for not having any provision for disclosure of the contents of the agreements that Uganda has made over the years in the oil sector. The Ugandan public has been left in the dark regarding the details of all production sharing agreements, which is contrary to the International norms of transparency in the sector and the local access to information act. This matter became a point of public interest¹ when in 2005 a Member of Parliament and two journalists took Government to Court over the restriction of access to information on Oil contracts on account of public transparency. The Court ruled in favor of Government as the petitioners failed to show “the public benefit of disclosing the information to the public.” In 2010, Government conceded and tabled parts of the Oil contracts in Parliament with a caveat that the matter cannot be subject to parliamentary debate.

According to the law, the Minister is also responsible for appointing the Boards of Directors for the Uganda National Oil Company (NATOIL) and the Petroleum Authority of Uganda (PAU) although these have to be approved by the entire Cabinet and Parliament. Interestingly, Parliament rejected the nominee for the Chair of the Board for the Petroleum Authority on account of lack of requisite knowledge and exposure to the Oil and Gas industry (New Vision, July 14, 2014) In general, the Petroleum Act gives the Minister too much discretionary power to approve licensees and their content, which arguably puts the sector at risk, as there seems to be no checks and balances on the Minister. The powers vested in the Minister appear to be too far-reaching. There is also potential for confused lines of authority. Many countries that have failed to utilize oil for the benefit of their citizens like Nigeria and Angola have similar institutional structures where substantial decision-making powers are vested in a single institution with very limited checks and balances (Hammond, 2011; Mähler, 2010). Centralization of power poses a major challenge to the oil sector and undermines the authority of the oil governance institutions (Patey, 2015). There is evident political interference in the management of Uganda’s oil and gas sector. Several newspaper reports have revealed the President’s role in the management of the sector. The President has insisted on maintaining a firm control over the oil industry, reportedly stating: ‘In the case of petroleum and gas, I direct that no agreement should ever be signed without my express written approval of that arrangement’. The powers vested on the Minister of Energy and Mineral Development in Uganda are excessive and create a conducive milieu for possible misuse and abuse

(Veit, Excell & Zomer, 2011; Golombok & Jones, 2015; International Alert, 2011). There have been a number of opaque events swirling around the Government's management of the Oil and Gas industry in Uganda that undermine the credibility and quality of governance institutions and practices. For instance, top ministers were accused of taking bribes to support some international oil companies in acquiring a stake in the country's resource in October, 2011. Similar accusations were also made against the President. Although accused officials have denied the allegations, the suspicions and allegations have dented the image of the Government of Uganda. Transparency is undermined by the limitations of access to information laws that give contradictory positions on the right of citizens to access information (Veit, Excell & Zomer, 2011). In spite of passing the Access to Information Act, Uganda has the following laws which seem to impinge on unfettered right to access information:

(a) 1964 Official Secrets Act (CAP. 302) of the Laws of Uganda, that provides for secrecy in matters such as security and defense),

(b) The Evidence Act of 2000 and the 1955 Parliament (Powers and Privileges) Act.

There has been an argument that the Courts may have been overzealous in taking the Government position as there is universal consensus on accessing information by the citizens.

The Petroleum Act allows access to information in Section 152, and then prohibits access to information in Sections 153, 155 and 156 in a manner reminiscent of the authoritarian regimes (Hammond, 2011). The government has of today released only partial details of the PSAs to Parliament but has not disclosed these to the public (WBI, 2012). This lack of transparency has created lingering suspicions that the PSAs were not well negotiated for the benefit of the people of Uganda. Uganda does not subscribe to the Extractive Industries Transparency Initiative (EITI) which requires its member Countries to publish all payments made by oil, gas, and mining companies to government, and all revenues received by the government from those companies. EITI compliance helps to prevent oil, gas or mining revenues being mismanaged or lost to corruption. Experience shows it also leads to improvements in the tax collection process and boosts public finances as it has in Ghana and Nigeria.

The Petroleum Authority of Uganda – The Regulator

One of the key institutions put in place to regulate Uganda's Oil sector is the Petroleum Authority of Uganda (PAU). Section 9 of the Act provides for the establishment of PAU. The Authority was established in 2015 as an independent body corporate with the following major functions (as defined in Section 9 of the Act): advising the Minister over the negotiation of petroleum agreements and in the granting and revoking of licenses; ensuring that licenses uphold laws, regulations, rules and contract terms; and overseeing compliance by oil licensees with the provisions of the Act and regulations made under it. The PAU had its Board of Directors approved by the Parliament in September 2015, so work begun 2016 mainly to organize the company and recruit personnel. Although the mandate of the Petroleum Authority is laid out in the law, there is still potential for confused lines of authority (Shepherd: 2013).

The legislation lays down some important rules for ensuring the impartiality of the Petroleum Authority, intended to 'monitor and regulate' petroleum activities. However, there are also significant ambiguities like the relationship between that body and the Minister. The Petroleum Authority is set up as an independent body but in practice it may play more of an advisory role. It is required by law (Section 13(1) of the Act) to comply with written instructions from the Minister and this poses risks of political interference in its decision-making. This paves way to possible blurring of lines of accountability. As a number of critiques have observed (Revenue Watch: 2012, and Shepherd: 2013), it seems that there is some dual governance structure where the Authority and the Minister share the top seat depending on the issue at hand. It is important that there is a clear definition of mandate between the Authority and the Ministry, lest the country is open to a risk as the system will create unnecessary duplication or bureaucratic delays, and multiply the potential for bureaucratic competition, corruption or mismanagement (International Alert, 2011). This may easily lead to situations where the Minister and the Authority may try to deflect the responsibility for their actions onto the other. At this point, the lines for conflict and blurred relationship is a conjecture as the Authority has not fully started operations to make those hard-operational decisions that may bring it in the way of political leadership of the country. It is after that point that more objective analysis of the relationship can be made. There is growing recognition that governance institutions such as the Ministry of Energy and Mineral Development -and more specifically the Directorate of Petroleum- is simply too lean to fully execute its role in the Petroleum sector (MEMD, 2016; Parliament of Uganda, 2016). The effort to reorganize and

strengthen the Ministry has been constrained by limited funding. Funding has also affected both strategic and operational business activities of fully developing the oil and gas sector in the country. Government has also been slow in developing and skilling human resources for the sector (Kashambuzi, 2010).

Uganda National Oil Company (UNOC) – The Business Arm

Section 42 of The Petroleum Act (2013) also provides for the establishment of a National Oil Company, which is supposed to handle the state's commercial interests and manage the business aspects of state participation in oil. According to Section 43 of the Act, the role of the National Oil Company (UNOC) will primarily include handling Government commercial and business interests and participation in the Oil and Gas sector. UNOC was officially incorporated on June 12, 2016 as a company limited by shares, under the Companies Act 2012, but wholly owned by government. The company has two shareholders namely; the Minister of Energy and Mineral Development who holds 51 percent shares and the Minister of Finance, Planning and Economic Development who owns 49 percent shares on behalf of the Ministry. Upon its incorporation, the company became a separate and distinct legal entity from its subscribers and it can sue or be sued in its own name, enter into legally binding contracts and own property. The PSAs also provide for government participation through carried interest of up to 15 percent in licensed oil fields (MEMD, 2014). The Governing Board for NATOIL has already been put in place by government and a number of top managers have also been recruited (New Vision, August 18, 2015). NATOIL is set to manage the government's interests in upstream and downstream activities. It will manage the country's share of petroleum received in kind, as well as business aspects of state participation and develop in-depth expertise in the industry. The company is expected to boost energy security, improve revenue generation, and help reinvest profits in economic development and job creation. It is also expected to handle up to 40% government interests in an oil refinery that has an estimated cost of US\$4 billion (MEMD, 2017). UNOC is also expected to hold a substantial interest in the East African Crude Pipeline through its subsidiary the National Pipeline Company. The Act provides high standards for appointment to the Board of Directors of both PAU and NATOIL. The power to appoint the members of the Board lies with the President and subject to approval of Parliament. The high standards (or vigilance of parliament) resulted in non-confirmation of some of the nominees that the President had submitted to Parliament (New Vision July 14, 2014). The Act stipulates that the Petroleum Authority will focus on regulation, while the National Oil Company

will actually engage directly in the industry on behalf of the government. The standard model for the organization of oil regulation is one that sees a ‘separation of powers’ between a petroleum authority, national oil company and Ministry (Shephard, 2013). This is the kind of model that was adopted by Norway, which brings the major advantage of - separating licensing and monitoring functions from the day-to-day pressures of government, and allowing an independent national oil company to develop technical capacity (Shephard, 2013). The same cannot be said for Uganda.

The Investment Advisory Committee

Section 66 of the Public Finance Management Act (PFMA) provides for the establishment of the Investment Advisory Committee, which is mandated to advise the Minister of Energy on the Investments to be made under the Petroleum Revenue Investment Reserve (PRIR).

Although this investment committee is not yet in place, it is supposed to be composed of seven members with representatives from the Ministry of Finance; the Ministry for Petroleum Activities; and the National Planning Authority (NPA) as well as four persons who are not public officers but appointed by the Minister of Energy (MEMD, 2017). Again here, it is left to the discretion of the Minister to decide what the terms of appointment for this committee will be, which may be risky in itself, as the Minister can be prone to corrupt tendencies if there is no clear system in place to check any excesses. Section 62 of the PFMA provides that funds to be invested in the PRIR will be appropriated annually from the Petroleum Fund by Parliament. The red flag on this matter has been raised by the Parliament’s Natural Resource Committee which has indicated that in line with the subsisting legal framework, Government is obliged to remit Oil and Gas revenue to the Fund (Section 57 of the Public Finance Management Act, 2015) which can easily be misappropriated if the regulatory framework is weak. Government for instance received funds from the Tullow Operations Uganda that was assessed by Uganda Revenue Authority to the tune of USD 36,058,521 or UGX. 119,323,709,754 and this was supposed to have been remitted to the Fund (Parliament of Uganda, 2016). It is not clear today where this money is now. The notable omission and challenge to Government is that it currently does not have clear guidelines and procedures for managing the oil revenue (2016/17 Committee report). This is an indictment of the Governance institutions responsible for the Oil and Gas sector. It is also important to note that if the Petroleum Fund is not credited with the inflows, then the Reserve will be non-functional. Section 63(2) of the Public Finance Management Act provides that the PRIR is to be managed by Bank of Uganda

within the framework of a written agreement signed between Minister responsible for Finance and the Governor of the Bank of Uganda.

information exchange - The flow of ENR information and support between the center and LG environmental officers is not systematic, prompting concern about the reliability and maintenance of national Sectoral Issues / Challenges

Persistent low funding affecting government capacity and ability to manage and protect the nation's vital natural resources base - ENR is a low priority: it gets less than 1% of government public expenditures

Insufficient staffing in subsectors affecting government capacity effectively implement government policies, programmes and enforcement of legislation;

Insufficient community participation in environment and natural resources management;

Absence of coordinated central Information management system to generate credible data to guide timely decision making; Failure to provide for coordinated Research and Development that provides for innovativeness for solutions that drive environmental performance Treatment of ENR as a Crosscutting Issue - Weak mainstreaming of environment management concerns across sectoral plans, projects and programs: Crosscutting environmental issues are to be mainstreamed into the objectives and activities of other sectors at the planning stage, yet there is often no matching budget allocation – neither in the environment budget line for the ENR sector, nor in the budget of the sectors into which the environmental activities are supposedly mainstreamed Weak enforcement and monitoring mechanisms for ENR compliance.

The failure to provide for alternative social livelihoods safety nets and access to justice and remedy for poor and marginalized communities that use the ENR as the fallback position;

Linkages between the Central and Local Governments do not foster capacity support and

ENR

Existing Opportunities

- New National Environment Act (NEA 2019) legislating on new emerging issues and some sections of the law strengthened
- Compliance assurance tools that ensures environmental planning, auditing, assessment and improvement programs
- Sectoral policies and laws that already provide for environmental sustainability
- ENR governance institutions mandated with ensuring compliance and enforcement; MWE, NEMA, EPF, NFA, etc.
- Financing mechanisms that can be targeted for funding

RECOMMENDATIONS

- Review the environment and natural resource management tools that are currently used to harmonise the levels of developments and publicize the approved Environment Impact Assessments, Permits and Licenses in the public places including relevant websites and print media.
- Undertake a critical analysis of the competencies and skills available at the district level and endeavor to increase funds to match the decentralized functions.
- Empower the EPPU to use their professional knowledge and skills to expeditiously handle environmental crimes.
- Operationalize one data management system for ENR to monitor and generate credible data and use it to generate annual reports to guide timely decision making;
- Rebranding ENR sub-sector with focus on the new orientation and new methods of work that will address the current challenges of ENR sector performance including improved citizen participation, transparency and accountability at all levels;
- Improve the decentralized management of ENR – thru strengthening technical and financial support and backstopping;

- Use the existing high level political will to reach the different power centers (Military, Internal affairs, Presidency and the influential developers with the high affinity for public natural resources) to strengthen compliance monitoring and enforcement processes that the sub sector challenged with;
- Establish local response mechanisms, which empower communities to undertake community policing for protecting the natural resources under their jurisdiction. E.g. establish a toll free line for community and stakeholders reporting abusers and a quick response mechanism to respond to the reports without endangering the reporters;
- Promote Private Sector involvement in the management of the environment and natural resources;
- Re-invoke the Name and Shame strategy for degraders to promote transparency and accountability;

Conclusion

In the 1990s to present, the Government of Uganda has strenuously attempted to implement the principle of sustainable development through the enactment of laws on the management of the environment and natural resources. These laws have established institutional arrangements to superintend this process. The emphasis in these laws has been to create the necessary institutional coordination and harness the available synergies available in government for managing the resources. The participation of the public in achieving management objectives has been a key target of the law. The law has, therefore, emphasized the creation of the necessary avenues for public involvement through awareness rising. Another important trend in these developments has been the orientation of the law towards giving natural resources and the environment value by emphasizing economic and social instruments.

FINDINGS AND RECCOMENDATIONS

Uganda is no different from other countries; it has incorporated the idea of EIAs in its domestic laws. The constitution of the republic of Uganda of 1995 under Article 27 section (3) identifies the need to utilise and manage the natural resources in a way that meets the development and environmental needs of the present and future generations of Uganda. The state is to take up all

possible measures to prevent or minimise the damage and destruction of land, air and water resources as a result of pollution or other causes.

The National Environmental Management Authority (NEMA) further is mandated under the 1995 National Environmental Act, Chapter 153, to promote and ensure compliance with sound management practices as the competent authority. Expounding on the mandate, is the requirement under Part V of the same Act, Section 19, for NEMA to ensure that all projects which may have, are likely to have or have significant impacts on the environment undergo the process of EIA. A detailed list of the projects to be considered is found Schedule 3 of the same Act and includes oil and gas related projects i.e. exploration for the production of petroleum, oil refineries and petrochemical works.

Also to enable the smooth implementation of the EIAs, NEMA came up with the Environmental Impact Assessment Regulations, 1998, that cover requirements that must be satisfied in the entire process of conducting, reviewing and approving EIAs as illustrated in figure 2 below.

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 Act 2003; Investment code 15 sections 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.

The possible controversy of the EIAs is most likely to arise from Article 30 and 33 of the same PSA. Much as Article 30 of the model agreement requires PSAs to be governed and interpreted according to other applicable laws, Article 33 of the same emphasises confidentiality of the agreement and information; this may hinder NEMA from its smooth operations since the EIA exercise entails public participation. This risk may further be heightened by the failure to define the word —applicable law in both the Petroleum (EDP) Act and in the model PSA. 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, 16 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.

4.2 Stakeholder participation Stakeholder participation is vital for the sustainable management and development of natural resources/water and environment (NEMA, 2012). A Stakeholder to a project is a person or group of persons who need to be considered in achieving project goals and whose participation and support are crucial for the success of a project. This may include a person who is positively or negatively impacted by the project. To appreciate stakeholder participation, stakeholder analysis is vital. Stakeholder analysis is key because it helps in understanding the system and also assessing the impact of change to that system through identifying the key actors/players or stakeholders and their level of interest in the system (Grimble & Wellard, 1997)

Three phases and six steps are summarised by Reed, M et al (2009) in which stakeholder analysis may proceed. In Phase 1, the context for stakeholder analysis is defined by stating the issue, intervention or organisation for which the analysis will be conducted, as well as the boundaries of the same. The second phase involves identifying stakeholders, differentiating between and

categorising the stakeholders, and investigating relationships between them. After doing this, it becomes easier to determine the required action (Phase 3). Actions may include future activities and deciding which stakeholders to engage, and extent of engagement required.

In Uganda, the stakeholders in the EIA process comprise of Government Agencies, the Oil Companies, NGOs and Civil Society Organisations, and the public.

In Uganda, an environmental management pillar, led by NEMA as part of the three pillars formulated in the management of oil and gas in Uganda was established. This pillar involves key players/institutions who are mandated to manage any impacts related to O&G activities on the environment and biodiversity.

Key players Role

NEMA (NATIONAL ENVIRONMENT AUTHORITY)

NEMA's roles are to: Develop legislation to govern EIAs; Guide the process of EIA review, implementation and monitoring to ensure that appropriate action is taken after identifying potential impacts; Spearhead collaboration with Lead Agencies (MEMD, MTWA, UWA, MWE, MGLSD and districts)

MEMD (Ministry Of Energy and Mineral Development) As one of the Lead Agencies in charge of overseeing all petroleum activities from the upstream to downstream, it is required to monitor and ensure that all the oil companies are in compliance with the existing laws, regulation and agreements on the environment. MEMD also gives feedback to NEMA when consulted regarding Project Briefs, Scoping Reports, Terms of Reference, EISs and

Environmental Audits (EAs)

They are also required to coordinate with other Lead Agencies such as UWA Oil Companies 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 self- monitoring basing on existing legislation and best environmental practices.

Uganda Wild Life Authority (UWA)

UWA is required to guide on any oil operations to take place in the National parks or reserves. As also a lead agency it is required to give feedback during EIA screening when contacted by NEMA and MEMD.

Ministry of Water and Environment (MWE)

MWE reviews projects located in wetlands for their impacts and assesses the proposed mitigation measures. It also reviews EIAs for water needs/measures to treat effluent and issues on abstraction/discharge permits and mitigations measures proposed. Ministry of Gender Labour and Social Development

MINISTRY OF GENDER, LABOR AND SOCIAL DEVELOPMENT (MGLSD)

MGLSD is supposed to assess the adequacy of Occupational Health and safety measures proposed in the EIAs.

District Local Government (DLG) (where projects are located)

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.

Environmental Audit practitioners (EAP)

These are private consultants certified by Environmental Practitioners of Uganda. They are contracted by the developer to conduct EIAs and Environmental Audits on their behalf.

The public (NGOs, Local residents)

These should be consulted during the scoping, EIA, and during public hearings- if any are held.

From the matrix it is clear that NEMA and MEMD have high interest and power because they have the primary mandate on the Environment and the oil and gas activities respectively. UWA, MWE, DLG, MGLSD are Lead Agencies; the public, oil companies and EIA practitioners form part of the stakeholders. 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 (OAG, 2014). Also, concerns have been raised about the independence of EIA Practitioners from the Oil companies who give them work, and the quality of work done (OAG, 2015), an issue further discussed in the next section.

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.

Similar to the SADC countries discussed earlier, the Public in Uganda is given a chance in the law to comment on EIAs during Scoping and in the process of the actual EIA. The law also requires NEMA to call for comments from the general public on all projects (EIA Regulations, 1998, Section 19), as well as from the communities immediately surrounding the project (ibid; Section 20). Further to this, the Authority may also hold a public hearing, if the Executive Director deems it necessary (Sections 21 and 22).

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 (OAG, 2015).

However, it is not clear when consultation would be —deemed inadequate by NEMA, since the law regarding public participation in EIAs does not provide for measures on assessing the quality of involvement or participation (Schwarte, 2008). The same Author further observes that whereas the public especially NGOs and local residents have great interest in the environment, they are constrained by accessibility of information and participation in decision making. The experiences

by International Alert (2013), agree with this assessment consultation during the EIA process is limited and not participatory. Also the EIA reports are not availed to the public for comments, and the results are not simplified to enable local leaders and communities understand them and monitor implementation of mitigation measures. The general lack of knowledge on knowledge about environmental related impacts in oil and gas also makes it quite a challenge for local communities to follow the proceedings during public hearings and hence hard to challenge the developers (Schwarte, 2008).

To top it up, Schwarte reports that even when oil companies try to engage the NGOs and local communities on EIA requirements, they are obstructed by local politicians who feed locals with false expectations from oil activities; these politicians' statements water down efforts by other government officials to educate the affected communities, leaving a great information gap (Ibid).

Quality of EIAs and implementation

Section 14 of the Environmental Impact Assessment Regulations, 1998 spells out areas that should be incorporated in the EIS. As part of implementation, the developer is required to do regular self-monitoring, and an Environmental Audit as frequently as stipulated in the EIA Certificate of Approval (normally 1 year from the date of approval or immediately the project is completed (OAG, 2015)).

Generally the quality of EIAs conducted in the Oil and Gas Sector and their implementation has not been adequate, just like in the SADC countries as discussed in chapter 3, though there has been an improvement over the years.

The main gaps noted relate to inadequate analysis of baseline characteristics due to limited data; lack of detailed analysis of project alternatives since most EIAs are conducted after the work programmes for the year have already been approved by MEMD- as such, a particular project alternative (preferred by the Oil company) has already been approved, and procurement of inputs initiated without considering other options that would be suggested by the EIA; failure to assess cumulative impacts is due to the absence of the of consolidated information of planned and on-going activities for the different areas where the oil related operations are to be implemented; And lastly the during impact prediction, there is reliance on qualitative description that are subjective, rather than using scientific models (OAG,2015).

Also the Environmental Practitioners have some capacity gaps as echoed by oil companies and their work does not meet ‘international standards’ for the sector. The Environmental Practitioners acknowledge the quality gaps and attribute them to the novelty of the sector, and the fact that there is no obligation for them to continuously improve their services (ibid). However, the Practitioners state that they are improving the quality of their work by adopting international standards. Also, NEMA states that is set to introduce more stringent measures to ensure higher quality practitioners are certified (ibid.)

On the side of monitoring, the Oil Companies normally conduct Environmental Audits long after the activities have ceased. Also, the practitioners only look at practice at the time of Audit, and do not review the self-monitoring reports produced by the Oil companies. Besides there is hardly any guidance on the parameters to be followed by Oil Companies during self-monitoring (Ibid). This means that the performance throughout most of the project life is not assessed. Furthermore, the Lead Agencies and NEMA do not adequately conduct inspections of the Oil companies to ensure compliance with EIA conditions of approval. Even where the monitoring is done, feedback is rarely given to the oil companies, and where it is done, it’s not timely (ibid.). All the above present the missed opportunities for improvement. Just like in the SADC countries already discussed, the above gaps are attributed to limited skills, as well as resource constraints. However, the actual problem may well be failure to prioritise areas for inspection, since according to OAG (2015), NEMA does not rank areas to monitor according to associated risk. Therefore, it cannot determine where to concentrate its resources.

CONCLUSION

This chapter concludes that Uganda is not yet fully prepared to effectively manage EIAs in the Oil and Gas sector. Although the legal framework is generally in place, some supporting legislation to enable effective operationalization is lacking. In addition, the decision by NEMA to undertake public consultation only at their discretion is contrary to the law, and limits meaningful public participation in the EIA process. Other constraints include inadequate finances, and knowledge gaps on the part of Practitioners and Lead Agencies. 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.

THE ENVIRONMENTAL, HEALTH AND SAFETY IMPACTS CAUSED BY OIL AND GAS EXPLORATION AND PRODUCTION SECTOR IN UGANDA

Recognising the need for environmental protection during the oil and gas operations, environmental management and control mechanisms have been evolving over time in various countries. Among which are the Environmental Impact Assessments (EIAs) that also incorporate the social and cultural aspect. Uganda having discovered its commercially viable Oil deposits in a complex and eco sensitive area is faced with the dilemma of developing the resource whilst protecting the environment. This paper therefore assesses the preparedness of Uganda to handle EIAs in the oil and gas sector basing on the legal and institutional framework, public participation and quality of the EIAs and implementation. It concludes that Uganda is not fully prepared to take up EIAs in the sector and this has created room for Oil Companies to exploit the loopholes identified to their advantage. Nonetheless it is possible to improve on the EIA system if National Environment Management Authority (NEMA) realises the power it has through its legal mandate and also continues engagement of the public.

The Energy Sector has become a key sector as the driver of an economy. As the sector grows and demand increases, diversified issues have also merged in this sector including macro-economic driven issues, geo- political, and environmental concerns (Bhattacharyya, 2011).The environmental concerns/impacts have recently been an issue in the sector particularly in the oil

and gas sector. This is due to the complexity and sensitivity of the area and the surrounding environment where these operations take place (Borthwick et al., 1997).

Previously in the petroleum sector, traditional notions such as good oil practice, sound technical and engineering principles formed a basis in the national legislations and contractual arrangements for environmental protection. However, these have gradually been replaced with environmental management and control mechanisms. It entails the use of Environmental tools among which are the Environmental Impact Assessments (EIAs) (Vinogradov, undated)

EIAs have gained acceptance all over the world and the definition of the same has evolved over time. They have been in place since 1970s and despite their increased spread, they are still new in some countries and they are not uniformly implemented (Abaza et al., 2004). The International Impact Assessment defines EIA as _a process of identifying, predicting, evaluating and mitigating the biophysical, social and other relevant effects of proposed development proposals prior to major decision being taken and commitment made (Glasson J et al., 2013).

This process involves screening of projects, scoping, consideration of alternatives, description of the project actions, description of the environmental baseline, identification of main impacts, prediction of impacts, evaluation and assessment of the impacts, mitigation, public consultation, Issuance of Environmental Impact Statements, review, decision making , post-decision monitoring and auditing. Glasson J et al (2013) further identifies four purposes of the EIAs as explained which include;

a) An aid to decision making. This way EIAs manifest as better technics than the Cost-Benefit Analysis since they give a systematic examination of the implications to the environment as result of a proposed outcome. In the end EIAs strike a balance between the interest of the development action and the environment.

b) An aid to the formulation of development actions Much as developers may look at the EIA process as a stumbling block to their development due to the costs and time involved; it actually helps them to identify the potential environmental impacts at early stage and if wise they can take it as an opportunity to negotiate for environmental gain solutions.

c) A vehicle for stakeholder consultation and participation. This has been evolving over time and it entails consultation of key stakeholders and the public as a whole. This gives an opportunity to everyone in decision making. Reed et al (2009) also emphasised the issue of public participation and the need to understand the powers of all participants in the decision making.

d) An instrument for sustainability development the rationale is prevention is better than cure. For the future generation to gain from the environment, it is essential to identify the potential impacts in the planning stage and see how they can be mitigated. This issue has been transformed to environmental sustainability as is defined as ‘as meeting the resource and services needs of current and future generations without compromising the health of the ecosystems that provide them.’ (Morelli, 2013)

Further, EIAs have moved away from considering only the natural environment but rather incorporate the social - economic environment, cultural environment and health (Norwegian Environmental Agency, 2015). And as a tool for sustainability, it involves the optimisation of positive effects while minimising the negative effects (Ibid). This may imply integrating local content into the EIA system.

Also in carrying out EIAs, Wilbanks and Kates (1999) emphasised the issue of geographical scaling. They argue that focusing alone on the local scale can lead to explanations in relations to the local causes yet the most important factors in the process may be at regional and global scale. On the contrary focussing on large scales may lead to over generalization. Taking a look at the appendix 1, the map clearly shows the need of regional scale while carrying out EIAs.

From that brief this chapter seeks to assess the preparedness of Uganda to deal with EIAs in the Oil and Gas Sector. The paper relies on three aspects i.e. legislation and institutional frame work, Stakeholder participation and quality of EIAs and implementation to draw conclusions.

Uganda is one of the emerging natural resource-rich countries endowed with a range of natural resources. In 2006, she confirmed commercially viable oil deposits from the Albertine Graben in the Western arm of the East African Rift Valley (Ministry of Energy and Mineral Development (MEMD), 2008). Since then, Oil related activities have been going on in the Albertine Graben under the operation of three Joint Venture Partners, Tullow Uganda Operations Pty (TUOP), Total E&P Uganda (TEP) and China National Offshore Oil Corporation (CNOOC).

Currently, Seventeen (17) discoveries have been appraised out of the twenty one (21), but only the Kingfisher Field under the operation of CNOOC has been issued a production licence while other fields are still under negotiations. Also the Government of Uganda has entered into a Memorandum of Understanding with the licensed companies to commercialise the discovered resources expecting commercial production in 2018. Further, plans for the construction of a refinery have been concluded and a Russian company RT Global Resource is to lead the project (MEMD, 2015).

Whereas all these portray advancement in the sector, environmental protection for sustainable development generally remains a key concern to policy makers. This is evidenced in the Strategic Development Goals where environmental protection for sustainable development is a key target (Ministry of Finance, Planning & Economic Development, 2015). It is even more unique in the petroleum sector due to the sensitivity of the Albertine Graben (AG).

The AG is sensitive due to the great value attached to it in terms of ecological and biodiversity significance yet at the same time it holds the biggest percentage of the oil and gas resources (MEMD, 2013)

Key potential Environmental impacts related to the Oil and gas activities

The Oil and Gas (O&G) industry, by its nature, is potentially destructive to the environment. In identifying Environmental impacts, it is vital to predict the magnitude of the Impact, extent of the impact, duration of the impact, the significance of the impact and, critically to what extent it might be reversible or capable of mitigation. Such predictions are to be based on the available environmental baseline of the project area (Ogola, 2007). The NEMA's Environmental Sensitivity Atlas of the Albertine Graben of 2010 clearly brings out a broad view of the potential Environmental impacts in the Albertine Graben. This shows a positive recognition of the need to develop the resource whilst protecting the environment.

Each stage of the petroleum cycle is associated with potential environmental impacts, but notably at the stages of Exploration, production and transportation (Vinogradov, undated). The sources of the potential impacts include site selection and preparations, access (constructing access roads and vegetation removal), camps and operations, decommissioning and restoration/after care among other (Borthwick et al, 1997).

Impacts on wild life and ecosystem

The Albertine Rift is considered as one of the richest biodiversity areas in Africa and at the same time a home to very many sensitive ecosystems. It houses more Vertebrate species than any other area on the continent (Plumptre et al 2007). The same authors in their analysis found out that this area contains about 402 (40%) mammals, 175 (14%) reptile species, 1061 (50%) birds, 119 (19%) amphibians found on Africa's mainland. However this range of biodiversity is found in vast protected areas including Forest reserves, Wildlife reserves and National parks. Surprisingly areas such as Murchison Falls National park, Bugungu, Kabwoya and Semliki Wildlife reserves are all found within the oil blocks and have already or will continue to suffer impacts as the oil activities go on (Kityo, 2011). Also the recently concluded exploration bidding round for the new oil blocks on offer includes Ngagi block- half of which falls within Lake Edward and part of Queen Elizabeth National Park. Lake Edward extends to Virunga National park which is a UNESCO world heritage site for mountain gorillas. Even before actual activities take place in this area, there have been concerns on the grave environmental impacts in this area (Offshore technology.com, 2016). Kasimbazi (2012) added that this Albertine Rift area generally provides ecosystem services such as tourism and aesthetic values. However as the oil and gas related activities increase, there is a likelihood of the disruption of tourism activities as much as the disruption of wild life.

Aquatic impacts

Aquatic impacts can occur at any stage especially during exploration and production. It is also known that water bodies contain various wildlife such reptiles, mammals, amphibians and even birds that leave with in or near the water bodies. Also other invisible species like insects and other invertebrates that are vital in the ecosystem exist in these water bodies. These can be affected by the oil waste in the category of aqueous waste stream from the activities of exploration and production i.e. produced water, cutting and well treatment chemicals, drilling fluids, domestic water, sewage among others (Borthwick et al, 1997). The issue for Uganda is even more complex due to the complex water system. The AG houses rift valley lakes which include Lake Albert, Lake Edward and Lake George. There is also the Kazinga Channel which connects Lake George and Lake Edward. Also the area is navigated by the River Nile through Lake Albert and River Kafu and drains into other lakes Kasimbazi (2012). Lakes Albert and Edward are shared by Uganda and Democratic Republic of Congo (see map in Appendix 1). This also practically raises the whole question of how best to implement EIAs for the effective management of these international waters

and the role of the UN watercourses convention. Atmospheric impacts Oil and gas developments have caused great atmospheric impacts especially in the surrounding areas and such often extend a long way for the site of production-across national boundaries as well (Thompson et al, 2014). These impacts depend on the stage of development and it is more intense in the production stage than other stages. Emission gases include Carbon dioxide, nitrogen dioxide, volatile organic carbons, methane and carbon monoxide and these come from various sources such flaring, combustion among others (Kasimbazi, 2012).

Terrestrial impacts

There are three basic sources of territorial impacts namely; Possible physical disturbance due to construction; contamination as a result of spillage and leakage or solid waste disposal; and indirect impact arising from opening access and social change (Borthwick et al, 1997) This kind of impact is likely to be grave in Uganda since the oil operations are onshore. Management of drilling waste is already a problem as waste is stored before being treated and this is most likely to increase during production. Already, the potential for contamination of the soil due to erosion has been cited at the Kisinja Waste Consolidation Area (WCA) operated by TUOP and Bugungu WCA operated by TEP (Office of the Auditor General (OAG), 2014).

Human, socio-economic and cultural implications

Oil and gas operations induce economic and social changes. These include change in the land use patterns; Change in the population; Social-economic and cultural systems and their impacts; and the dilemma of developing the resource as well as maintaining the existing natural environment, an important factor for balancing development with environmental protection (Borthwick et al, 1997). The same authors argued that these impacts can be turned into positive if proper consultation of the locals is considered. However on another note, Kuteesa, (2014) has already highlighted issues related land acquisition for the oil and gas activities and that these are to increase as more exploration and production begins. She further added that the reality of food insecurity is setting in with many including immigrants abandoning agriculture and hoping to get employment from the oil and gas sector; if this issue is not curbed the potential of poaching from the nearby parks will not be ruled out. The peak of this is how to manage the expectations. People from Bunyoro, the oil rich region, are too expectant from the resource and so are other nationals who also believe they have rights to the resource (Bategeka et al., 2009). If this is not curbed

environmental issues will crop up especially related to oil spills in the future due to attacks on pipelines as is the case in Nigeria. This will not only impact on the locals but also incur a lot of losses to the government.

GLOBAL OUT LOOK OF EIAs IN THE PETROLEUM SECTOR

The adoption of the EIA Culture has risen progressively over the years. The Espoo convention of 1991 and the 1992 Convention on Biological Diversity (CBD) put obligations on states to promote EIAs. Whereas the latter puts emphasis on Trans boundary projects that would cause impacts on marine environment the former puts obligation to states to promote EIAs and strategic EIAs(SEA) (Kong, 2011).

In addition the 1992 Rio-Declaration on environment and development principle 17(soft law) clarifies on the need for EIAs as a national instrument for projects proposed activities that have adverse impacts on the environment. It goes further to suggest for a competent authority to take charge. This confirms that now EIAs are required by the general international law.

Looking at the European Union, the European parliamentary council issued directives on the 13th of December 2011 to all member states that detailed the need for EIAs and emphasised the concept of public participation. Also the International Petroleum Industry Environmental Conservation Association (IPIECA) has issued guidelines related to biodiversity and ecosystems in the O&G industry.

Further, in many developed countries, the legal requirements for the process as well as levels of compliance are significantly higher than in the developing world. Countries with longer experience and more advanced EIA practices tend to include a standard set of components in their EIAs, while EIAs in developing countries often fail to include certain elements (Li, 2008).

The main gaps in the legal framework as well as conducting EIAs relate to regulating and enforcing a major problem area among which include; the level of public participation and measurement of cumulative impacts However, Li (2008) states that even those countries implementing EIA best practices still have a long way to go with regard to the incorporation of indirect impacts, the interaction of impacts, and the uncertainty of predicted impacts.

In Africa, weaknesses begin right from the legal framework, and extend to inadequate skills by practitioners and regulators, as well as lack of required equipment for collecting and analysing EIA data. A study of the EIA regimes of countries that are members of the Southern Africa Development Cooperation (SADC)¹ reveals that the legislation for EIA is structured differently in the member countries.

In Angola, Madagascar and Swaziland, for instance, the developer comes up with the Terms of Reference for the EIA, and these are not reviewed by the Regulator (SADC, 2012). This may result in poor EIA reports leading to rejection by the regulator, or project delays as more information is requested by the regulator before approval. In Tanzania, Malawi and Mauritius, the Terms of Reference are developed by the regulator. In the rest of the countries, the developer (project proponent) draws up the Terms of Reference, but must have them reviewed and approved by the regulator before the EIA can commence (ibid).

When it comes to public participation in the EIA process, most of the SADC countries require public consultation to take place at scoping, during the actual EIA and also during review of the EIA/ Public Hearings. However, in, Lesotho, Angola Mauritius and Madagascar, the public only makes an input unto the EIA during review/ public hearing. According to Walmsley & Patel, (2011), this is a major weakness in the process since the affected persons are usually the poor and marginalised, who cannot access libraries and the internet to obtain a copy of the EIA report, travel for the public hearing, let alone interpret the (usually) complex EIA report.

Perhaps by far the biggest weakness noted by the same authors in the paragraph above is that most countries in SADC do not require developers to come up with Environmental Management Plans (EMPs). Only four do. The Democratic Republic of Congo and Swaziland require the EMP to be submitted for review together with the EIA. In Lesotho and South Africa, however, development of the EMP is merely included in the permit as one of the conditions of approval. This denies the public the chance to comment on the adequacy of the EMP (Ibid).

Apart from deficiencies in the legal framework for EIAs, other weaknesses reported include: lack of post-EIA follow-up, compliance monitoring and auditing by the authorities (ibid), due to inadequate finances and technical resources (e.g. vehicles) to traverse entire countries. The EIA practitioners are also generally unregulated and lacking in required competence.

In the context of O&G operations, the Oil Companies can take advantage of those loopholes especially legislative gaps to advance their interests.

FINDINGS AND RECCOMENDATIONS

Uganda is no different from other countries; it has incorporated the idea of EIAs in its domestic laws. The constitution of the republic of Uganda of 1995 under Article 27 section (3) identifies the need to utilise and manage the natural resources in a way that meets the development and environmental needs of the present and future generations of Uganda. The state is to take up all possible measures to prevent or minimise the damage and destruction of land, air and water resources as a result of pollution or other causes.

The National Environmental Management Authority (NEMA) further is mandated under the 1995 National Environmental Act, Chapter 153, to promote and ensure compliance with sound management practices as the competent authority. Expounding on the mandate, is the requirement under Part V of the same Act, Section 19, for NEMA to ensure that all projects which may have, are likely to have or have significant impacts on the environment undergo the process of EIA. A detailed list of the projects to be considered is found Schedule 3 of the same Act and includes oil and gas related projects i.e. exploration for the production of petroleum, oil refineries and petrochemical works.

Also to enable the smooth implementation of the EIAs, NEMA came up with the Environmental Impact Assessment Regulations, 1998, that cover requirements that must be satisfied in the entire process of conducting, reviewing and approving EIAs as illustrated in figure 2 below.

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 Act 2003; Investment code 15 sections 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.

The possible controversy of the EIAs is most likely to arise from Article 30 and 33 of the same PSA. Much as Article 30 of the model agreement requires PSAs to be governed and interpreted according to other applicable laws, Article 33 of the same emphasises confidentiality of the agreement and information; this may hinder NEMA from its smooth operations since the EIA exercise entails public participation. This risk may further be heightened by the failure to define the word —applicable law in both the Petroleum (EDP) Act and in the model PSA. 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, 16 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.

4.2 Stakeholder participation Stakeholder participation is vital for the sustainable management and development of natural resources/water and environment (NEMA, 2012). A Stakeholder to a project is a person or group of persons who need to be considered in achieving project goals and whose participation and support are crucial for the success of a project. This may include a person who is positively or negatively impacted by the project. To appreciate stakeholder participation,

stakeholder analysis is vital. Stakeholder analysis is key because it helps in understanding the system and also assessing the impact of change to that system through identifying the key actors/players or stakeholders and their level of interest in the system (Grimble & Wellard, 1997)

Three phases and six steps are summarised by Reed, M et al (2009) in which stakeholder analysis may proceed. In Phase 1, the context for stakeholder analysis is defined by stating the issue, intervention or organisation for which the analysis will be conducted, as well as the boundaries of the same. The second phase involves identifying stakeholders, differentiating between and categorising the stakeholders, and investigating relationships between them. After doing this, it becomes easier to determine the required action (Phase 3). Actions may include future activities and deciding which stakeholders to engage, and extent of engagement required.

In Uganda, the stakeholders in the EIA process comprise of Government Agencies, the Oil Companies, NGOs and Civil Society Organisations, and the public.

In Uganda, an environmental management pillar, led by NEMA as part of the three pillars formulated in the management of oil and gas in Uganda was established. This pillar involves key players/institutions who are mandated to manage any impacts related to O&G activities on the environment and biodiversity.

Key players Role

NEMA (NATIONAL ENVIRONMENT AUTHORITY)

NEMA's roles are to: Develop legislation to govern EIAs; Guide the process of EIA review, implementation and monitoring to ensure that appropriate action is taken after identifying potential impacts; Spearhead collaboration with Lead Agencies (MEMD, MTWA, UWA, MWE, MGLSD and districts)

MEMD (Ministry Of Energy and Mineral Development) As one of the Lead Agencies in charge of overseeing all petroleum activities from the upstream to downstream, it is required to monitor and ensure that all the oil companies are in compliance with the existing laws, regulation and agreements on the environment. MEMD also gives feedback to NEMA when consulted regarding Project Briefs, Scoping Reports, Terms of Reference, EISs and

Environmental Audits (EAs)

They are also required to coordinate with other Lead Agencies such as UWA Oil Companies. 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 self-monitoring basing on existing legislation and best environmental practices.

Uganda Wild Life Authority (UWA)

UWA is required to guide on any oil operations to take place in the National parks or reserves. As also a lead agency it is required to give feedback during EIA screening when contacted by NEMA and MEMD.

Ministry of Water and Environment (MWE)

MWE reviews projects located in wetlands for their impacts and assesses the proposed mitigation measures. It also reviews EIAs for water needs/measures to treat effluent and issues on abstraction/discharge permits and mitigations measures proposed. Ministry of Gender Labour and Social Development

MINISTRY OF GENDER, LABOR AND SOCIAL DEVELOPMENT (MGLSD)

MGLSD is supposed to assess the adequacy of Occupational Health and safety measures proposed in the EIAs.

District Local Government (DLG) (where projects are located)

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.

Environmental Audit practitioners (EAP)

These are private consultants certified by Environmental Practitioners of Uganda. They are contracted by the developer to conduct EIAs and Environmental Audits on their behalf.

The public (NGOs, Local residents)

These should be consulted during the scoping, EIA, and during public hearings- if any are held.

From the matrix it is clear that NEMA and MEMD have high interest and power because they have the primary mandate on the Environment and the oil and gas activities respectively. UWA, MWE, DLG, MGLSD are Lead Agencies; the public, oil companies and EIA practitioners form part of the stakeholders. 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 (OAG, 2014). Also, concerns have been raised about the independence of EIA Practitioners from the Oil companies who give them work, and the quality of work done (OAG, 2015), an issue further discussed in the next section.

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.

Similar to the SADC countries discussed earlier, the Public in Uganda is given a chance in the law to comment on EIAs during Scoping and in the process of the actual EIA. The law also requires NEMA to call for comments from the general public on all projects (EIA Regulations, 1998, Section 19), as well as from the communities immediately surrounding the project (ibid; Section 20). Further to this, the Authority may also hold a public hearing, if the Executive Director deems it necessary (Sections 21 and 22).

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 (OAG, 2015).

However, it is not clear when consultation would be —deemed inadequate by NEMA, since the law regarding public participation in EIAs does not provide for measures on assessing the quality of involvement or participation (Schwarte, 2008). The same Author further observes that whereas the public especially NGOs and local residents have great interest in the environment, they are constrained by accessibility of information and participation in decision making. The experiences by International Alert (2013), agree with this assessment consultation during the EIA process is limited and not participatory. Also the EIA reports are not availed to the public for comments, and the results are not simplified to enable local leaders and communities understand them and monitor implementation of mitigation measures. The general lack of knowledge on knowledge about environmental related impacts in oil and gas also makes it quite a challenge for local communities to follow the proceedings during public hearings and hence hard to challenge the developers (Schwarte, 2008).

To top it up, Schwarte reports that even when oil companies try to engage the NGOs and local communities on EIA requirements, they are obstructed by local politicians who feed locals with false expectations from oil activities; these politicians' statements water down efforts by other government officials to educate the affected communities, leaving a great information gap (Ibid).

Quality of EIAs and implementation

Section 14 of the Environmental Impact Assessment Regulations, 1998 spells out areas that should be incorporated in the EIS. As part of implementation, the developer is required to do regular self-monitoring, and an Environmental Audit as frequently as stipulated in the EIA Certificate of Approval (normally 1 year from the date of approval or immediately the project is completed (OAG, 2015)).

Generally the quality of EIAs conducted in the Oil and Gas Sector and their implementation has not been adequate, just like in the SADC countries as discussed in chapter 3, though there has been an improvement over the years.

The main gaps noted relate to inadequate analysis of baseline characteristics due to limited data; lack of detailed analysis of project alternatives since most EIAs are conducted after the work

programmes for the year have already been approved by MEMD- as such, a particular project alternative (preferred by the Oil company) has already been approved, and procurement of inputs initiated without considering other options that would be suggested by the EIA; failure to assess cumulative impacts is due to the absence of the of consolidated information of planned and on-going activities for the different areas where the oil related operations are to be implemented; And lastly the during impact prediction, there is reliance on qualitative description that are subjective, rather than using scientific models (OAG,2015).

Also the Environmental Practitioners have some capacity gaps as echoed by oil companies and their work does not meet ‘international standards’ for the sector. The Environmental Practitioners acknowledge the quality gaps and attribute them to the novelty of the sector, and the fact that there is no obligation for them to continuously improve their services (ibid). However, the Practitioners state that they are improving the quality of their work by adopting international standards. Also, NEMA states that is set to introduce more stringent measures to ensure higher quality practitioners are certified (ibid.)

On the side of monitoring, the Oil Companies normally conduct Environmental Audits long after the activities have ceased. Also, the practitioners only look at practice at the time of Audit, and do not review the self-monitoring reports produced by the Oil companies. Besides there is hardly any guidance on the parameters to be followed by Oil Companies during self- monitoring (Ibid). This means that the performance throughout most of the project life is not assessed. Furthermore, the Lead Agencies and NEMA do not adequately conduct inspections of the Oil companies to ensure compliance with EIA conditions of approval. Even where the monitoring is done, feedback is rarely given to the oil companies, and where it is done, it’s not timely (ibid.).All the above present the missed opportunities for improvement. Just like in the SADC countries already discussed, the above gaps are attributed to limited skills, as well as resource constraints. However, the actual problem may well be failure to prioritise areas for inspection, since according to OAG (2015), NEMA does not rank areas to monitor according to associated risk. Therefore, it cannot determine where to concentrate its resources.

CONCLUSION

This chapter concludes that Uganda is not yet fully prepared to effectively manage EIAs in the Oil and Gas sector. Although the legal framework is generally in place, some supporting legislation to enable effective operationalization is lacking. In addition, the decision by NEMA to undertake public consultation only at their discretion is contrary to the law, and limits meaningful public participation in the EIA process. Other constraints include inadequate finances, and knowledge gaps on the part of Practitioners and Lead Agencies. 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.

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