AN ANALYSIS ON THE EFFICACY OF THE UGANDA'S LEGAL REGIME GUARANTEEING SAFETY CONCERNS IN THE OIL AND GAS INDUSTRY IN UGANDA

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DECLARATION

I hereby declare that this study titled: **"**An Analysis on the Efficacy of the Uganda's Legal Regime Guaranteeing Safety Concerns in the Oil and Gas Industry in Uganda**"** is my own, and has never been submitted to any other Higher Education Institutions for academic purposes

Name of Student: Mercy Grace Munduru

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Date 20th August 2021

APPROVAL

This is to certify that this study is done by **Mercy Grace Munduru,** and is approved in partial fulfillment for the Award of a Master's Degree in Law-Oil and Gas, Institute of Petroleum Studies Kampala.

Name of Supervisor: **Dr. Isaac Christopher Lubogo**

Signature…….

Date …….

DEDICATION

I dedicate this Thesis to God Almighty my creator, my strong pillar, my source of inspiration, wisdom, knowledge and understanding. He has been the source of my strength throughout this program and on His wings only have I soared.

A special feeling of gratitude to my loving parents, Reverend Canon Stephen Gelenga and Abuko Florence Gladys Gelenga whose words of encouragement and push for tenacity ring in my ears. I thank my brother Robe Keith Benon and my loving sister Bagean Mary Christine who have made huge sacrifices to ensure I complete this journey.

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LIST OF ACRONYMS

EHS	:	Environmental Health and Safety
EIA	:	Environmental Impact Assessment
PEPD	:	Petroleum Exploration and Production Department
NEA	:	National Environmental Authority
NEMA	:	National Environmental Management Authority
CSO	:	Civil Society Organization
NOGP	:	National Oil and Gas Policy
ACODE	:	Advocates Coalition for Development and Environment
CISCO	:	Civil Society Coalition on Oil
ACME	:	Africa Centre for Media Excellence
BEP	:	Best Environmental Practices
PIL	:	Public interest Litigation
MODU	:	Mobile Offshore Drilling Units
NGO	:	Non-Governmental Organization

ABSTRACT

The Oil and Gas industry is increasingly challenged by a wide array of health and safety risks given its hazardous nature. Uganda as the latest safe haven for the resource has proactively developed a practical legal regime specific to environmental health and safety. Industry operators are already evolving towards self-regulation while a number of industry players are waiting to comply with the prescribed laws and policies. The research therefore sought to analyze the extent of compliance to environmental health and safety standards in the oil and gas industry in Uganda. Based on an in-depth analysis of the basic laws and regulations concerning the broad management and administration of the oil sector, including among other things of the laws and regulations pertaining to the ownership of oil resources, the issuing of oil licenses and concessions, and the safeguarding of environmental requirements, the author critically evaluates the main strengths and weaknesses of the current legal-regulatory oil regime.

The author comes to a sobering conclusion regarding the choices that the Ugandan government has made concerning the way it aims to manage its oil sector. To do so, the research set up questions upon which the research objectives were based; to examine and identify the environmental health and safety impacts caused by oil and gas exploration and production sector in Uganda, analyze the extent of compliance with national policy, international and regional legal framework, and propose mechanisms for improving environmental health and safety law compliance in Uganda. The paper concludes that first, Uganda's legal and policy framework is not yet comprehensively developed to achieve a preventative approach to health safety in the oil and gas sector. Second, Uganda needs to invest in strengthening capacities across the enforcement agencies due to the glaring lack of scientific and technical knowledge for good policy making to achieve a preventative safety and health culture in the industry.

CHAPTER ONE

RESEARCH INTRODUCTION

1.1 Introduction

Oil and gas is one of the most lucrative industries in sub-Saharan African (SSA) countries. It is an important driver of economic growth in the region and as such has contributed to poverty reduction and technology transfer and competitiveness. At the same time the industry can also be hazardous, and is sometimes faced with occupational safety and health (OSH) challenges. Occupational accidents and diseases create a human and economic burden, a serious concern for ILO. Just like any other sectors of the economy, the Oil and Gas Industry in Uganda is required to protect employees against work-related sickness, disease and injury. The international labour organization (ILO) estimates that 2.2 million people die annually from work related accidents and diseases, and a more 270 million workers fall victims of nonfatal occupational injuries. You can now imagine the hefty human and economic costs to workers and their families, employers, and society.

In common-law jurisdictions and as specified in the Occupational health and safety Act 2006, employers have a common law duty to take reasonable care of the safety of themselves, their employees, customers, and many others who might be affected by the workplace environment. Oil and Gas Employers have an obligation to establish strategies to improve occupational safety and health. This should be premised on the development of a preventive safety and health culture at all levels of the organization.

In Uganda, occupational safety & health is a critical part of public health an area that is neglected in many African countries. Industrial activity in the oil and gas sector is increasing, but unfortunately the health and safety of workers is hardly discussed. We are most likely going to see physical, biological, chemical and ergonomic hazards in the oil and gas sector. We are yet to encounter Psychosocial problems which in most cases result from working in remote districts for considerably longer periods of time. This comes along with challenges of transportation to and from these sites which is at times hazardous with unregulated excessive

working hours and irregular working time arrangements. All these will obviously have a negative effect on workers‟ alertness performance and well-being.

This study looked at how Uganda regulates oil and gas exploration and development in terms of the Environment, Health, and Safety. Its aim is to examine the legal tools for managing Environmental, Health, and Safety (EHS) in Uganda's petroleum exploration and development. The study starts by giving an overview of the oil exploration and development process in relation to Uganda. The study then discusses the state of oil exploration in Uganda. It explores the application of environmental impact assessment and identifies possible environmental, health, and safety threats and dangers. The oil and gas industry's top priority continues to be human and environmental safety and health security.

From exploration and development to pipeline management to refinery and marketing, these companies are accustomed to dealing with strict EHS regulations across the board. These rules are not only strict, but they are also updated on a regular basis to reflect technical advancements and the more severe conditions under which oil and gas companies work.

It examined the legal and environmental standards set forth in Uganda's policy and legal framework, including those set forth in the Petroleum Exploration, Development, and Production Act and the Occupational Health and Safety Act of Uganda, as well as regional and international standards to which Uganda is bound by treaty, to determine if these regulations, in particular, have been followed.

1.2 Background of the Study

Oil and gas is one of the most lucrative industries in sub-Saharan African (SSA) countries including Uganda. It is an important driver of economic growth in the region and as such has contributed to poverty reduction and technology transfer and competitiveness. At the same time the industry can also be hazardous, and is sometimes faced with occupational safety and health (OSH) challenges. Occupational accidents and diseases create a human and economic burden, a serious concern for the ILO and its constituents in SSA countries. Most SSA countries have taken advanced measures to address OSH issues. However, challenges still exist. First, OSH legislation and regulations, industry best practices and other factors are not sufficiently developed to achieve a preventative safety and health culture in the industry. Second, there is an urgent need to strengthen the capacities of the tripartite constituents. The competent authorities lack technical and scientific knowledge for good policy-making in the

industry. The industry needs to arm itself with technological competencies and skills to improve overall safety operations.

Safety and health risks lurk across all levels of the industry including production projects, facility operations, maintenance, construction, transport, storage, and during the application of the oil derived products. Moreover, the huge volumes of materials that are processed, handled or used exacerbates any accident situation in the industry. Added to this is the complexity of the instrumentation and technology used in these industries, the nature of the effect of the products, by-products and waste products on human health and the environment

As such concern is often expressed about the availability of requisite expertise and technology in the industry, and the adequacy of the regulatory regime to manage the newly found oil resources in a safe and environmentally friendly manner. In particular, the generally weak regulatory environment in the country, the recent accidents in the industry, and the continued pollution of the environment by industry (EPA, 2010) raises questions about the ability of these entities to effectively discharge their duties and thus safeguard the safety and health of the citizenry and the environment. Indeed, a number of standards and regulations exist worldwide (API, 2010; National Fire Protection Association, 2009) that provide guidelines for safety practice specifically in the oil and gas industry, but also for industry in general and which all manner of industries irrespective of geographical location could exploit to the benefit of safe operations of their plants.

1.3 Problem Statement

Uganda has developed policy and legal instruments regulating the oil and gas activities and the general issues of environmental health and safety regulation starting with the 1995 Constitution of Uganda which establishes the right to a clean and healthy environment. This is supplemented by various legal instruments and regulations such as the Petroleum (Exploration, Development and Production) Act, which advocates for compliance with environmental, health and safety principles, the Occupational Safety and Health Act, which ensures that there is safety of workers in and around the industries and also that there is protection from injuries, diseases and good working conditions as well as several institutional regulations that will be analyzed detail in the subsequent chapters.

Uganda has also subscribed to international and regional legal instruments and signed some agreements such as the Rio Declaration 2012. In spite of these laws, Uganda has not yet achieved the desired degree of environmental health and safety law 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.

Due to this weak enforcement the operators themselves seem to be so defiant and it is doubtable if they shall comply with the requirements prescribed by the above laws. Furthermore, in most of these industries the working conditions are not convenient for the workers. These employees have to endure long hours of work without protective gear, poor hygiene, poor pay and many other grievances. They have to put up with all these contrary to the provisions on health and safety as per the Occupational Safety and Healthy Act of 2006.[1]

This therefore shows that despite the presence of a sound legal and policy framework, environmental law, Safety and Health compliance may remain elusive and a mere illusion.[2] Therefore the purpose of this paper is to examine the extent of enforcement and compliance with environmental, safety and health laws by the players in oil industry.

1.4 Objectives of the Study

1.4.1 General Objective

The main objective of this study is to analyze the extent of compliance is to environmental health and safety standards in the oil and gas industry in Uganda.

1.4.2 Specific Objectives

a) To examine and identify the environmental health and safety impacts caused by oil and gas exploration and production sector in Uganda

[1] The Minister for Energy and Mineral Development, Hon. Irene Muloni has been carrying out inspection of these industries in the Albertine Region and discovered several violations of these regulations
[2] A. Bainomugisha, op cit, at 3

b) To analyze the extent of compliance with national policy, international and regional legal framework that provides for environmental health and safety standards during the oil and gas exploration and production industry in Uganda
c) To propose mechanisms for improving environmental health and safety law compliance in Uganda

1.5 Research Questions

The central research question is "Is there compliance to the Environmental Health and Safety laws during oil and gas exploration and production in Uganda?" The specific research questions are:

a) What are the impacts of oil and gas activities on the environmental health and safety of the employees and surrounding communities?
b) What are the major international, regional and national legal instruments governing environmental health and safety standards in the oil and gas industry in Uganda?
c) What extent have the oil companies, regulatory institutions and the Government complied with environmental, safety and health standards in oil and gas exploration and production?
d) What mechanisms can be put in place to strengthen compliance to environmental health and safety compliance in Uganda?

1.6 Scope of the Study

The study places emphasis on the development of the oil industry in Uganda, the activities and processes involved in oil and gas exploration and production, environmental health and safety impacts of oil and gas exploration and production standards basing on the international, regional and national legal framework governing the oil and gas industry.

The paper examines the extent of compliance, discusses environmental health and safety rights while concentrating on the right to a clean, safe and healthy environment, and proposes mechanisms for improving environmental health and safety law compliance and implementation of safety and healthy mechanisms and regulations in the oil and gas industry of Uganda due to the weak enforcement of the existing regulations and poor institutional frame work. The study focuses on the general overview of compliance with environmental health and safety standards in the oil and gas industry of Uganda.

1.7 Research Justification

Uganda recently embarked on a commercial oil and gas exploration and production process. Commercial oil and gas deposits were confirmed in 2006 and this has created a lot of questions concerning environmental health and safety law compliance given the fact that the oil and gas industry in Uganda is still nascent. Additionally, old oil and gas laws were repealed and new ones enacted. Most notable of these are the Petroleum (Exploration, Development and Production) Act, 2013, the Petroleum (Refining, Conversion, Transmission, and Midstream Storage) Act, 2013 and the Occupational Safety and Healthy Act, 2006.

Uganda further subscribed to international and regional laws and signed some agreements to this effect such as the Rio Declaration 2012, international Labor Standards on occupational safety and health including the Occupational Safety and Health Convention, 1981 (No. 155) aimed at promoting occupational health and safety and improving working conditions. The switch to commercial oil and gas production poses several impacts towards environmental health and safety such as injuries, diseases especially around the oil rigs, wildlife and ecosystems, aquatic impacts, human impacts and many others discussed in the subsequent chapters which through the deterrence and preventive theories are meant to be curtailed by these laws.

The research therefore assesses the sufficiency of these laws and the extent of compliance therewith and makes necessary recommendations to ensure that there is an increased complex environmental health and safety regulatory landscape, with focus on achieving and maintaining regulatory compliance, protecting employee health and safety, managing potential business liabilities with the push for the industry to improve environmental sustainability efforts.

This is in line with the objective of Environmental health and safety which is to protect workers, the public, and the environment and to comply with applicable laws and to protect the company‟s reputation. The research will benefit institutions responsible for ensuring compliance to environmental health and safety standards such as the Ministry of Energy, Ministry of Labor, the Oil and Gas Companies and the communities around the oil and gas production areas in Uganda.

1.8 Theoretical Framework

The study is premised on the theories applicable to compliance with environmental health and safety that is the deterrence or preventive theory and the citizen enforcement theory which foster a more complete understanding of the conceptual bases of legal principles and of the combined effects of a range of rules and procedures that touch on a particular area of activity. It has been submitted that effective environmental health and safety law enforcement is key to ensuring that the goals of environmental health and safety statutes can be realized.

Hence environmental health and safety enforcement like any other government regulation has been based on the theory of deterrence. This theory assumes that persons and businesses act rationally to maximize profits and will comply with the law only where the costs of noncompliance outweigh the benefits of non-compliance.[3]

Under this theory the role of the enforcement agencies is to make penalties and the probability of detection high enough so that it becomes irrational and/or unprofitable for the regulated entities to violate the law.[4] The theory also explains the development of criminal environmental law, that is, imposition of criminal sanctions against violators of environmental law.[5]

The deterrence theory therefore imposes criminal sanctions to shape regulated entities" preferences, incapacitate violators, to send a message to the general public for preventive purposes, and to ensure rehabilitation of the damaged environment.[6] Under this theory, the most emphasized tools of enforcement are regular inspections and monitoring of activities to detect noncompliance.

The Citizen Enforcement Theory on the other hand presupposes the role of individual or corporate citizens in the enforcement of environmental health and safety compliance. It allows citizens to sue companies/ defiant individuals for violations when the government fails to do so subject to meeting various and often strict procedural conditions.

The theory also assumes that citizens can enforce environmental law compliance through their political behavior, market behavior and direct participation. It is under this theory that

[3] A. Heyse, Implementing Environmental Regulation: Enforcement and Compliance at pp.2-4
[4] Ibid
[5] A. Mark Cohen (1992) "Environmental Crime and Punishment: Legal/Economic Theory and Empirical Evidence on Enforcement of Federal Environmental Statutes in Journal of Criminal Law and Criminology" Vol. 84 (Issue 4 Winter) at 1059
[6] Ibid

people can sue for enforcement of their right to a clean and healthy environment and CSOs are enabled to enforce environmental rights of voiceless victims through Public interest Litigation (PIL).[7] The above theories are however affected by challenges of corruption and limited judicial capacity.

Therefore, this paper examines the national, regional and international legal framework to ascertain the extent to which these theories are reflected, how the operators of the industry have been controlled by these theories and how the same can be strengthened to crystallize environmentally sound oil and gas exploration and production in Uganda.[8]

In the same way this theory upholds safety and health through the Occupational Health and Safety Act which 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.[9] 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 Act 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.[10] These provisions can henceforth be enforced by citizens as above provided. Alternatively, different players in the industry without provisions such as the license to engage in exploration and production could be deterred from joining the industry.

[7] Constitution of Uganda of the Republic of Uganda, 1995 article 39; National Environment Act Cap.153 s.3 and
National Forestry and Tree Planting Act No.8/2003 s.5
[8] E Kaweesi, op cit 11 at 24
[9] Op cit 14
[10] Ibid

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Although there is a lot of literature on legal aspects of environmental health and safety protection, there is not a lot when it comes to the area of oil and gas exploration and production, so much so in the local context. Even the literature present may not easily be intelligible due to the novelty of its substance on environmental health and safety in oil and gas exploration and production and in some cases has research gaps on legal aspects on compliance with environmental health and safety standards which need to be filled. Chapter two is guided by the specific objectives that are aimed at allowing the conducting of a chronological review of the existing literature by the researcher.

2.2 Environmental H&S Impacts of Oil and Gas Exploration and Production

Wawrykin his article "International Environmental Standards in The Oil industry: improving the Operations of Transnational Oil Companies in Emerging Economies"[11] avers that emerging economies[12], 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.[13]

The exploitation of oil remains a priority for the governments of emerging economies, as the revenue that comes from subsurface resource exploitations 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 also a source of taxation revenue and

[11]http://www.ugandaoilandgas.com/linked/international_environmental_standards_in_the_oil_industry.pdf (accessed 3 May 2017)

[12]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 Co-operation Report 1997* (OECD, Paris, 1998) pA101; OECD, *External Debt Statistics* (OECD, France, 1997) at 4-5.

[13] 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.

employment, and offers the opportunity for the transfer of technology from developed to developing countries.

He questions that what is "best practice “in the international oil industry? What standards should be employed? No treaties have been negotiated with the specific aim of regulating the onshore activities of the oil and gas exploration and production industry operating within the borders of individual states. This stems historically from the view that the regulation of onshore resource exploitation falls within the domestic jurisdiction of states. In this context, the standards, guidelines and best operating practices developed by oil industry association bodies, and nongovernmental and intergovernmental organizations (NGOs and GOs) constitute the major efforts to achieve uniform standards and operating practices across the globe.

Kaweesi is however similar to Wawrykin 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 factories 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.

It has been submitted that in order to obviate the social and environmental costs of oil and gas activities, mechanisms for conflict management (conflict avoidance and dispute resolution) should be reflected in the relevant laws. Mechanisms for compensating social and economic impacts should be articulated in the laws or petroleum regulations and that there is need for strengthened capacity for environmental management and monitoring, to wit guidelines on Corporate Social Responsibility.[14]

On this subject 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.[15] 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.

[14] 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 21

[15] Des Clers (2007) Mitigating the Impacts of Oil Exploration and Production on Coastal and Wetland Livelihoods in West and Central Africa, at 7.

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 environmental risks, and incidents of water and air pollution.[16] Those environmental impacts can in broad terms be categorized into human, socio-economic and cultural impacts; atmospheric impacts; aquatic impacts; terrestrial impacts and eco- system impacts. The activities are also associated with many potential emergencies.[17]

It is further observed that although national governments in different states have made some efforts towards sound environmental oil and gas exploration and production through policy and legislative framework, more is still needed especially in practice.[18] This publication is indeed very comprehensive and offered the most important guide to this research. However, it is so generalist in nature since it was intended for use by the whole United Nations international Community and to this extent it does not offer specific environmental approaches for protection of the Albertine Graben in relation to Ugandan laws and practices. Also the information in this publication is largely technical and may not be easily understood by non-experts yet the concerns of environmental protection especially implementation and enforcement, is done by those with no specific technical prowess in the area of oil and gas exploration and production.

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.[19] 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 bio-energy and emissions from the industry can indeed lead to the acceleration of global warming. Many negative environmental impacts are therefore identified by the Ministry as capable of resulting from unregulated oil and gas activities.

[16] UNEP (1997) Environmental Management in Oil and Gas Exploration and Production: An Overview of Issues and Management Approaches, at 2-3
[17] Ibid, at pp 11-15
[18] Ibid
[19] Ministry of Energy and Mineral Development, op cit, at 3

These range from socio-economic and cultural changes due to alteration in land use patterns and local population levels, to increase in gaseous and aqueous waste streams which may affect plant and animal communities due to changes in their environment arising from various alterations in water, air and soil/sediment quality and disturbance by noise, extraneous light and changes in vegetation cover.[20]

In response to this the Ministry observes that these negative impacts need to be mitigated and addressed to ensure eco-system integrity by updating general management plans and developing new ones taking into account the oil exploration activities.[21] However, the author gives no guidance on how these plans should specifically be developed and/or updated. In relation to waste management, the Ministry notes that waste management in oil and gas exploration and production has emerged as a challenge.

Most of the drill mud contains heavy metals and rock cuttings which render it hazardous and since there is not yet any clear mechanism of handling this, operators have been instructed to containerize their waste.[22] This however in my view seems a mere postponement of the problem rather than being the solution.

2.3 Mechanisms for Improving Environmental Health and Safety Law Compliance

Miguel 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) 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.[23] According to Miguel De Cervantes, a celebrated 16thcentury Spanish author, gratification of wealth is not found in mere possession or in lavish expenditure, but in its wise application.[24]

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

[20] Ibid, at 30
[21] Ibid.
[22] Ibid, at 33
[23] "Donor Engagement in Uganda‟s Oil and Gas Sector: An Agenda for Action. A Briefing by Global Witness, Oct.2010
[24] See Miguel De Cervantes, "Don Quixote De La Mancha"

unimportant 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.[25]

Citing with approval the National Oil and Gas Policy for Uganda, Kaweesi recognizes that if the country‟s Oil and Gas resources and revenues are not well managed, the petroleum sector has the potential to cause the most negative impact on society. This is the so called “resource curse” and that according to the policy it is the negative effect of oil and gas resource utilization leading to economic stagnation, environmental degradation and increased poverty. It is also called the Paradox of Plenty.[26]indeed the greatest fear for most resource rich countries especially those new in the oil industry, is this resource curse. It is the term used to describe the failure of resource rich countries to benefit from their natural wealth.

He asserts that the laws, policies and institutions at play in any country have a big bearing on whether or not citizens of such a country will benefit from oil wealth. There are three processes that lead to the resource curse:[27] the first is currency appreciation due to resource revenues and its negative effects on the competitive position of other industries (Dutch disease). The second is the fluctuation in commodity prices and its disruptive effects. The third is the effect of political conditions such as rebellions and coup d‟états. The first two are purely economic while the third is purely political.

The resource curse therefore bears political and economic connotations. Soros argues those there three factors in managing resource wealth; asymmetric agency, asymmetric information and asymmetric bargaining power, and those agency problems arise when the agents (governments) don‟t serve the interests of the principal (governed) as required by the Public trust doctrine.[28]

Political conditions aggravate the resource curse in a sense that when leaders are in possession of revenues that does not pass through the national budget or when the budgets are not transparent, accountability and democracy are endangered. States and leaders that are able to generate revenue from the sale of oil and gas are less reliant on citizens and the state will have less need to engage with citizens, but rely on external sources of income from oil companies.

[25] E. Kaweesi, op cit at15
[26]Part 6 of the National Oil and Gas Policy, at page 30 as discussed by E. Kaweesi, ibid.
[27] M. Humphreys, Jeffrey D. Sachs & Joseph E. Stiglitz (Eds.) Escaping the Resource Curse (Foreword by George Soros, New York: Columbia University Press, (2007)
[28] Ibid

However, it has been submitted that the resource curse is not a claim that natural resource abundance is always or inevitably bad for economic growth or development.[29] This is because there are historical examples of successful resource development. Terry Lynn argues therefore that the resource curse rather refers to countries that are overwhelmingly reliant on oil revenues and that what matters most is not the inherent character of the resource itself but how the wealth generated by petroleum is shared and utilized. He further reiterates that the resource curse is a combination of factors such as oil price volatility, the Dutch disease, lagging skill accumulation and heightened inequality.

Price volatility exerts a strong negative effect on budget discipline, control of public finance and national planning. The oil sector drives up the exchange rate of the local currency rendering other exports noncompetitive and makes economic diversification very difficult. The noncompetitive sector places the funding burden on the oil sector and results in a permanent decline of other sectors. Being capital and technologically intensive, the oil industry creates few jobs that require skilled labor which the average citizenry lacks.

Terry 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 favorable legislation, create varsity militaries and to buy off opposition support, to wit engaging in useless and unpalatable military adventures.[30]

The above literature supposes that management of oil revenues can better be handled through transparency and accountability and establishing of institutions to handle oil wealth. However, there are other factors such as the independence, oversight and implementation capacity of institutions, the role of the media, civic competence and general awareness that play an equally important role in averting the oil curse though they have not been mentioned.

C. Ebrahim-zadehin his article "Back to Basics: Dutch Disease. Too Much Wealth Managed Unwisely" (2003) *Finance and Development* avers that resource rich countries which upon exploitation of their natural resources experience a decline in pre-existing sectors of the economy are said to have caught the "*Dutch disease"*[31] The Dutch disease bears its origin

[29] K. Terry Lynn, "Understanding the Resource Curse" in Svetlana Tsalik and Anya Schriffin (Eds.) Covering Oil: A Reporters‟zk Guide to Energy and Development (New York: Open Society Institute, 2005).
[30] Ibid
[31] C. Ebrahim-zadeh "Back to Basics: Dutch Disease. Too Much Wealth Managed Unwisely" (2003) *Finance and Development* 40 (1): 50-51

from the 1970s when, upon the discovery of natural gas in the North Sea, the Dutch found that their manufacturing sector started performing more poorly than anticipated.[32] The Dutch disease occurs in the following pattern; once a contract has been negotiated and money begins to flow in, many problems and uncertainties begin to arise.

A sudden rise in the value of natural resource exports produces an appreciation in the real exchange rate, which in turn makes exporting of non-natural resource commodities more difficult and competing with imports across a wide range of commodities almost impossible (spending effect).[33] Foreign exchange earned from the natural resource may be used to purchase international traded goods at the expense of domestic manufactured goods. Simultaneously domestic resources such as labor and materials are shifted to the natural resource sector (resource pull effect), the price of these resources rises on the domestic market thereby increasing the cost of production in other sectors. This sets in motion, a primacy of two domestic sectors; the natural resource sector and the non-tradable sector, [34]the clash of which leads to economic breakdown.

In a study conducted in 1995 by Sachs, [35]it is argued that resource rich countries grow more slowly than resource-poor countries even after such variables as initial per capital income and trade policies are taken into account. The usual explanation for this is the "Dutch disease".

Sachs argues that when a country exploits hydrocarbon, a sudden inflow of dollar- denominated revenues often leads to a sharp appreciation in the domestic currency, which tends to make non-oil sectors such as agriculture and manufacturing less competitive on world markets, thus leaving oil to dominate the economy with all the attendant consequences.[36] Hence when oil resources are depleted the entire economy may easily go on its knees.

According to Bell and Faria,[37]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

[32] E. Kaweesi, op cit, at 15
[33]Ebrahim-zadeh, op cit.
[34] Ibid
[35]UNEP (1997) Environmental Management in Oil and Gas Exploration and Production: An Overview of Issues and Management Approaches, at 2-3
[36] Ibid
[37] J.C. Bell and T. MauriaFaria, "Critical issues for a Revenue management Law" (2006) Initiative for Policy Dialogue Working Paper Series http://policydialogue.org/files/publications/Ch11.pdf accessed on 6th May 2017

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.[38] They 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 in management of oil wealth, and most importantly adequate planning to be done prior to oil production.

According to Yergin, 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.[39] He argues that oil is a commodity intimately intertwined with national and global politics and power and a country‟s success depends on its capacity to plan and strictly implement such plans. Otherwise, as Yergin says, oil can be a "fool‟s gold" which is what poor country planners have continued to confuse with the "oil curse". "It is not a curse but rather failure by fools to be good planners, to be transparent and accountable to the people which leads to a resource curse."[40]

Accordingly, it is important that each entity carries out its functions as mandated by the law, though one should not assume that newly formed policies, laws and institutions will easily master government and administrative skills than the existing ones.[41] On the other hand, constructive critics say that oil can be a catalyst for a country‟s development. These constructive critics stress the importance of sound fiscal management and revenue transparency.

Kasimbazi, in the article "Environmental Regulation of Oil and Gas Exploration and Production in Uganda"[42]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

[38] Ibid
[39] D. Yergin (2008) The Prize: The Epic Quest for Oil, Money and Power, New Edition, Free press, New York.
[40] Ibid
[41] R.A. Posner, "Theories of Economic Regulation" (1974) NBER Working Paper Series, No. 41, CENTER FOR ECONOMIC ANALYSIS OF HUMAN BEHAVIOUR AND SOCIAL INSTITUTIONS, New York, <http://www.nber.org/papers/w0041.pdf> accessed on 6th May 2017
[42] B Kasimbazi, "Environmental Regulation of Oil and Gas Exploration and Production in Uganda"

exploration in Uganda is not new. It was first carried out by Wayland[43]in the 1920s, who documented up to 52 oil and gas seeps in the Albertine Graben.[44] 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.[45]

This led to the creation of the Petroleum Unit in 1985,in the Geological Survey and Mines Department, to spearhead exploration promotion, and the enactment of the Petroleum (Exploration and Production) Act of 1985 to make provision for the exploration and production of petroleum and related matters.[46] The Petroleum Unit was replaced by the Petroleum Exploration and Production Department, which commenced aeromagnetic surveys.[47]in 1993, the Petroleum (Exploration and Production) (Conduct of Exploration Operations) Regulations were passed to regulate petroleum activities in the country.[48]

The Government of Uganda has since 2020 embarked on the refurbishment of the oil sector and has entered into oil exploration agreements with various companies including Dominion Uganda Ltd, Tullow Oil plc, Heritage Oil and Gas Ltd and Neptune Petroleum Uganda Limited.[49] These companies are now at different stages of exploration and have discovered vast quantities of oil in the Albertine Rift, along the western border of Uganda and the Democratic Republic of Congo (DRC).

At the same time, the Albertine Rift region is well known as one of the richest biodiversity hotspots in the word in terms of mammals, birds and other species in Uganda and East Africa at large.[50] This region hosts a number of protected areas including the Queen Elizabeth National Park, Rwenzori Mountains National Park (both are World Heritage Sites), Kibaale, Semliki and Murchison Falls National Parks, plus Toro-Semliki and Kabwoya wildlife

[43] 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 2011), 13. See also Ibrahim Kasita, *History of Oil in Uganda,* New Vision Friday, 23 January 2009.
[45] Ibid
[46] Ibid
[47]*Ibid*, see also Republic of Uganda, Oil and Gas Policy of Uganda 2008, www.acode-u.org/ documents/oildocs/oil&gas_policy.pdf (accessed on 1 February 2012).
[48] Ibid
[49] See note 40 above
[50] The Institute of Resource Assessment (IRA) and the Pan-African START Secretariat (PASS), *Building African Capacity for Conserving Biodiversity in a Changing Climate in the Albertine Region Baseline Assessment* (2007).

reserves.[51] At the national level, the Albertine Rift houses seven of the ten national parks and over 20 forest reserves.[52]

With this richness, the area provides a range of ecosystem services that include, among other things, tourism and aesthetic values and water through the system of lakes, rivers and wetlands to Uganda and the Nile riparian states north of Uganda.[53]indeed, the livelihoods of the people in the area are largely derived from the natural forests, fisheries, fertile soils, minerals and wetlands.[54] By 2006, major discoveries of oil had been made around Lake Albertine western Uganda and it is now established that Uganda has commercially exploitable reserves of oil[55] and gas in the Albertine Graben and commercial oil production is expected to commence soon.[56]

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.

He divided the article into six main sections. The first section provides an overview of the oil exploration and production process. The stages of oil exploration and production are analyzed and the stage that Uganda has reached is considered. The second section traces the development of oil exploration and production in Uganda from 1920 up to the present day. The third section identifies the possible environmental risks of oil exploration and production and highlights some of the existing environmental impacts registered as a result of ongoing exploration processes.

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[51]United States Agency for International Development (USAID), *Productive Resource Investments for Managing the Environment in Western Uganda Region* (2007), 2.
[52] Ibid
[53] Ibid
[54] Ibid
[55] See note 40 above
[56]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).

The fourth section analyses the application of the Environmental impact Assessment (EIA) process in oil exploration and points out the challenges of implementing the EIA process in Uganda. The fifth section reviews the policy and legal environmental tools that are applicable to oil exploration and production. The section also reviews the draft new oil and gas law. The final section is the conclusion and highlights some recommendations to improve the existing regulatory framework for oil exploration and production in Uganda.

2.4 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 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

RESEARCH METHODOLOGY

3.1 Introduction

This section presents an overview of how the research was carried out. It describes the research design, the study population, sample size, research instruments, data collection procedures and data analysis and limitations of the study.

3.2 Research Design

Research design is essentially a plan for determining the methods and procedures for collecting and analysing the required information. A good research design should answer the research Question as "unambiguously as possible"[57]. The research question for this study an inquiry as to analysis the efficacy of the legal regime in addressing gender inequalities in Uganda‟s oil and gas industry. The main objective of the study was to analysis the effectiveness of legal regime in addressing gender inequalities in Uganda is in the Oil and Gas industry.

The research is a descriptive one so as to explain and measure the efficacy of LC regulatory regime in enhancing social welfare of people in the oil and gas sector. In doing so the Researcher analysed different regulations, discussing and giving legal perspectives on how gender equality provided in the petroleum legal regime is put into play in the industry at large. It is expected that the insights given will add immeasurably to knowledge and build the nature of how gender equality is implemented in the legal framework in question.[58]

The design that was chosen basing on the research type was a cross-sectional design type at the best method to answer the question. A cross- sectional design is one that involve collecting data from different sources that represent part of a whole to determine patterns.[59]This suited the purpose of this research because Oil and Gas industry is split into man different sections to form a whole industry.

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[57] NYU (n.d), „What is research design‟ http://www.nyu.edu/classes/bkg/methods/005847chl.pdf accessed on 12th September 2019 pg. 9

[58] NYU (n.d), „What is research design‟ http://www.nyu.edu/classes/bkg/methods/005847chl.pdf accessed on 12th September 2019 pg 1

[59]Alan Bryman & Emma Bell, Business Research Methods (Oxford University Press 2007) pg.55

This study will be based on qualitative design methods. Research is said to have used qualitative methods when data is not recorded numerically.[60]

Qualitative data will be collected as both primary and secondary data. Primary data was gathered using in-depth-one-on-one semi structured interviews and questionnaires as tools that can generate statistical and in-depth data.[61] This was directed to specific stakeholders in the Oil and Gas industry with reliable information that is significant in ensuring that the purpose of the research in question is achieved. Secondary data gathered was in the form of data collected by other researchers.

3.3 Target Population

The target population for this study was the various stakeholders in the upstream and mid-stream sectors of the Oil and Gas industry of Uganda. This is because the LCP in place target players in those sectors.

3.4 Sample and Sampling Procedure

The study focused on the Oil and Gas industry in Uganda. Sample area for collecting data was Uganda particularly Kampala district. This is so because the major implementers of LC are situating in Kampala with their major headquarters. The sample for the secondary data was not limited to any part of the world.

The primary sample comprised of the Petroleum Authority of Uganda as a regulatory body in areas of Oil and Gas and also the implementers of the legal regime in question, The National gender office under the Ministry of gender and labour, and ministry of Energy & Mineral Development as an office with experts towards the analysis of the trend of gender equality in Oil and Gas in Uganda. The research focused on the Upstream and Midstream petroleum industry because these subsectors are direct target of the gender regulatory regime in Question.

Because the design type was a cross-sectional one and required a cross-section of players in the sector, the subsample included a local Oil consultant company reason being that they have had a reasonable time in the Oil and Gas activities of which 5 questionnaires were distributed out of which two were attended to. Policy experts of which were the national

[60]Barifaijo, Supra (note 101)
[61] Amin, M.E, social science Research: Conception. Methodology and Analysis, (Makerere University, Kampala, Uganda, 2005)

gender officers in the MEMO of which the office had 3 officers who all responded accordingly.

The lawyers in the industry that have acquired knowledge and training in Oil and Gas studies were chosen would be of help in the evaluation and giving legal perspective of how the gender law in addressing gender inequalities in the Oil and Gas in Uganda is portrayed so as to come up with the desired goals and objectives of the study of which out of the 20 lawyers approached, 16 responded.

The OC‟s being of an integral part in the industry at large couldn‟t be left out in the sub sample and the methodology being purely qualitative, secondary data by some of the expert reports authored by the OC‟s operating in the Oil and Gas industry of Uganda. This was used to contribute to the desired outcomes of the study in question. Keeping in mind that their analysis was detailed and according to the timing of the regulations in question being newly enacted and also putting in mind the fact that the industry is in it taken offstage.

The analysis given in those expert reports is better placed to contribute on the evaluation of whether the issues in the regulatory regime captured are effective in addressing gender in Uganda legal regime in question.

The rate of the response was further tabulated and showed in percentages as portrayed in Table 1 below.

Table 1: The response rate by the respondents in percentages

Respondents	No of Respondents	Rate of response in %
MEMD&MLGGGG	3 of 3	100
Lawyers	16 of 20	80
Consultancy co.	2 of 5	40

3.5 Sampling Techniques

Sincerities difficult to carry out research from the entire population, it is important to sample. Sampling is the process of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or characteristics of the whole population. [62]

Purposive stakeholder sampling and snowballing as sampling techniques were applied and used in conducting this research. A sampling procedure is said to be purposive when one‟s Personal judgment is used to decide which individuals in the population are to be included in the study.[63] Usually these are those researcher thinks best meet the purpose of the study.

More so, a Purposive sample is a sample selected because the individuals have special qualifications of some sort, or because of prior evidence of representatives.[64] Units from a pre-specified group are purposively sought out and sampled at times due to their „privileged‟ positions by the virtue of their offices. In other words, in purposive sampling, "strategic choices" are made about who, where and how to conduct the research.[65]

The specific kind of purposive sampling used in this research was stakeholder sampling. Stakeholder sampling involves identifying who the major stakeholders are who are involved in designing, giving, receiving, or administering the program or service being evaluated, and who might otherwise be affected by it.[66] Purposive stakeholder sampling was used for this research because Gender legislations specifically targets the Oil and Gas industry and being such a closed loop industry and how such legislation can be used to address gender inequalities. Strategic choices had to be made to select stakeholders whose operations are directly affected by the legislation. This sampling procedure is useful in the context of evaluation research and policy analysis.[67]

Snowball sampling is used where there are difficulties identifying and contacting members of the research population.[68] Even though it was easy to identify members of the population, there was difficulty in contacting them and it had to rely on the first few contacts to recommend and make introductions to other contacts.

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[62]Barifaijo, Supra (note 101)
[63] Tom Nsubuga & Paul Katamba, Basic Research Simplified for the University Students (1stedn, 2013) pg.88
[64] Tom Nsubuga & Paul Katamba, Basic Research Simplified for the University Students (1stedn, 2013) pg.88
[65] Tom Nsubuga & Paul Katamba, Basic Research Simplified for the University Students (1stedn, 2013) pg.88
[66] Ted Plays, „purposive sampling‟ in Lisa M. Given, The sage Encyclopaedia of Qualitative Research Methods (Vol 1&2 Sage Publications, inc. 2008) pg.697
[67] Ted Plays, „purposive sampling‟ in Lisa M. Given, The sage Encyclopaedia of Qualitative Research Methods (Vol 1&2 Sage Publications, inc. 2008) pg.697
[68] Nsubuga, supra (note 214) pg 89

3.6 Data Collection Methods

In order to conduct the research in a qualitative manner, primary data was obtained from key informant interviews with key and specific individuals from different organisations that have been highlighted, document reviews were also used to collect secondary data as part of the study such as publications and reports both local and international that are in pertinent relation with the topic in study were used to back up the primary information and relate the findings so as to come up with a reasonable solution for the research in question.

The views given in such documents are useful to ensure that there is comparison with other authors in relation to the topic in question so as to have diverse atmosphere for new ideas and ensuring pertinent base for literature review.

Standardised questionnaires were administered of which these written documents that were completed by the persons were being surveyed and in some instances; face to face interviews were used. These methods were chosen because this data collection procedure allowed the flexibility to explore themes that dug deeper to answer the research question. The method also allowed new ideas to be brought up and explored during the interviews.

3.7 Sources of Data

The researcher collected data from both primary and secondary resources Primary data: This was obtained by use of structured questionnaires and interviews methods which were utilised to administer the survey and to get the necessary information as were deemed the best tools to use while handling a qualitative study.

Secondary data: This was collected through review of various publications and reports that relate to the success of the study in question. This was both local and international sources.

3.8 Ethical Considerations

The goal of ethics in this research was to ensure that no one is harmed or suffers adverse consequences from the research activities.[69] The researcher in the conduct of the study aimed at protecting the rights of the respondents by; ensuring that the respondents privacy is maintained during the research or subsequent thesis, thus ensuring that the respondents selected to participate were without bias, of which it ensured that the research was handled

[69]Barifaijo, Supra (note 101)

and developed ethically as the researcher ensured the protection of the privacy of the individuals that participated in the study.

This privacy protection must extend to all people‟s, regardless of age, religion, race. As such, the data obtained from the respondents was treated purely as academic and confidential for the safety, social and psychological well-being of the respondents and appropriate documentation was kept.

In addition, much as some of the ideas used by the researcher were his own, there was information read and that obtained from people interviewed about the topic. As such, the researcher was able to explain where he got information from by way of citation and use of quotation marks respectively. This helped the researcher to maintain credibility of the literature to avoid plagiarism.

3.9 Data Analysis

Data analysis is the process of bringing order, structure and meaning to the mass of collected data. The purpose of analysing data is to obtain usable and useful information. The analysis may describe and summarise the data, identify relationships between variables, compare variables, identify the difference between variables and forecast outcomes.[70]

Qualitative data analysis was used whereby there involved a move from the qualitative data that had been collected into some form of explanation, understanding or interpretation of the people and situations being investigated. Qualitative data analysis also involved 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.

3.10 Limitations

There was a limitation of reliance on interview data. With the use of interviews, it was hard to control the respondent behaviour because some of the interviewees were sensitive to some sections in the interview guide and the questionnaire as a whole. There were elements of item-non response as the answering process failed to proceed smoothly because the respondent lacked motivation or ability.

[70]Barifaijo, Supra (note 101)

Some respondents also gave responses such as; the questions are too difficult, not interesting and even some left some questions unanswered of which the researcher found somewhat unsatisfactory of the expected findings. In order to mitigate this limitation, the researcher endeavoured to ensure that he provides a reliable explanation in relation to the questionnaires presented to the respondents of which this helped the respondents to fall in line with what the researcher expected from them as they gave their views and answers.

Limited information given to the researcher during the study was among the limitations the researcher faced while conducting research. Some of the respondents were hesitant to reveal as well as avail the researcher with information they believed to, be confidential. As a way of mitigating this limitation, the researcher explained in detail that the information given would be used purely for academic purposes.

More so the researcher' used secondary sources as an alternative to the primary sources used. This was done by endeavouring to research and pinpoint sources that are current of which the researcher deemed important and plausible to bring out the desired goals of the research.

There was also a hindrance in the scheduling of the interviews with some of the respondents who had busy schedules, others were not even reachable as either they were not in the country or they were busy occupied with work that they had no time for response. In addition, some respondents had archaic requirements to approach their offices which became difficult for the researcher to attain information from them.

This limitation was mitigated in a way that the researcher endeavoured to stick to his method of snowball sampling through which the different stakeholders approached, recommended other respondents who helped to bridge the gap respectively especially where most of them had similar qualifications or were at the same level of ranking.

CHPATER FOUR

ENVIRONMENTAL H&S IMPACTS OF OIL AND GAS EXPLORATION AND PRODUCTION

4.1 Introduction

This chapter critically analyses the laws and regulations adopted to manage the oil sector, highlighting their strengths and weaknesses.

4.2 The Regulatory Approaches in the Oil and Gas Industry

4.2.1 The Health and Safety Case

The often-cited modern Health and safety case in the oil and gas industry was developed for the North Sea continental Shelf (United Kingdom) oil and gas operations following the Piper Alpha blow-up disaster that occurred in 1988 leaving a loss of 167 lives[71]. The on-shore "Seveso" incident of 1976 in Italy and subsequent adoption of a safety case regulatory approach prompted the cases. Since that time the use of safety cases has spread to other industries such as mining, defense, aerospace and railway operations; especially in Europe, USA, and Australia[72]. Safety cases have predominantly been adopted in high-risk areas. The case being a regulatory tool was preceded by a host of other regulatory tools used by regulatory authorities but modified to suit specific goals.

Following the Piper Alpha disaster in the North Sea, it became apparent that regulation of health and safety in the offshore oil and gas industry had become a matter of great concern not only to those on the installations but also to a much wider population. The full effect of a spill and the clean-up effort may take a considerable period of time to be realized. By the time of the Piper Alpha disaster the U.K government had realized that the industry possesses significantly greater knowledge and expertise than the regulators[73]. The industry is equally characterized by constant technological advancement as the developers endeavor to extract increased percentages of hydrocarbons from the reservoirs.

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[71] Sutton .W, Health and Safety; https://www.suttonwinston.com: last accessed on 27th August, 2019.
[72] Ibid.
[73] Health & Safety Exec., Key Programme 3: Asset Integrity Programme 5 (2007); https://www.hse.gov.uk/offshore/kp3.pdf last accessed 18 August 2019.

The key objective of promoting increased local participation in oil and gas operations for host developing countries is enhanced opportunities to earn revenue necessary for socio-economic and sustainable development. Host countries expect to achieve transfer of skills, capacity and economic development within the supply chain of oil and gas. Host countries are eager to have a healthy workforce to effectively man its participatory roles in the industry. On the other hand, IOCs view the entire oil and gas value chain as requiring much more capital than labor in order to produce commercially viable returns.

A safety case is a document produced by a licensee or operator of a facility which identifies hazards and risks associated with the development operations.[74] A safety case identifies the hazards and risks, describes how the risks are controlled and the safety management system in place to ensure mitigation and control measures.[75] Safety cases must be produced by the operator of an installation or construction site. Appropriate performance standards are defined for effectiveness. The work force involvement is necessary in order to know what happens in practice and reasons therefore.

The workforce is not expected to rely on a „rule-based" culture. A safety case is produced on the understanding that it will be carefully scrutinized by a competent and independent regulator. A safety case is accepted by the regulator, if it is satisfied that the arrangement set out in the document demonstrates that the risks and hazards projected will be reduced to as low as is reasonably practice (ALARP).

4.2.2 Safety Culture in Organizations

Organizational culture is a set of shared values and norms on which decisions are grounded. Safety culture is simply a subset of the overall culture that reflects the general attitude and approaches to safety and risk management.[76] Safety culture is primarily set by the leaders of the organization as they establish basic values of the organization. This becomes the foundation of decision taking. In situations of cultural denial accidents are assumed to be inevitable. It is arguable however, that often times the cause and price of accidents cannot altogether be eliminated.

[74] National offshore Safety and Environment Management Authority (NOPSEMA), what is safety case (2018), https//www.nopsema.gov.au/safety/safety-case-is-a-safety-case/Accessed on 18 August 2019
[75]Ibid.
[76]Levenson .N.(2011), Risk Management in the Oil and Gas Industry, energy-…edu/news/risk-management-in the-oil-and-gas-industry. Accessed on 8th August 2019.

Haddon-cave (2009)[77] argues that „culture of paper safety" manifests itself where employees spend most of their working time writing elaborate arguments justifying time spent in actually ensuring the system to be safe. After the U.K. Nimrod air craft loss in Afghanistan in 2006, the accident findings showed the heavy reliance on safety cases as the major contributor to the accident. The cases had created a culture of paper safety.[78]

4.2.3 Commitment to Safety by Leaders

Levenson (1995) posits that organizational management commitment to safety is an important factor in distinguishing between organizations with high and low accident rates. The higher the commitment to safety standards the lower the accident rates. Commitment to safety is a key factor to organizational effectiveness.

4.2.4 Occupational Safety and System Safety

Occupational Safety focuses on controlling injuries to employees at work place. It becomes important to change the individual behavior of the employees. System safety puts emphasis on system design to prevent hazardous incidents and risk losses. It is possible for management to believe that system safety is improving when in fact it is deteriorating. While process accidents at installations may be low frequency, they are not necessarily low probability. The fact is that consequences of events may differ.

The factors that trigger incidents, no matter how small, may depend on factors in the environment totally out of control of the engineers and operators. Effective control mechanisms may be a matter of good luck. A situation may be mislabeled as high probability whereas not. Conversely, an installation may be designed and operated in a manner that shows the operation as high probability. The way the Macondo well was designed and operated made an accident quite high probability.[79]

Such mislabeling may lead to the belief that there is nothing to do to diminish the probability. A strict application of the Safety case would render the operation licence revocable instead of

[77] Norton -Taylor .R (2009), RAF Nimrod air crash Investigation delivers devastating verdict. On 2nd September 2006, RAF Nimrod XV230 aircraft with 14 crew members on board was on a routine reconnaissance mission in Afghanistan, looking for insurgents. It crashed shortly after refueling mid-air. The Independent report showed a general and documented assumption that the 30 year old air craft was „safe army way; poorly managed and poorly executed, work-was rushed and corners were cut, https://www.gov.uk>publications. Accessed on 8 August 2019.
[78] Ibid.
[79]Levon .N. (2011), Ibid.

putting focus on design safety. Emphasis is instead placed on consequences of adverse effects and investigating post occurrence events.

4.2.5 Safety and Control

Leveson (2011) posits that accidents result from a lack of enforcement of constraints on unsafe behaviors. However, this construct offers no satisfactory explanation why accidents can occur arising from over reliance on uncoordinated mitigation measures like it was the case in the Piper Alpha incident. „Smart compliance" in relation to the design and operation of Deep-water Horizon indeed did not control the release of hydrocarbons (high-pressure gas) from the Macondo well. The commission report showed that there was irregular inspection of the Macondo well installation due to patronage and complacency of the regulator.

4.2.6 Industry Standards

One of the investigative conclusions following after major operational accidents is lack of standards in the industry. Often times government regulatory agencies are prone to regulatory capture creating arguments for industry self-policing.

The safety management system requires safety training and orientation of all stakeholders. Knowledge and enforcement of regulatory rules and standards should be a prerequisite for issuing or renewing licenses and permits for operational activities. In most cases workers have minimal training and or little certification required by the employer organizations.

A system approach to accidents and incident investigation should require everyone in the industry to continuously lean on improvement and sustainable effectiveness. Regular hazard analysis should inform the guide for regular maintenance and performance audits as well.

4.2.7 The Licensing Approach

The Piper Alpha disaster was primarily caused by a failure of the Permit to Work (PTW) in the context of a breakdown in communication between work shifts. Specifically, regarding the Piper Alpha incident, the failure was not helped by allowing equipment to be used when maintenance works had not been completed. In result an escape of associated gases occurred and an extensive explosion occurred. Uncoordinated activities exacerbated the explosion accident and the environmental risks increased. Appropriate mitigation and safety arrangements were either uncoordinated or ignored.

The powers to grant exploitation licenses were vested in the Minister responsible for minerals. Annexed to the Regulations were model licence clauses regulating occupational health and safety matters for the off-share exploitation of oil and gas. The health and safety concerns were covered in the model clauses for securing the health, safety and welfare of persons employed in or about the licensed area.[80]

Unfortunately, there were no detailed stipulations or even inspections under the model clauses. Even if there were ostensible breaches of health and safety by the employees, the minister had limited remedial measures in view of the contractual nature of the licenses. The individuals affected had limited recourse to the adjudicatory authorities. None compliance with the contractual terms of the licence rendered the licence liable to progressive sanctions. The breaches, if any, were normally detected through regular and routine inspection of installations but detected upon failure to comply with the model clauses. The regulatory mechanism was overly superficial and uncoordinated.

The right to life, a clean and healthy environment are enshrined in the Constitution of Uganda[81] the Constitution of Uganda, the mother law, provides for power to enact laws with provisions having the force of law in Uganda.[82] Various Laws with mandates to implement Health and Safety Systems are in place. In the context of this study, Health and Safety Systems refer to processes put in place by an employer to minimize the risk of injury and illness associated with the activities and work place of a given body or Institution.

The overview highlights the policies and legal frameworks underlying the Health and Safety regulatory system in the oil and gas sector. The study will show that while specific sector-based legal frame works exist there is no centralized policy for implementation of the diverse frame works.

4.3 Uganda's Health and Safety Legal Framework in the oil and gas sector

One of the key features of Uganda‟s National Oil and Gas Policy,[83] is the acclaimed management of the impact of the emerging oil and gas sub-sector on the country‟s governance system; the economy, the environment and human development.[84] The Policy recognizes the need for protection of the environment and biodiversity. The Government also

[80] Sch 2, clause 18, Ibid.
[81] Articles 22(1) and 39 of the Constitution of Uganda, 1995 as amended, Laws of Uganda.
[82] Article 79(2), Ibid.
[83] National Oil and Gas Policy for Uganda (2008), pan.go.ug/upload/status Policy-Implementation-pdf, Accessed 26th September, 2019.s
[84] Ibid.

recognizes the need for institutional reforms in order to adopt a Regulatory Best Practice (RBP) strategy. It paves a way for establishment of Institutions with regulatory functions in the Petroleum sub-sector.

According to the Policy principal the regulatory functions (oil and gas) are to be handled by the Petroleum Authority of Uganda (PAU) while the business aspects are to be handled by the Uganda National Oil Company (UNOC). However, other regulatory functions fall under an array of other sectoral Organizations of government. The roles of other Institutions with linkages to the Petroleum sub-sector are part of the regulatory framework as far as Health and safety issues are concerned.

4.3.1 Health and Safety Occupational Legal Framework

There are several laws that provide for safety and health of employees at work places in Uganda. Although the first law covering work places safety and health concerned factory workers,[85]provision was subsequently made for occupational safety and health (OSH) beyond factories. The legal framework established employer- specific duties and obligations at all work places. The occupational safety and health policy defines the goals but also the responsibilities of employees in Uganda at workplaces. The policy and its goals are based on assessment of workplace hazards and risks.

The constitution of Uganda provides for a universal right to a clean and healthy environment and also a right to work under safe and healthy conditions. This grand norm provision forms the basis for the occupational health and safety legislative framework.

The Occupational Safety and Health law[86] makes it obligatory for an employer to ensure health, safety and welfare of persons at workplace. Proprietors of workplaces are obliged to provide adequate facilities and arrangements for the welfare of workers[87]. The law does not define for what amounts to adequate facilities. It appears that the adequacy mainly be determined by the regulator. The regulations are typically prescriptive in nature where, the regulator may close down enterprises that may be in breach of safety and health standards.

[85] Factories Act, Chapter 198, Laws of Uganda, 1964 Edition was re-enacted in the 2000 Edition, Laws of Uganda.
[86] Section 13, Occupational Safety and Health Act, 2006, Laws of Uganda.
[87] New Vision, 11 November 2015, 12 Enterprises closed over Poor Safety Health Care measures, https://www.newvision.co.ug>news. Last Accessed 20th September 2019.

The competent authority is the Ministry of Gender, Labor and Social Development[88] which initials legislative prescriptions.

The standards to be complied with are International Labor Organization (ILO) standards. The authority is obliged to co-ordinate the ILO ratification information, reporting requirements and the comments made by the ILO‟s supervisory bodies.

4.3.2 The Environmental law Regulatory Framework

The National Environment Law[89] re-emphasizes the constitutional right to a clean and healthy environment. National Environment Management Authority (NEMA) undertakes functions of coordinating, monitoring, regulating and supervising activities relating to the environment. The law establishes a national environment Policy Committee chaired by the Prime Minister and comprising of 15 stakeholder ministries[90]. The powerful policy committee is not matched by a similar powerful enforcement Committee. Enforcement of the environmental or goals Policies is vested in lead agencies which include the very ministries represented at Policy Committee relevant officials of NEMA and local authorities.[91]

A licence holder or developer is obliged to submit an environment and social impact assessment (ESIA). The ESIA may be submitted either personally by the developer, or by employees, contractors or sub-contractors. A developer is defined to include a person who proposes to undertake a new project or to rehabilitate a project with potential effects on the environment. In short, the Act prescribes for a wide range of offences, penalties, fees; fines and other sanctions for non-compliance with specific prescriptions in the Act. The regulatory approach is prescriptive and rule-based.

4.3.3 The Petroleum Health and Safety Regulatory Framework

The Petroleum law[92] which provides for the exploration, development and production activities operates on the basis of a licensing regime. The law imposes specified health and safety obligations for the licensee. A licensee refers to a person to whom a licence is granted under the petroleum law by the Minister responsible for petroleum activities. The law also

[88] Occupational Safety and Health County Profile: Uganda, https://www.ilo.org. Last Accessed 20th September 2019
[89] The National Environment Act, 5, 2019 Sections 3 and 6.
[90] Section 6, ibid.
[91] Section 2, Ibid.
[92] Petroleum (Exploration, Development and Production) Act, 3, 2013, Part

imposes on an operator the duty of taking such precautions as are necessary to ensure the safety of any person employed or otherwise present at the vicinity of any installation.[93]

An operator means a licensee or any other entity executing petroleum activities on a day-to-day management of petroleum activities.[94] The law does not seem to impose specific obligations on the individual operator but on the corporate entity in the person of an operator. In essence the licence holder is accountable for breaches of safety precautions and not the individual operation.

Like the substantive law the subsidiary legislation imposes the duty and responsibility for complying with health and safety standards on the licensee. Each licensee is obliged not only to comply with the Occupational Safety, Health and Environmental Laws but also with health and Safety risk assessment and mitigation measures prescribed under other laws and regulations relating to Petroleum activities. Licences normally comprise of International Oil Companies (IOCs) who are skilled and experienced in extractive operations including documentation.

The regulations general to the industry oblige a licensee to prepare and submit to the Petroleum Authority (PA) a safety concept.[95] The purpose is to demonstrate that in the event of a major accident adequate safety and reliable measures have been taken to prevent such accidents and to limit their consequences to human health and the environment. The host government will normally rely on the skill and experience of the license holder to submit an investment plan that is in conformity with best industry practices. This approach is kin to the safety case.

4.3.4 Extent of effectiveness of the legal framework

The study showed that these laws have been effective to a low extent and the respondents gave an insight into the reasons for this. For example, some respondents believed that most of the petroleum companies do not follow these laws. That these laws have not been effective since most of the workers are ignorant about them, and the implementation of these laws is still low as the government has often failed to punish some of the top management in the Oil companies who have failed to adhere to these laws and policies. One of the legal officers in one of the companies had this to say:

[93] Section 141, Ibid.
[94] Section 2, Ibid.
[95] Regulation 14 of S.I, 46, 2016, Ibid.

> *"....my honest opinion is that these safety laws have been effective to a low extent because there are few petroleum companies that have tried to adhere to these laws since their major aim in this business is profit making. To make matters worse, the government has failed to effectively implement these laws because when big people like the management of these companies are caught in breach of these laws, they are not apprehended by the long arm of the law which is sometimes so disappointing and this explains why there are still cases of occupational hazards like environmental risk accidents in the industry, even though they are not brought to public attention…."*

On the other hand, some respondents intimated that the laws have been effective. They argued that this was because some of the government organizations like NEMA and PAU have tried to implement some of the requirements talked about in the laws; and that the government, according to one respondent,

> *"is trying to make sure that environmental impact assessments are effectively carried out with the major aim of reducing occupational hazards like environmental risk accidents before carrying out petroleum operations in the country."*

Overall, it would appear that these laws and regulations have not been effective. In fact, there has been a catalogue of environmental risk and explosions especially of fuel tankers carrying petroleum products.[96] These have led to deaths and a large number of people sustaining serious injuries.

4.3.5 Challenges faced in the implementation of the legal framework

The study further revealed that the implementation of the set laws by the government is weak as some of the people caught in breach of the laws are not held accountable. Also, some respondents noted that there are still flaws in the laws especially the Occupational Safety and Health Act 2006 which does not effectively stress what the compensations are once an

[96] Fuel fire: 33 and others burnt to death, past fuel fire related accidents by a New Vision Reporter. Available at https://www.newvision.co.ug/new_vision/news/1325028/fuel-burnt-death .Accessed on 30th July, 2019.

employee has gotten into an accident at work. One of the managers in one of the companies said:

*“ I think the greatest challenge we have in Uganda is implementation of the set laws in all sectors, we really have good laws for example on occupation health and safety and the Petroleum (exploration, Development and production) (health, safety and environment Regulations 2016**,** but the people supposed to implement these laws are corrupt and do not do their job. In fact, most of our people (workers) are ignorant about the laws as most of these workers who do activities like drilling are usually uneducated and do not understand the laws and the importance of these laws….”*

The analysis herein suggests that even though there are a number of legislative instruments whose area of coverage include aspects of safety in the oil, gas and related energy industries, no legislation exits that exclusively caters for the unique safety practices of that sector of industry. In spite of the absence of specific national safety standards for the industry, the organizations studied were found to have adopted varied international safety guidelines for the operation of their plants however, enforcement of the law is still a challenge.

CHAPTER FIVE

EXTENT OF COMPLIANCE WITH ENVIRONMENTAL LAWS

5.1 Introduction

In analyzing the efficacy of the Uganda‟s legal regime guaranteeing safety concerns in the oil and gas industry in Uganda, this chapter focuses on oil and gas production activities that can potentially lead to disastrous environmental consequences. 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. 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. This research has recognized a series of barriers and impediments for implementation of existing legal and policy frameworks that must be carefully considered to ensure successful reviewing of health Safety and Environment management performance.

5.2 Extent of Compliance with Environmental Laws

The 2008 National Oil and Gas Policy (NOGP) was designed to ensure that the country‟s oil and gas resources contribute to the early achievement of poverty eradication and create lasting value to society. The NOGP sets out its first objective as ensuring efficiency in licensing areas with the potential for oil and gas production in the country. The policy provides for the initiation of gradual licensing as against licensing all areas at once; open and transparent bidding; execution of due diligence on companies applying for licences and avoiding the undesirable situation of a monopoly by licensing and maintaining several oil companies.

The Petroleum (Exploration, Development and Production) Act, 2013 (the „Upstream Act‟) and the Petroleum (Refining, Conversion, Transmission and Midstream) Act, 2013 (the „Midstream Act‟) also govern licensing. The Upstream Act regulates the licensing and participation of commercial entities in petroleum activities and provides for an open, transparent and competitive process of licensing. Section 5 of the Act prohibits petroleum activities in Uganda without an authorization licence, permit or approval. Anybody who

contravenes the provision commits an offence and is liable on conviction to a fine not exceeding 100,000 currency points or imprisonment for a maximum of ten years, or both. For a body corporate, the fine is a maximum of 1,000,000 currency points.13 Section 6 gives power to the Government to enter into agreements relating to petroleum activities with any person with respect to granting or renewing a licence. Section 8 of the Act empowers the Minister to grant and revoke licences, issue petroleum regulations and to negotiate and endorse petroleum agreements, among other functions.

The Minister is also tasked to develop a model production-sharing agreement or any other model agreement which must be approved by Cabinet and laid before Parliament. Once approved by Cabinet, this model is supposed to guide future agreements. In November 2015, a model production-sharing agreement that had been approved by Cabinet was laid before Parliament and referred to its Committee on Natural Resources (Ekwau, 2016, p.8).

At present, the Uganda National Oil Company makes Uganda‟s model production-sharing agreement publicly available on its website.14 Importantly, the Act does not provide any penalties for failure to disclose model production- sharing agreements to Parliament and it has been correctly argued that Parliament‟s role as regards such model agreements is merely advisory (Ekwau, 2016, p.8). This has created the situation where the Government has consistently refused to make the main agreements on exploration, development and production of oil publicly available, thereby violating the constitutional right of access to information and thus rendering this provision ineffective (Avocats Sans Frontières , p.10). Moreover, an attempt to seek disclosure of the contents of these agreements was rejected by a magistrates‟ court ostensibly because the applicants failed to show that the public benefit in their disclosure outweighed the harm to the third parties, i.e. the Government and the oil companies.

The situation of non-disclosure raises the risks of poorly negotiated production-sharing agreements. Full disclosure forces the Government to negotiate tougher and better terms because any slips will stir controversial public debate to its detriment. Secrecy creates an incentive for either corruptly or incompetently bargained terms that are unfavourable to the nation‟s interest as a whole.

Section 52 of the Upstream Act requires the Minister, with Cabinet approval, to announce areas open for bidding for a petroleum exploration licence. The announcement must be published in the official Gazette and in newspapers of national and international circulation.

Direct applications may be accepted in exceptional circumstances and in consultation with the authority, and must also be published in the Gazette and at least one national newspaper of wide circulation. In response to the announcements made, a person intending to carry out petroleum exploration activities must apply in writing to the Minister.

The Minister must then require an applicant to make arrangements for the execution of a bond or other form of security and to take out insurance policies necessary to protect against liabilities that may arise as a result of activities carried out under the petroleum exploration licence. Section 58 stipulates that the licence may be granted by the Minister in consultation with the petroleum authority and with the approval of Parliament on conditions made by the Minister. Unless otherwise determined, the duration of such licence should not exceed two years after the date of grant, although the licence can be renewed for another two years upon application, When granted, this licence remains in force and confers on the licensee the right to explore for petroleum and carry on petroleum exploration activities.19 As of the present time, there is no plan for companies applying for the reconnaissance permits and petroleum exploration licence to prevent social and environmental destruction, yet drilling is an extremely dangerous activity with significant risks (Minio-Paluello, p.4).

Section 69 of the Upstream Act gives exclusive rights to the holder of a petroleum exploration licence who has made the discovery of petroleum in his or her exploration area to apply for the grant of a production licence. Any other person may apply notwithstanding that he or she does not hold the petroleum exploration licence in respect of the exploration area. Application for a licence may be made to the Minister in the manner prescribed by the regulations and must, under section 71, be accompanied by a report on the petroleum reservoir and a field development plan.

Such plan should contain information related to proposals for the development and production of the reservoir; estimated production profiles; cost estimates; safety measures to be adopted in the course of the production of petroleum; the applicants‟ proposals for employment and training of Ugandan citizens and the applicants‟ proposals with respect to the procurement of goods and services from Uganda.

The petroleum production licence must be granted on the basis of technical competence, capacity, experience and financial strength; the applicants‟ understanding of the petroleum reservoir as well as other conditions as determined by the Minister. Under section 75, the Minister may grant a production licence after consultation with the authority and approval by

Cabinet in such manner as the Minister may determine. A petroleum production licence may continue in force for a period not exceeding 20 years and can be renewed for another period on conditions determined by the Minister.

Once granted, such a licence confers on the licensee exclusive rights to carry on petroleum activities and to sell or otherwise dispose of the licensee‟s share of petroleum recovered in accordance with the field development plan. Under section 87, a licence cannot be transferred without the written consent of the Minister in consultation with the Authority, and may be cancelled or suspended under section 90 where a licensee is in default because of violations of Ugandan law. In such a case, the Minister may, in consultation with the authority and with the approval of Cabinet by notice in writing served on the licensee, proceed to do so.

The Act generally gives the Minister too much discretionary power to approve licences and their content. Given such power, if there is no tightly- defined model licence there is a likelihood that one licence could substantially differ from another in terms of content. This risks creating an incentive for companies forcefully to negotiate and influence the Minister to ensure favourable conditions for themselves and possibly to water down liability and social and environmental protection measures (Global Witness, 2012, p.8). The extensive ministerial powers also pose a threat of a concentration of political (and economic) power, common to oil-endowed nations where mismanagement reigns supreme, with the potential to reinforce corruption as there are few or no checking safeguards to counteract it (Gary and Karl, 2003, p.24).

The Midstream Act, which provides for midstream operations including the planning, preparation, installation and execution of operations related to refining, conversion, transmission and storage of petroleum products, has similar provisions related to licensing contained in the Upstream Act. Anyone who operates without a licence is liable on conviction to a fine not exceeding 100,000 currency points or imprisonment of up to ten years, and for a company a fine of up to 200,000 currency points, all conditions and procedures related to the application, grant duration and cancellation of licences are similar to those in the Upstream Act.5.3

CHAPTER SIX

MECHANISMS FOR IMPROVING ENVIRONMENTAL HEALTH AND SAFETY LAW COMPLIANCE

6.1 Introduction

This chapter presented the information on the various mechanisms that can be put in place to ensure that IOC comply with the environmental oil and gas regulations. The chapter assessed both legal and institution al mechanisms.

6.2 Causes of environmental risk accidents in the oil and gas industry

The findings from the study are in line with the literature by Noopur Sonee, et al. who pointed out that during the production of oil and gas, environmental risk is very high. The potential for environmental risk is present in most of the operations due to vapour or product leaks which in most cases result into environmental risk explosions which severely affect the health of the workers and the surrounding environment hence the need to carefully manage, operate petroleum activities by ensuring safety from environmental risks and other related hazards.[97]

In addition, the study found out that high pressure in oil drilling wells can lead to environmental risk accidents. Also improperly stored chemicals or substances, gas leaks cable or block breaks and negligent or improperly trained workers are sometimes the cause of environmental risk accidents in the petroleum industry.

The findings correspond with the literature by Zongzhi Wu &Rujun Wang who pointed out that human errors are the major root causes of any industrial accidents. It is also truly applicable for Oil & Gas Industry[98]. Unsafe practices such as unsafe conditions and actions are basic causes of most accidents. Frank Bird‟s accident causation theory which was accepted worldwide describes that there are number of underlining causes for any accident to occur. Scientific analysis and interpretation of root causes of accidents reveals that human errors are the weakest link.

[97]NoopurSonee, et al. Oil and Gas industry: Review on fire hazards and protective textiles. International journal of Advance Research in Science and Engineering Vol. No.6, Issue No.01, January 2017.Available at https://ijarse.com>fullpdf Accessed on 28th February,2019.

[98]Zongzhi Wu, Rujun Wang (2014). Concern with the safety management of oil and gas pipelines--Status. Chinese Safety News, 6, p. 1

6.3 Legal framework adopted

The study revealed that, international and national laws play an increasingly important role in determining the response to the energy related environment problems by government, industry and institutions. Uganda is a signatory and has ratified some of these conventions.[99] These include The Convention on Pollution Preparedness, Response and Cooperation, the United Nations Convention on Climate Change, the convention on biological diversity and others. These international Conventions seek to promote sustainable development, by encouraging the member States like Uganda to promote development but take care of the environment at the same time. The study further found out that Uganda, even after ratifying these conventions, does not implement the principles enshrined in these Conventions fully.

It further revealed that the national laws that govern the oil and gas industry are fully in existence, for instance the Occupational Health and Safety Act, No 9, 2006, the petroleum act of 2013, and the National Environment Act cap 153. However, these do not specifically address the prevention and control of environmental risks and explosions in the industry. Nonetheless, there are regulations like the Petroleum Regulations, 2016 which address the prevention and control of environmental risks and explosions. The study found that some of the employees are not aware of petroleum regulations hence the need for sensitization.

6.3 Other Mechanisms Adopted to Ensure Compliance

From the interviews, some respondents noted that they have tried to implement risk assessment and planning of the operations. They do this by forecasting the environmental risk risks that are likely to occur in the business, and assessing their impact on the company once they occur.

Some noted that they have employed risk control mechanisms to check the magnitude of the environmental risk risks and make a decision. This involves deciding on whether to treat the risk, transfer it to other service providers, or tolerate the risk if it‟s not of much damage to the company operations or terminate the risk for good.

In addition, the other risk management strategy adopted to control environmental risk accidents is monitoring the environmental risk operations that have been identified by the company.

[99]Convention on Environmental Impact Assessment in a Trans boundary Context, Feb. 5, 1991, 30 I.L.M. 800 (1991)

Furthermore, the study also revealed that IOCs have tried to put in place environmental risk controlling tools like functional environmental risk guarantees in all corners of the companies and training workers on how to use them.

The IOCs like CNOOC, have also endeavored to provide environmental guarantees. They have tried to offer effective monitoring by hiring people to always keep watch. Sometimes they outsource companies specialized in prevention and control of environmental risk outbreaks in the petroleum industry. The following quote of a manager in one of the companies attests to this:

> *"....as a petroleum company, who know that environmental risk accidents are a time bomb in our operations, we have been able to put in place different risk management strategies to try and prevent or control environmental risk accidents in our work place. For example, the major thing we have done is to train our employees on a regular basis on how to prevent the occurrence of environmental risk outbreaks or how to control environmental risk. We also majorly employ people with skills and specialty in handling environmental risk outbreaks and also we put in place equipment like environmental risk extinguishers in place to put out environmental risk outbreaks quickly when they occur...."*

The findings are in line with work by Suslick and Schiozer who revealed that during the introduction of the concept of risk management to the oil and gas sector, the objective was to provide a strategy to minimize the exposure of petroleum projects to risk and uncertainty in exploration activities. Since then, the concept has become an important aspect of business strategy within the oil and gas industry[100] and has been fully embraced by a number of oil companies.

The findings also correspond with a paper by Badiru and Osisanya who assert that risk management must be a core component of a company‟s project management portfolio in the oil and gas industry. They contended that risks can be mitigated, but not eliminated. They add that in spite of government regulations designed to prevent and reduce accident risks in the energy industry, accidents will occasionally occur. Thus, they emphasize the need for government regulators to work with the licensees to monitor petroleum operations as this will

[100]Suslick, S. and Schiozer, D. (2004). Risk analysis applied to petroleum exploration and production: an overview. Journal of Petroleum Science and Engineering, 44(1-2), pp.1-9

only pre-empt a fraction of potential risks.[101] For this reason, regulators must work with operators to ensure that adequate precautions are taken in all operating scenarios and this can be done in a risk-mitigation partnership, rather than in an adversarial "lording" relationship.[102]

In addressing the effectiveness of these other measures, the study found that the risk management measures employed have been effective since the occurrence of environmental risk accidents have been minimized to a great extent.

It was also revealed that the measures put in place by the oil companies have been effective since they have the capacity to address these risks themselves. This is largely due to the fact that they have the human expertise in place to do the job and finances to deal with these risks as exemplified by one of the managers:

> *" to a great extent I think that these risk management strategies have been effective in ensuring safety in the petroleum industry since the company has the right personnel with the right expertise and enough resources to help in the process of risk management by treating and terminating these risks by ourselves…."*

However, some of the respondents noted that the measures put in place by the companies have not been effective since there is still occurrence of these risks especially the environmental risk accidents during transportation. They also noted that the companies have failed to involve all stakeholders in the process of risk management yet this is a very important aspect of the process.

This corresponds to Baccarini"s work which indicates that the efficiency of an oil and gas industry is highly dependent on the success or the completion of several small projects.[103] The success of a project depends on the ability of the management to manage risk-prone changing environments within the framework of the project. Thus, project managers usually try to minimize the uncertainty and risk. During the process, however, project managers

[101]Badiru, A. B., and Osisanya, S. O., (2013) Project Management for the Oil and Gas Industry. CRC Press
[102] ibid
[103]D. Baccarini , Understanding project cost contingency: A survey in Sidwell," A.C. (ed), Proceedings of the Queensland University of Tech-nology Research Week 2005, 4-5 Jul 2005. Brisbane, Qld: Queensland University of Technology, 2005.

either underestimate or overestimate risks[104] as it is not easy to appropriately assess the magnitude of potential environmental risk risks that may occur.

6.4 Challenges faced in implementing other risk management mechanisms

The study revealed that lack of interest, from top management in the organizations, to carry out the risk management process was a major challenge. In addition, inadequate finances and lack of skilled people to carry out risk assessment and management processes has been a hindrance.

It was also pointed out that most petroleum companies have failed to use the right metrics to effectively evaluate the risks that occur in the petroleum industry.

Finally, there have been challenges of the ever-changing environment where the companies have to always bring up new ideas and ways of dealing with some of these risks occurring several times. These, ultimately, lead to failure to effectively complete the whole process of risk assessment in the organizations.

These study findings are in line with Hopkin‟s arguments. He argues that petroleum companies have limited access to formal credit which hinders their ability to carry out proper risk assessments. He further contends that it is important to note that finances are a prerequisite for any business that wants to carry out effective risk assessment, more so given the fact that the petroleum industry is by nature highly capital intensive. Yet, some petroleum companies operate on limited finances, so they find themselves unable to effectively engage in the proper process of risk assessment and risk mitigation[105] which proves a challenge especially during the risk assessment process.

6.5 Solutions to Environmental Law Compliance Challenges

The study found that the petroleum companies need to involve all the stakeholders in the process of risk management and also avail enough resources both financial and human resource with expertise knowledge to help in the effective implementation of risk management. There is also a need for effective enforcement of the laws on the occupational safety and health hazards by making sure that the culprits are arrested and asked to pay for

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[104] D. D. Fiberesima, and N. S. A. Rani, “An Evaluation of Critical Success Factors in Oil and Gas Project Portfolio in Nigeria,” African Journal of Business Management, vol. 5, no. 6, pp. 2378 – 2385, 2011.

[105]Hopkin, P, (2014). Fundamentals of Risk Management, 3rd Edition. London: Kogan Page.123

the damages caused to the environment. One of the managers in one of the companies had this to say;

> *" there is great need for the enforcement of the law in Uganda because am sure if these laws on occupational safety and health hazards are effectively implemented, then the environmental risk risks will be reduced in the businesses. Also, most of these companies need to have a specialized department for risk management where people with expertise in this field sit and formulate the best policies and strategies that enable the company to reduce the occurrence of risks like environmental risk accidents in the operations of their businesses…."*

6.6 Training on Environmental risk Safety in the Oil and Gas Industry

The study revealed that employees and safety managers are required to have trainings on health and safety in the oil and gas industry. It is further pointed out that during these trainings, workers are taught how to prevent and control environmental risk accidents during petroleum operations by educating them about the health and safety laws, safety measures to employ before and during Oil and Gas operations. One of the managers was quoted;

> *" I have the necessary training and knowledge on health and safety which encompasses environmental risk safety in the oil and gas industry because it's mandatory in the company that when you are to join this petroleum company, it's advantageous to have these skills. Given that am in a management position, it's my responsibility to see that the environmental risk risks are controlled and prevented, which makes that training is a necessity…."*

It was further discovered that without proper risk mitigating mechanisms, communities and wildlife are likely to be adversely affected by oil spills posing a serious threat to biodiversity and rare endangered species because most of the oil projects involve a lot of environmental issues that have to be adequately dealt with.

CHAPTER SEVEN

SUMMARY CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

In this chapter, the researcher summarized the study, discussed, drew conclusions and made recommendations accordingly. The conclusions and recommendations were made from the findings that were analyzed, interpreted and presented in the previous chapter. to analyze the extent of compliance is to environmental health and safety standards in the oil and gas industry in Uganda.

7.2 Summary of Findings

The study found out that during the production of oil and gas, environmental risk is very high. The potential for environmental risk is present in most of the operations due to vapour or product leaks which in most cases result into environmental risk explosions which severely affect the health of the workers and the surrounding environment hence the need to carefully manage, operate petroleum activities by ensuring safety from environmental risks and other related hazards.

In addition, the study found out that high pressure in oil drilling wells can lead to environmental risk accidents. Also improperly stored chemicals or substances, gas leaks cable or block breaks and negligent or improperly trained workers are sometimes the cause of environmental risk accidents in the petroleum industry.

The study revealed that, international and national laws play an increasingly important role in determining the response to the energy related environment problems by government, industry and institutions. Uganda is a signatory and has ratified some of these conventions. These include The Convention on Pollution Preparedness, Response and Cooperation, the United Nations Convention on Climate Change, the convention on biological diversity and others. These international Conventions seek to promote sustainable development, by encouraging the member States like Uganda to promote development but take care of the environment at the same time. The study further found out that Uganda, even after ratifying these conventions, does not implement the principles enshrined in these Conventions fully.

It further revealed that the national laws that govern the oil and gas industry are fully in existence, for instance the Occupational Health and Safety Act, No 9, 2006, the petroleum act of 2013, and the National Environment Act cap 153. However, these do not specifically address the prevention and control of environmental risks and explosions in the industry. Nonetheless, there are regulations like the Petroleum Regulations, 2016 which address the prevention and control of environmental risks and explosions. The study found that some of the employees are not aware of petroleum regulations hence the need for sensitization.

The study showed that these laws have been effective to a low extent and the respondents gave an insight into the reasons for this. For example, some respondents believed that most of the petroleum companies do not follow these laws. That these laws have not been effective since most of the workers are ignorant about them, and the implementation of these laws is still low as the government has often failed to punish some of the top management in the Oil companies who have failed to adhere to these laws and policies.

The study further revealed that the implementation of the set laws by the government is weak as some of the people caught in breach of the laws are not held accountable. Also, some respondents noted that there are still flaws in the laws especially the Occupational Safety and Health Act 2006 which does not effectively stress what the compensations are once an employee has gotten into an accident at work.

From the interviews, some respondents noted that they have tried to implement risk assessment and planning of the operations. They do this by forecasting the environmental risk risks that are likely to occur in the business, and assessing their impact on the company once they occur. Some noted that they have employed risk control mechanisms to check the magnitude of the environmental risk risks and make a decision. This involves deciding on whether to treat the risk, transfer it to other service providers, or tolerate the risk if it‟s not of much damage to the company operations or terminate the risk for good.

7.3 Conclusion

A number of conclusions arise from this study: Environmental risks are the major problems in the petroleum industry, and are usually caused by negligent or poorly trained workers and ignorance of the safety laws and regulations. Regarding the legal framework, there is a good number of laws and regulations in place to govern the oil and gas industry in Uganda.

Specifically, there are two regulations that address the issue of the prevention and control of environmental risk and explosions in the sector. In addition, there is a need a regulation or law to regulate the activities of the intended East African Crude Oil Pipeline project as currently, there is none. Considering the effectiveness, these laws and regulations have not been effective in preventing and controlling environmental risk. In fact, numerous fatal environmental risks still occur, mostly during the transportation of the petroleum products by the fuel tankers.

Despite the laws and regulations in place, their effective implementation has been a challenge, largely due to ignorance of the law and lack of skilled workers and financial resources. Furthermore, in as much as the international Conventions advocate for sustainable development, preservation and protection of the environment, these Conventions do not provide for punitive action against states that infringe on the principles enshrined there.

7.4 Recommendations

From the study findings, it was revealed that most of the workers in the companies are ignorant about the laws on occupational safety and health hazards like environmental risk accidents. The study findings therefore recommend that there is need for the law makers and other stakeholders to provide sensitization to the workers about their rights and the occupational safety and health laws available to protect them.

Furthermore, the study findings revealed that the implementation of the laws on the occupational safety and health hazards like environmental risk management is weak. The study therefore recommends that there is need for the law makers and enforcers to effectively implement the laws on occupational safety and health hazards by holding accountable those found in bleach of the law.

More so, the study findings revealed that most petroleum companies fail to implement risk management strategies in their operations due to limited resources both financial and human. The study therefore recommends the companies to employ the right people with the right expertise in risk management implementation and setting aside a budge meant for risk assessment and implementation of the risk management mechanisms.

Finally, from the study findings, it was revealed that there is a challenge of reluctance and negative attitudes towards implementation of risk management mechanisms by the top management in the petroleum companies. The study therefore recommends the need to

change the attitudes of top management and encourage collective decision making from all stakeholders in the process of implementation of risk management strategies.

7.5 Suggestions for Further Study

Since this study explored the efficacy of the law risk management that have been adopted to ensure environmental risk safety in Uganda‟s Oil and Gas industry, the study recommends that further research be done on the following areas.

The researcher recommends that more research needs to be done on the flaws within the legal framework in the environmental risk safety risk management strategies in the oil and gas/ petroleum industry

The researcher also recommends that more research needs to be done to analyse the law on risk management for the different oil and gas projects adopted to ensure the general health safety in Uganda‟s Oil and Gas industry.

Finally, the study also recommends that more research be done on the benefits and costs of implementation of the laws on risk management in Uganda‟s Oil and Gas industry.

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