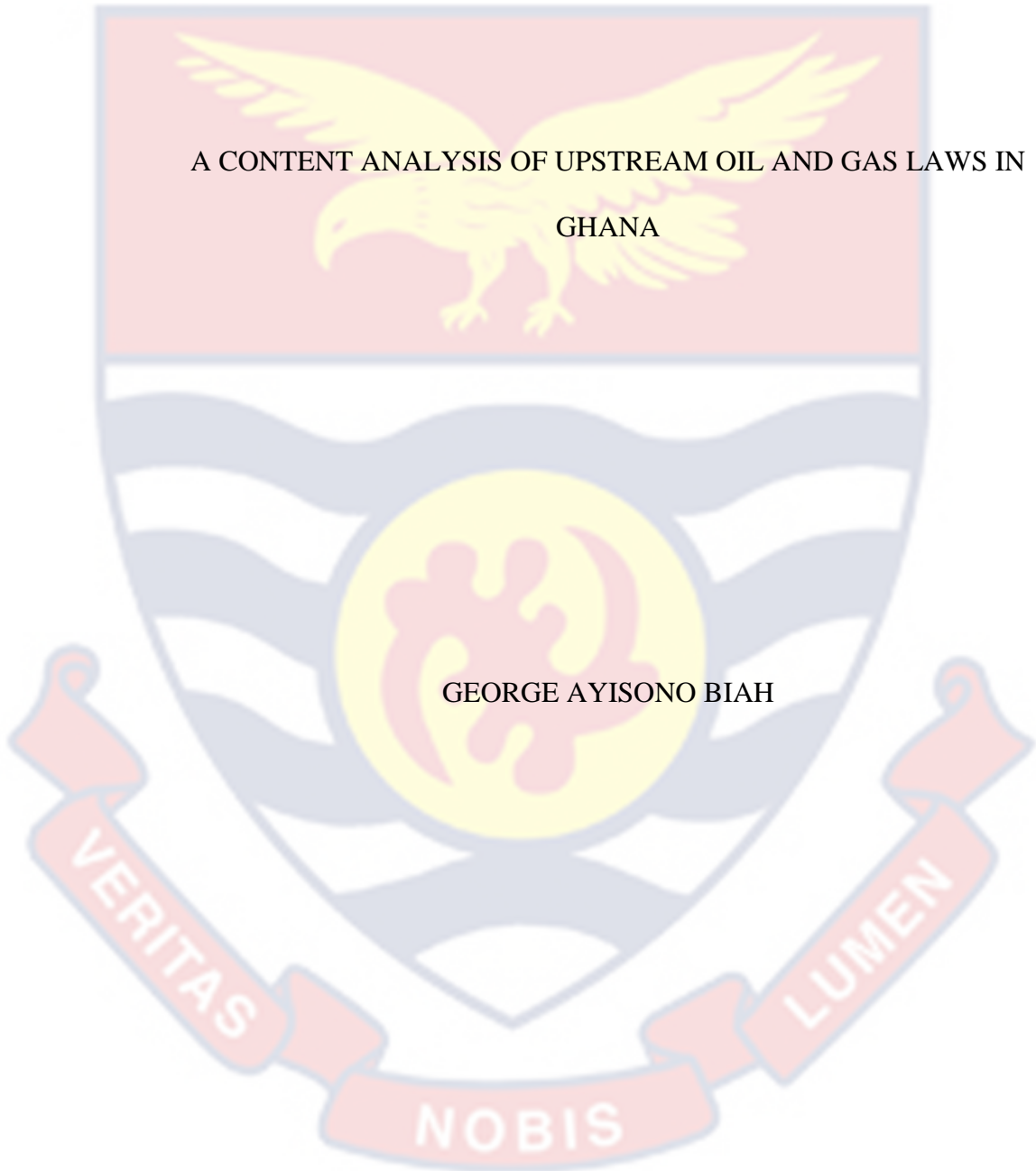


UNIVERSITY OF CAPE COAST

A CONTENT ANALYSIS OF UPSTREAM OIL AND GAS LAWS IN
GHANA

GEORGE AYISONO BIAH



2023



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University of Cape Coast

UNIVERSITY OF CAPE COAST

A CONTENT ANALYSIS OF UPSTREAM OIL AND GAS LAWS IN

GHANA

BY

GEORGE AYISONO BIAH

Dissertation submitted to the Institute for Oil and Gas Studies of the Faculty of
Social Science, College of Humanities and Legal Studies, University of Cape
Coast in partial fulfillment of the requirements for the award of Master of
Business Administration degree in Oil and Gas Management

SEPTEMBER, 2023

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original work and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature: Date.....

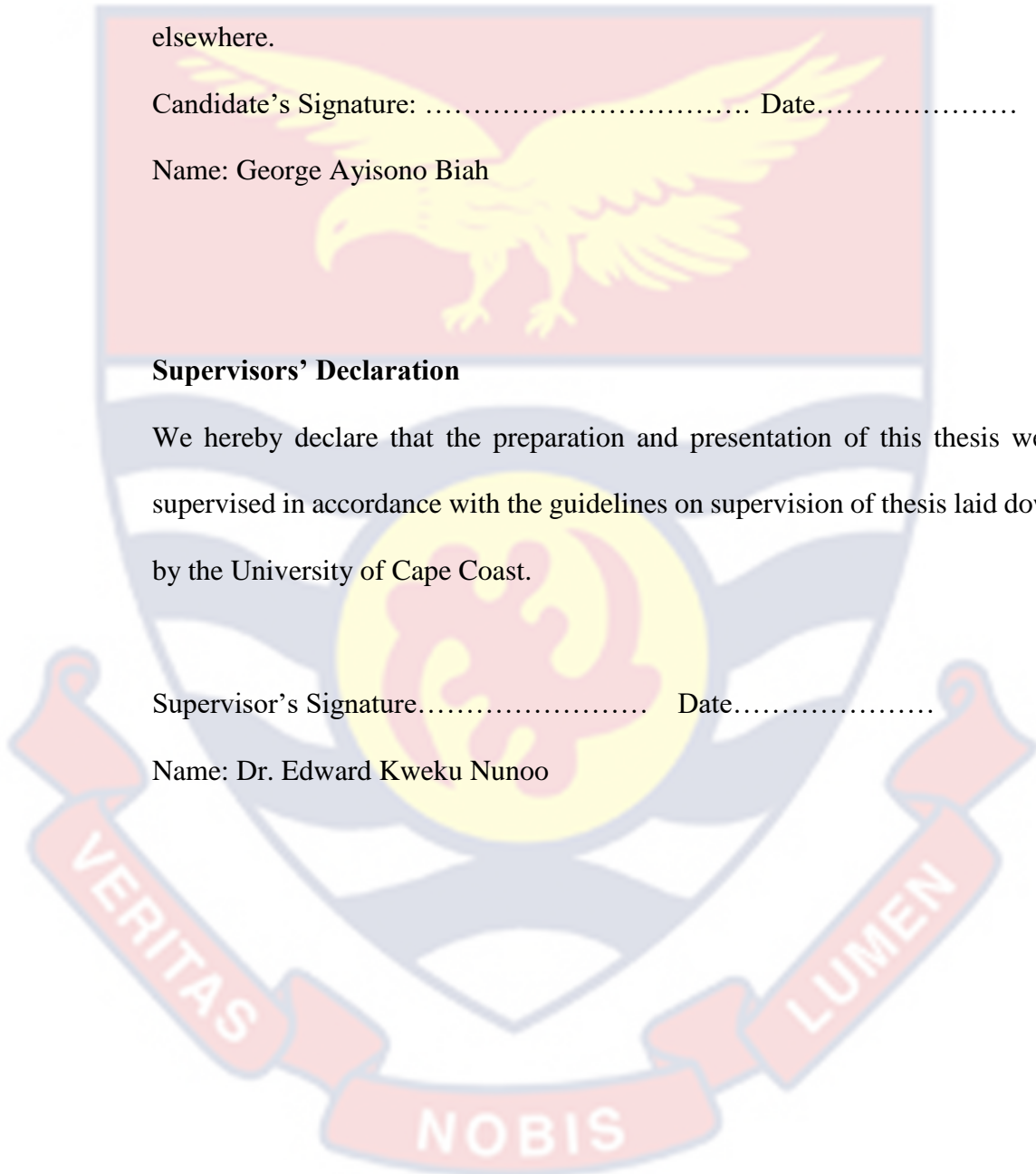
Name: George Ayisono Biah

Supervisors' Declaration

We hereby declare that the preparation and presentation of this thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Supervisor's Signature..... Date.....

Name: Dr. Edward Kweku Nunoo



ABSTRACT

The finding of deposits of petroleum resource has adversely been a curse to some countries instead of an opportunity for economic growth and development. Oil-rich countries have striven through strategic legislations and policies to avoid the resource curse hypothesis. This study submits that this unfortunate situation could be avoided through the effective implementation of appropriate laws. Based on exploration research design and purposive sampling methods, a content analysis of Ghana's upstream Petroleum laws is performed to assess the weaknesses or otherwise in the quest for effective exploration, production and utilization of the oil and gas resources of the country. All respondents confirmed that they have knowledge of and, have worked with and within the confines of the upstream Petroleum Laws. Applying same, however, they were all quick to point out that some weaknesses exist with the exploration and production, health and safety, local content, and petroleum revenue management laws, with overlaps in the way governance institutions operate. The laws and regulatory framework also exclude some key areas that need to be addressed. Mechanism for bidding contracts and environmental reporting were identified to be areas that need amendment to optimize gains from hydrocarbon resources. The Ministry of Energy is advised to appraise existing upstream oil and gas laws. The assessment must identify and include all relevant sectors on exploration and production, environment, health and safety, local content policy revenue mobilization, and utilization to optimize production and maximize benefit.

KEYWORDS

Fiscal Regimes

Oil and Gas Laws

Production Sharing Agreement

Service Contract



ACKNOWLEDGEMENT

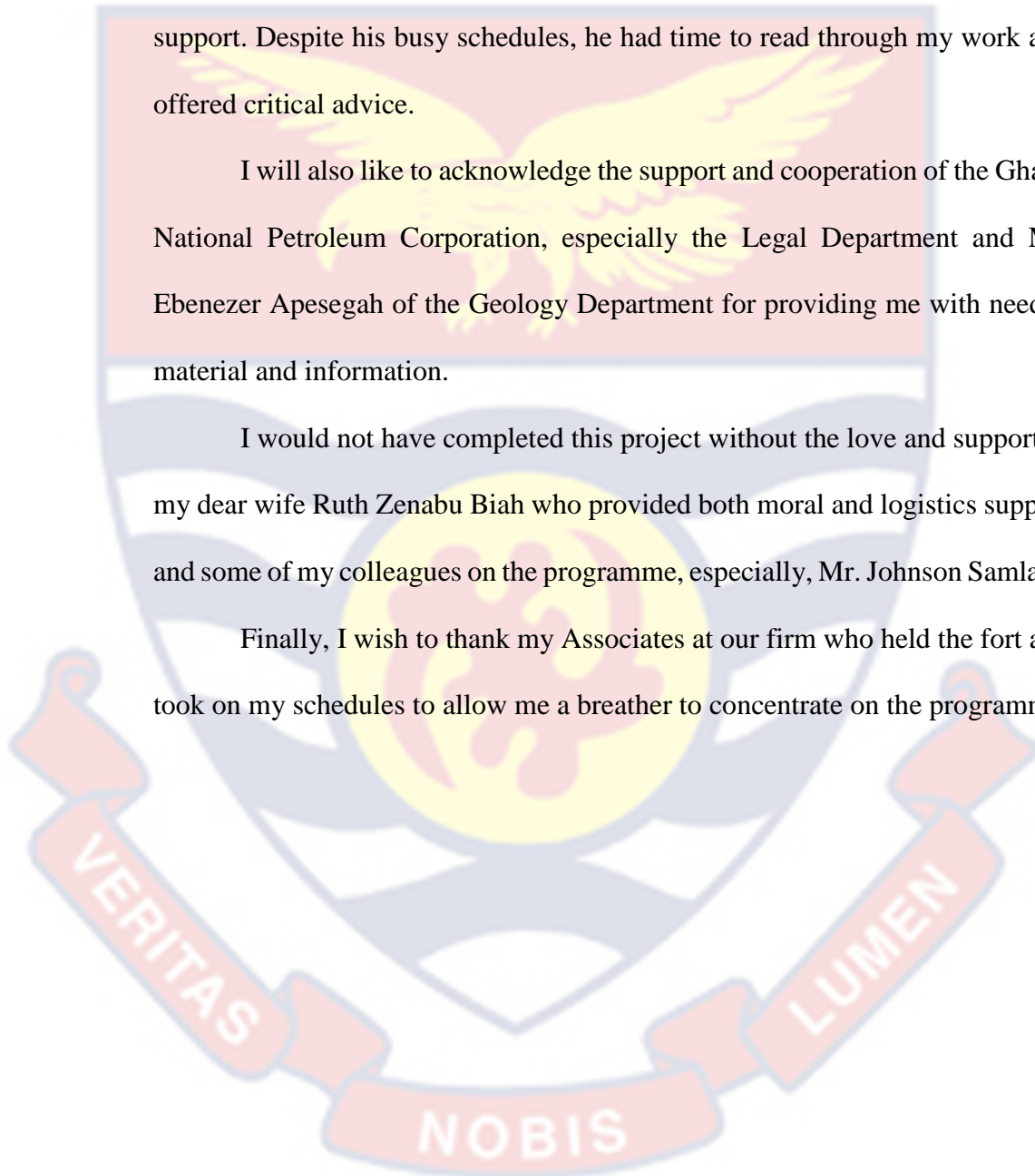
My heartfelt thanks go to my supervisor, Dr. Edward Kweku Nunoo, whose enormous support and advice saw me through my entire dissertation.

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I would not have completed this project without the love and support of my dear wife Ruth Zenabu Biah who provided both moral and logistics support and some of my colleagues on the programme, especially, Mr. Johnson Samlafu.

Finally, I wish to thank my Associates at our firm who held the fort and took on my schedules to allow me a breather to concentrate on the programme.



DEDICATION

To my parents, Mr Akwintra Biah Wondachuru, and Mrs Kallo Biah (both late), without whose forethought, sacrifice and perseverance I could never have written nor read.



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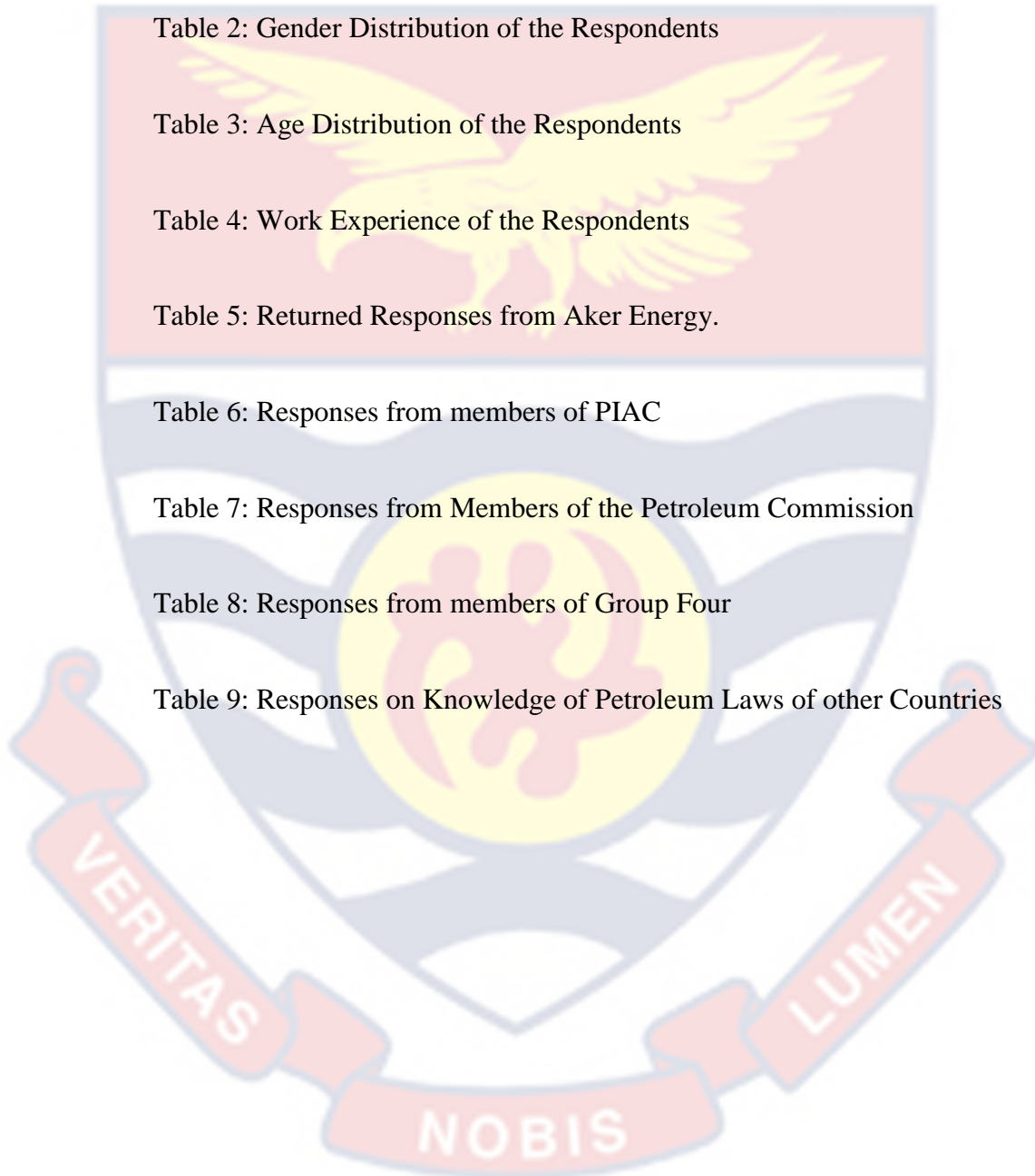
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LIST OF ACRONYMSThe background of the page features a large, semi-transparent watermark of the University of Cape Coast crest. The crest is a shield with a yellow eagle with outstretched wings in the center. The shield is divided into three horizontal sections: a top red section, a middle white section with blue wavy lines, and a bottom yellow section with a red emblem. A red ribbon banner wraps around the bottom of the shield, containing the Latin motto 'VERITAS LIBERABIT VOS A LUMEN' in white capital letters.

ABFA:	Annual Budget Funding Amount
B & FT:	Business and Financial Times
E&P FORUM	Exploration and Production Forum
FPSO-KN:	Floating Production Storage and Offloading - Kwame Nkrumah
GMA:	Ghana Maritime Authority.
GNPC:	Ghana National Petroleum Corporation
GRA:	Ghana Revenue Authority
IOC:	International Oil Company
ISPS:	International Ship and Port Facility Security Code
JOA	Joint Operating Agent
JOA:	Joint Operating Agreements
JV	Joint-Venture
LCP	Local Content Participation
LCP:	Local Content Policy
MOC:	Multinational Oil Policy
MODU:	Mobile Offshore Drilling Units
MPA:	Model Petroleum Agreements
NGRI	Natural Resource Governance Institute
NNPC:	Nigeria's National Petroleum Corporation
NOC:	National Oil Company
NPA:	National Petroleum Authority
PA:	Petroleum Agreement

PIAC Public Interest Accountability Committee

PRMA Petroleum Revenue Management Act

PRMB: Petroleum Revenue Management Bill

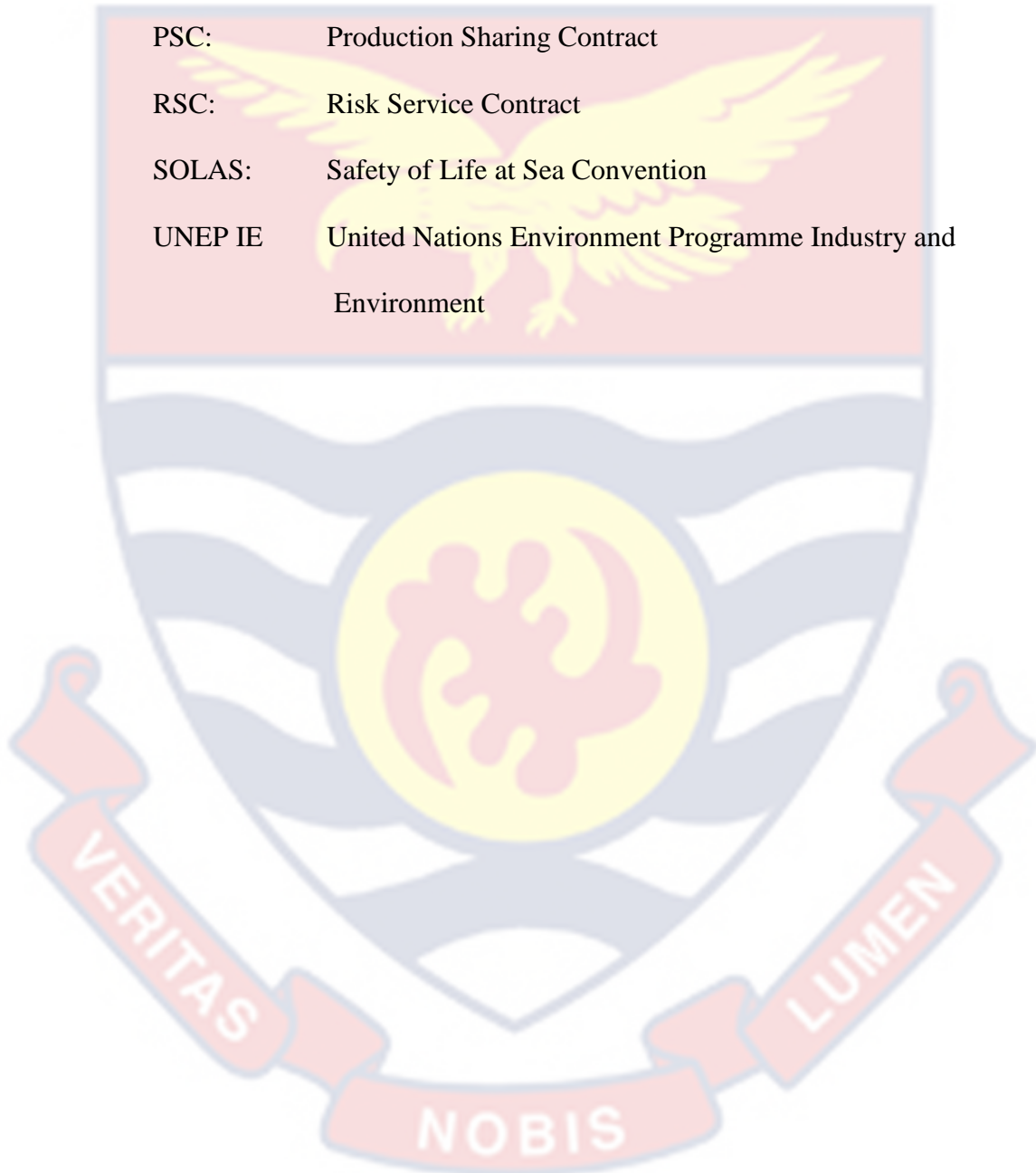
PSA: Production Sharing Agreements

PSC: Production Sharing Contract

RSC: Risk Service Contract

SOLAS: Safety of Life at Sea Convention

UNEP IE United Nations Environment Programme Industry and
Environment



CHAPTER ONE

INTRODUCTION

Background to the Study

Rendering from a 2020 International Trade Administration study, Ghana has enormous oil and gas potential. According to recent discoveries, the whole nation's shoreline, from Cape Three Points in the west to Keta in the east, may have large petroleum reserves. There has also been evidence based on prospects that the Voltaian Basin, onshore, have huge deposits of petroleum. The Ghana National Petroleum Corporation (GNPC) and oil and gas operators have gone into signing about 11 agreements, demonstrating the growing awareness and motivation by International Oil Companies (OICs) in the petroleum industry of Ghana. The government, represented by the GNPC, is presently collaborating to optimally develop the nation's petroleum potential. In an effort to boost commerce, the nation's continental shelf has recently been enlarged (International Commerce Administration, 2020).

According to the Minister of Finance, the total income from crude oil liftings alone from January 2019 to December 2020 was US\$496.29 million (GH2,757,32 million), with a net revenue of GH3.587 million, or about 0.9% of GDP. This is rather significant when compared to the country's other revenue sources (Budget Statement, 2021).

The President has authority over all of Ghana's undiscovered natural resources, not excluding petroleum resource deposits. The Petroleum Exploration and Production Act of 2016 (Act 919), henceforth called E&P Act of 2016, strengthens this jurisdiction. As a result, the government is in charge

of issuing licenses or agreements that have been approved by Parliament to explore and use these resources through the Ministry of Energy. The Ghana National Petroleum Company Act 1983 (PNDCL 64), which specifies the mandate of the National Oil Company (NOC), and the Petroleum Income Tax Act 1987 (PNDCL 188), which governs the taxation of oil and gas income, were in control for the initial management of oil and gas-related activities in the Nation.

Several regulatory modifications were started due to the upstream petroleum sector's increased activity, which was mostly fueled by commercial finds in deep-sea regions. These modifications were made in an effort to alleviate the sector's increasing reliance on foreign-owned companies. The Petroleum Local Content, and Local Participation Regulations, 2013 (LI 2204), which ensure the participation of domestic or host nation's stakeholders in the sector, and the Petroleum Commission Act, 2011 (Act 821), which creates the Petroleum Commission to regulate the sector, were passed to respond to the demand. Together, the legislations are expected to guarantee a comprehensive framework for the oil and gas sector. The Petroleum Revenue Management Act 2011 (Act 815) regulates how Ghana uses oil and gas earnings obtained via petroleum exploration. In addition to these regulations, the sector has also been governed by several guidelines, recommendations, and norms (Adadzi & Godson- Amamoo, 2020).

Despite some exploratory attempts dating back to the 19th century, Ghana's petroleum industry is an emerging one. According to information found on the Petroleum Commission website, which quotes the "Ghana Geological Survey's Bulletin No. 40" from 1970, Ghana's onshore petroleum resource

development began in the Tano Basin in the Western Region since 1896. Significant petroleum finds were noticed along the coast of Western Region of Ghana, especially, Cape Three Points Basin, although not until 2007. Prior to this finding, there had been no success in locating oil in commercially feasible amounts. A group led by Kosmos Energy, Tullow Plc. and Anadarko Oil Companies made this discovery (Petroleum Commission Ghana. 2015).

The exploration, development, and production of petroleum resources fall under upstream operations in Ghana. Ghana has four principal sedimentary basins where these upstream petroleum activities generally take place. They include the Tano Basin and Cape Three Points Basin in the Western Region (Western Basin), the Saltpond Basin in the Central Region, the Accra/Keta Basin, and the Inland Voltaian Basin. Three of these basins such as Western Basin, Saltpond Basin, and Accra/Keta Basin have undergone thorough study and are located offshore. According to Adadzi and Godson-Amamoo (2018), no onshore studies have specifically addressed the Inland Voltaian Basin.

Several businesses, including the Gulf Oil Company, the African and Eastern Trade Corporation, and the Société Française de Pétrole, were active in Ghana's upstream industry between 1905 and 1925. A total of 21 exploration wells had been sunk by the time Ghana attained independence in 1957. This time period saw the discovery of the Saltpond Basin, which is noteworthy. Exploration and production in the Saltpond Basin started in 1978 as a result of the Signal-Amoco Consortium's first 3 offshore discovery. Before stopping operations in 1985, the Saltpond Basin produced 4.500 barrels of oil per day on average at its peak. According to Adadzi and Godson-Amamoo (2018). Ghana had 54 onshore and offshore wells in the middle of the 1980s.

When commercially significant quantities of oil and gas were discovered, Ghanaians had to take part in the production and selling of the oil. This necessitates the creation of clearly defined regulations in order to assure effective production, marketing, and exploitation of the petroleum and earnings therefrom.

The Petroleum Commission Act, 2011 (Act 821) was enacted as a response to the significant oil discoveries made in 2007 and established the Petroleum Commission as a regulatory institution responsible for regulating activities in the upstream oil and gas industry in accordance with national law. Additionally, the Petroleum Revenue Administration Act of 2011 (Act 815) and its subsequent revision, the Petroleum Revenue Administration (revision) Act of 2015 (Act 893), addressed the administration of oil and gas revenues. The Exploration and Production Act (E&P Act) currently serves as the primary piece of law governing petroleum-related enterprises in the industry in place of the Petroleum Exploration and Production Act, 1984 (PNDCL 84), which was abolished in 2016. A new way of taxing the income received by independent contractors and subcontractors who work for the business is provided by the Revenue Tax Act, 2015 (Act 896) as updated. The Petroleum Income Tax Act (PIT), which dealt with upstream activities taxes, was repealed in support of this Act.

However, the majority of these regulations, which were passed before commercial quantities of oil were discovered, became obsolete when commercial quantities of oil and gas were discovered. New laws have to be passed as a result of this. However, these new rules that were passed in response to the finding were also hastily done and may allow for manipulation by foreign

investors, perhaps leading to a curse on the oil resources. The majority of African nations, including Angola, South Africa, and Nigeria, have experienced the oil resource curse to varying degrees.

Statement of the Problem

Base on the findings of Asamoah (2013), the finding of petroleum in various regions comes with an unfortunate detrimental consequence usually termed as oil-curse for the countries that have not strategically exploited the rich natural resource. He reiterated that several governments have tried to leverage strategic legislations and policies to avert such trend and optimize benefit therein.

Significant offshore oil and gas finds in deep-sea regions sparked upstream operations growth and the start of regulatory changes. Several significant laws, including the Local Content and Local Regulations, 2013 (LI 2204), the E&P Act, and the Petroleum Commission Act of 2011 (Act 821), were enacted to efficiently regulate the industry. Passage of these regulations was to efficiently manage the nation's petroleum resources. The Petroleum Revenue Management Act of 2011 (Act 815) is said to control how wisely the state spends the petroleum revenue it obtains from oil exploration, according to Adadzi and Godson-Amamoo (2018).

According to Mailula (2013), the Petroleum Activities Law of 2004 serves as the primary legal framework in Angola for upstream petroleum extraction. Other pieces of law and the Constitution of Angola also play a role. In addition, the Production Sharing Contracts (PSC) and Service Contracts completed these (Mailula, 2013). Prospecting licenses and concessions are allowed within the legislative framework, and Sonangol essentially issued them

through transparent bidding processes. In his analysis, Mailula (2013) reveals that this circumstance produced several gaps in the contract awarding process that were not advantageous to the residents. According to Mailula (2013), it was because of Norway's support for the oil for development (OfD) project, which aimed to strengthen the legislative frameworks to sustainably regulate oil and gas E&P through open bid and bidding procedures and transparent issuance of licenses and contracts. The Petroleum Activities Act of 2004 in Angola was created as a result of this progress. The modified version includes clauses that provide the government of Angola with the ability to bargain with oil companies on crucial contractual issues. Angola, according to Mailula (2013), has established a hybrid approach to control upstream petroleum activity, much like Norway has done (Mailula, 2013). The hybrid regulatory framework used by Angola is praised for its adaptability to suit various situations and scenarios. As they address concerns like governmental ownership of on-site petroleum resources and contemporary contractual and fiscal frameworks, the laws are also considered as being in compliance with worldwide best practices (Mailula, 2013).

According to a study of Ireland's oil and gas laws by Massey (2013), the industry generally thinks that Ireland's regulatory and planning processes are still complicated, despite legislative changes (the Strategic Infrastructure Act 2006 and Petroleum Safety Act 2010) and improvements to transparent licensing bids (the Atlantic Margin licensing option round, 2011) made since the Corrib project. It has to be made easier and will require more technological know-how because they and Norway are slower and less transparent than the UK and the US. In order to significantly address the concerns found, he

suggested improvements to the clear communication strategy as well as a plan for future development (Massey, 2013).

A careful review of the lawful context and the regulations governing the upstream oil and gas sector of Ireland (Massey, 2013), indicates that Government oil and gas policy in Ireland, to date, can be broadly summarized as the phased introduction of competition in oil and gas supply, promotion of investment in new infrastructure and promotion of investment in the exploitation of national/state petroleum reserves. This has the potential to open up the country to foreign competition which may likely disadvantage local investors if they are unable to compete with the foreign giants.

While attempting to analyze Ghana's oil and gas laws, Adadzi & Godson- Amamoo (2020) did not pay particular attention to the laws' real provisions governing the upstream oil and gas sector. They did not do any comparative analysis, nor did they do any critical evaluation of the adequacy or the suitability of the laws in line with best practices. Their study did not show if the laws are effective or could help solve the oil resource curse manace in Ghana, unlike the review of the Angolan upstream oil and gas laws by Mailula (2013), where a comparison was made with the Norwegian model.

There is therefore the need for evaluation of these various laws, regulations, and related enactments with best international practice to ascertain whether they are suitable for the effective exploration, production, and utilization of the upstream petroleum resources in Ghana for adequate optimization of the wealth of petroleum to the citizenry.

Purpose of the Study

The primary goal of the research is to assess how well petroleum laws in Ghana facilitate resource exploration, production, and usage for the benefit of the nation. There are basic aims and particular objectives listed in the study's plan.

Specifically, the study;

- i. assess the application of the petroleum laws on exploration and production in Ghana.
- ii. identify and evaluate weaknesses in the application of upstream oil and gas laws of Ghana, and:
- iii. Proffer recommendations to improve upon petroleum laws and regulations in Ghana.

Research Questions

The study attempts to test the following hypotheses:

- i. How are the petroleum laws of Ghana applied?
- ii. What are the weaknesses of the upstream petroleum laws of Ghana?
- iii. How can Ghana improve its upstream petroleum laws?

Significance of the Study

An important component of this research is the evaluation of upstream petroleum regulations of Ghana their efficacy in supporting the best possible exploration, production, and usage of the nation's petroleum resources. The study intends to pinpoint any issues with Ghana's current upstream oil and gas legislation and provide workable solutions. Future research on the effects of these rules and their implications for the total usage of petroleum resources of

Ghana to the advantage of its inhabitants would greatly benefit from the findings of this study as a helpful reference. It will also help the legislative arm of the Ghanaian government to know what laws require amendment and review and which ones should be repealed or enacted. Finally, this study will help to improve the knowledge of all about the extent to which our laws help, or otherwise, to best utilize the petroleum resource.

Delimitation

For the study, the petroleum laws of Ghana were consulted. However, a comparison to the laws regulating petroleum industry in other countries was made. Much of the data relating to the various petroleum laws were assessed using secondary data. However, the weaknesses of the laws were assessed from the primary data collected from the practitioners within the industry.

Limitation

The study solicited data from both primary and secondary sources. It was difficult contacting the experts in the upstream petroleum industry to respond to the questionnaires on the Ghana's weaknesses of the petroleum laws. There was so much time and patience exercised in the collection of the primary data. The secondary data from some of the sources was also costly so the researcher couldn't access some of the data due to high cost.

Definition of Key Terminologies

Content Analysis: Is defined in this study to imply a systematic analysis of the content of a report, such as written text, speech, images, or videos.

Fossil fuels: Fossil fuel in this dissertation report refers to all types of fuel produced from organic material with the potential to give out carbon dioxide during combustion. The fossil substance may be derived from the deposits of tiny remnants of marine plants and animals.

Hydrocarbons: As implied by the term, hydrocarbon is made up of carbon atoms strung together in a chain by hydrogen atoms. In its gaseous state, it includes methane and butane. Paraffin is a form of liquid medium-chain hydrocarbon. Solids include things like bitumen, tar sand, and coal-tar.

Legal Regime: This refers to the body of laws, regulations, and standards that govern all legal matters and make it easier to make agreements for their resolution.

Local Content: This is the economic benefit that an extraction operation provides to the local, region, or country in addition to resource earnings.

Oil and Gas Laws: The discovery, extraction, production, distribution, and transportation of oil and gas resources are all subject to these regulations.

Petroleum: Petroleum is a substance that naturally exists beneath the ground and is mostly composed of combinations of carbon and hydrogen molecules.

Upstream activities: this involves the procedures used to exploit petroleum beneath the earth. Among the activities here include production, development, and exploration.

Midstream activities: These are the actions taken to get the gas and oil to the consumer. Pipelines, storage, and transportation are among them.

Downstream activities: They involve the tasks being carried out to supply the consumer with oil. Refining, processing, and marketing are among the operations.

Exploratory activities: is referred to as in this study as the geological investigations made to determine the presence of hydrocarbons in a certain location.

Organisation of the Study

The research is set up as a dissertation report with five chapters. The research report's introductory chapter is chapter one. This section also includes the methodology, background, problem statement, research questions, objectives, importance, study restrictions, and delimitations. The literature review, which is the analysis of noteworthy information related to this study, is covered in Chapter 2 of the book. The methodology of the study is covered in Chapter 3, including the demographic and sample, data collection tools, procedures, and data analysis. The research findings are discussed in Chapter 4 of the book. The overview of the study's key results, conclusions, and recommendations is presented in Chapter 5.

CHAPTER TWO

LITERATURE REVIEW

Introduction

In the chapter of this study, the literature on upstream petroleum sector is analysed to ascertain the legal framework under which the exploration, production, and monetary use of petroleum resources has occurred. The finding of petroleum in Ghana sparked enthusiasm, as it does in many developing nations, since it was believed to signal the arrival of crucial petroleum reserves that could propel socioeconomic growth and development. The discovery of oil also leaves behind a sentiment and/or desire that local inhabitants, both natural and man-made, should participate fully in and benefit from petroleum extraction. The aforementioned has been considered in light of local content, which often manifests itself in different petroleum agreements. Local content, otherwise known as domestic content or national content, refers to clauses that make an effort to address issues like the hiring and training of Ghanaians, the advancement of research and development (R&D), the involvement of domestic businesses in the delivery of services, and clauses relating to technology transfer.

The legal and regulatory regime dates back to Ghana's independence era and has seen various levels of evolution and amendments since. The question still being asked by interested parties is whether these laws and enactments are adequate for the effective exploitation, production and utilization of the petroleum resource?

Theoretical Literature

This section reviews the meaning and importance of legal framework of petroleum sector study.

Meaning of Legal Framework

The most fundamental definition of a legal regime, according to Hurst (2018), is a set of regulations that control a specific area of land or a distinct sphere of activity and are at least conceptually based on a law. A legal and regulatory framework, according to ACEProject (2012), may be thought of as a collection of legal, judicial, legislative, regulatory, and management regulations that together control a certain industry or region. This includes the laws, the legal systems, law enforcement procedures, the courts and the system of dealing with non-compliance to the laws.

Depending on how easy or difficult it is for social groups, individuals, or organized interest groups to gain influence or power, as well as how easily and effectively non-judicial institutions or actors can intervene in how legal institutions handle particular cases, societies and entities create their own legal regimes (Hurst, 2018).

A bigger set of rules that governs how the government is organized, and how the economy functions include; the regulatory framework that regulates the extractive sectors. A comprehensive and open framework should regulate the structure of government organizations, the issuance and oversight of business licenses, the terms of payment between businesses and the government, environmental management practices, interactions with impacted communities,

the conduct of public officials, the transparency and disclosure of public data, as well as the management of tax revenues generated from the exploration for natural resources. Before beginning to conduct business in a nation, corporations must ensure that they are abiding by all rules and regulations there.

The collection of documents known as the legal framework comprises of the constitution, statutes, regulations, and contracts. Figure 1 is the legal hierarchy that illustrates how these publications relate to one another and which is more significant.

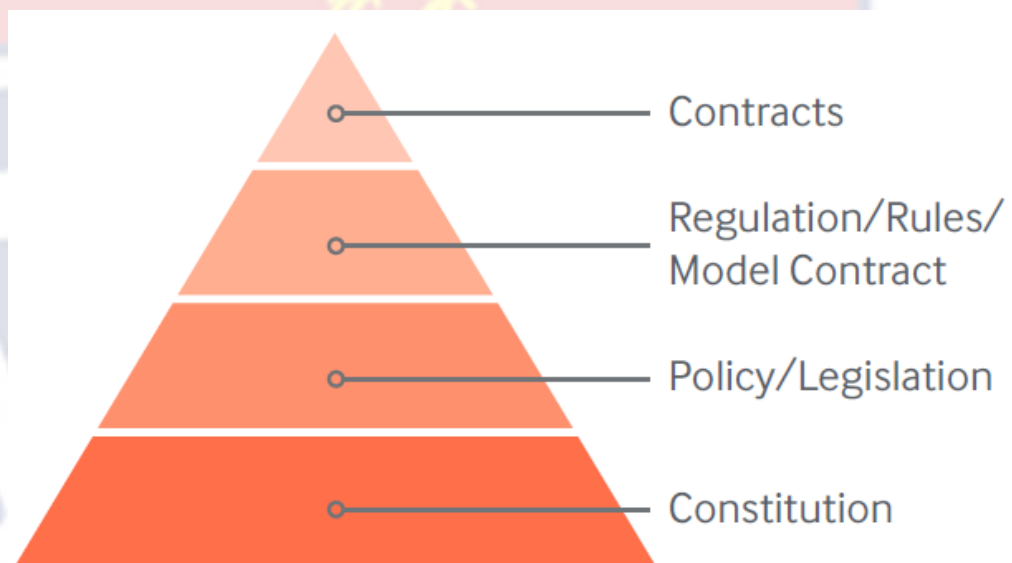


Figure 1: The Legal Hierarchy

Source: NRGI, 2015.

As an instrument moves up the pyramid, it becomes more precise or detailed, but at the top and bottom of the pyramid, consistency is essential between each piece. A nation would not consent to contract conditions that contravene with laws outlined in regulations, legislation, or the constitution under a system where the legal hierarchy is correctly arranged. Additionally, according to legalese, laws and rules are intended to have more power than contracts, or take

priority. The rules and regulations may, however, be expressly overridden in contracts if doing so is practical.

Importance of Legal Framework

A legislative framework, in accordance with Nik, Thani Nik, & Othman (2008), and quoted by Madzlan (2016), presents an opportunity to allow for and encourages the growth of the sector by outlining vivid road map for accomplishing the goals. Additionally, it offers a transparent and effective mechanism for maintaining the enforceability of contracts as well as a reputable and trustworthy venue for the resolution of legal issues resulting from transactions. Additionally, legal framework helps to ensure a harmonized interface between the players in the industry to help them with unity of purpose in dealing with each other to avoid any conflicts in the course of their activities. Legal framework helps to administer and implement an efficient tax regime to the benefit of the host nations.

Fiscal Regimes of Petroleum Industry

The legal structure of a petroleum firm is significantly influenced by the fiscal system of a nation. The petroleum industry offers a variety of tax frameworks. The choice of a fiscal regime is based on how the National Oil Company (NOC), International Oil Company (IOC), and the government divide the risk of exploration and production.

Amoako-Tuffuor and Owusu-Ayim (2010) has found that when oil is entirely under non-public (individual) control, the individual licensed operator bears the accompanied risks as a whole, and the nation's portion is acquired through a blend of lease sales, income tax, special petroleum taxes, and

royalties. The concessionary, royalty, and tax systems are frequent names for this strategy. The State often forms a National Oil firm (NOC) to represent it as a partner to the private firm that has material, financial, and technical skills in the petroleum operation in order to enter into a partnership with private oil companies. The Production Sharing Contract/Agreement (PSC/A) and Risk Service Contract (RSC) families are among the various fiscal regimes. Under the PSC, the IOC is hired to find and exploit the petroleum in exchange for a portion of the output while the State retains ownership over it. In the event that viable oil amounts are discovered, the IOC normally pays the costs of exploration as well as a portion of the costs of development and production. The government and the IOC split the profit oil according to a specified formula once the costs have been met. In contrast, a service charge is paid by the host country to the IOC for the E&P services rendered upstream under the Risk Service Contract (RSC). The payment of the service charged which either fixed or based on income is normally done in cash or kind, for overseeing oil and gas activities.

The Concessionary Systems

The investor at the wellhead is the only proprietor of the hydrocarbons under the concessionary system. The government assesses fees and taxes to the investor at the moment of sale. Upon expiration or termination of the concession, ownership of the machinery and installations is transferred to the state. Investors are in charge of the expensive decommissioning process. This system has been modified to the Royalty and Tax System (Karasalihović-Sedlar, Barbir & Brkić, 2017).

The IOC was granted possession of the underground petroleum under the terms of the previous concession, and as a result, enjoyed complete control over all concession-related activities. Royalties and income taxes were the only sources of funding for the state (Hackman, n.d.).

The International Oil Company (IOC) solely acquires ownership of the oil at the wellhead under the present system of royalty taxes. Except for the royalty oil, the whole gross output is now in the IOC's possession, unless the state has specifically chosen to receive royalty payments in cash. The state's influence on operational choices and management grows along with its level of involvement. The state may now get money via bonus payments, local taxes, import and export levies, domestic supply responsibilities, and state involvement in addition to royalties and income tax (Hackman, n.d.).

Benefits of Royalty and Tax System to Host Governments

The following are some benefits of this approach from the government's perspective:

- It has very minor risks. The oil corporation assumes all financial risks and also contributes technical know-how, capital, and equipment.
- The method as it is now configured allows that the nation participate via the National Oil Company (GNPC). This gives the state the ability to influence decisions about the use of its resource, or at the very least, have a voice in those decisions. State engagement helps the NOC and its staff build the competence necessary to take over operations in the future, along with resolving control issues.

- Under the contemporary licensing system, the government can generate additional money in addition to royalties and income tax through surface rental, signature bonuses, carried interest, etc.

Problems of the Royalty and Tax System to Host Governments

Based on the state's perspective, this approach has the following drawbacks:

- Under this arrangement, license bid rounds take a significant amount of time and money. Therefore, the government would not benefit from the process unless a round of bidding draws financially and technically formidable bidders.
- Additionally, businesses have a tendency to be relatively relaxed in pushing for bid proposals to be granted concession regions that are seen as hazardous since little is known about the area's prospectivity. This is especially true in pristine, formerly uncharted locations. As a result, the government would suffer if it were to rely heavily on upfront contributions.
- This strategy is less flexible than the PSC since it is more difficult to modify it to satisfy local requirements in a nation, such as the field's features and location, including the water depth and geological features. Due to the need for such flexibility in luring investors, a lot of states prefer the PSC instead of the licensing system.

Production Sharing Agreement

The distribution site is often different from the generating location under a Production Sharing Agreement (PSA), and the contractor only owns a portion of the production. All permanent machinery and infrastructure belong to the government as soon as they are put into service. Unlike concessions, abonnement is the responsibility of the government or the national oil corporation (Karasalihović-Sedlar, Barbir & Brkić, 2017).

Benefits of PSC to Host Governments

Governments routinely employ PSCs due to some of their alleged benefits, which include the following:

The host government continues to be the owner and manager of the resources. The state, either directly or via its NOC, is the only plausible owner of the right to the resource. The difficult issue of resource ownership reflects the state's assertion of sovereignty over its natural resources. Only at the export point or at a different agreed delivery point under a PSC does title to the contractor's share of the production pass.

The host government also receives whatever infrastructure and tools the IOC purchases for domestic use. Title may be transferred as soon as the facilities are brought into the nation, after they are placed into service, or after construction has started. The PSC method enables the government to avoid the risks associated with exploration and development. The oil company is taking on all expenses and risks, even if they could be recovered if the project is successful.

To help the host nation maximize its profit and make some early money, a PSC may incorporate extra elements outside profit oil and income tax. This hybrid kind of PSC frequently incorporates components like domestic supply obligations, state participation, incentives, and royalties. A ring fence may also be enforced on certain activities and places to stop IOCs from balancing expenses made under one license against income from another.

It is projected that the government will get significantly more money under a PSC for low-profitability projects since there is the opportunity to set a cap on annual cost recovery amounts, which assures the government will receive more up-front money.

The PSC is renowned for its adaptability as well. Each PSC may be made to respond to the various geological and geographical circumstances in the nation. This adaptability is required to account for variances across various licensing regions or fields, which make it more expensive to develop some areas than others. In order to increase their sensitivity to price volatility and shifting production costs, some contract obligations, including royalties, may also be subject to sliding scales. The PSC's versatility and flexibility may serve as a source of inspiration for the growth of specialized industries.

Problems of the PSC System

The following are some drawbacks of this arrangement from the perspective of the government:

Decommissioning and the expensive expenditures connected with it would also come within the host government's authority because all structures

and equipment acquired for use in production are considered to be the property of the owner. Government should take care to make sure that the responsibility of decommissioning is expressly entrusted in the agreements with IOC in order to avoid being burdened in this way. For the purpose of covering the expenses to abandon and decommission to complete production at a field, a separate fund may be established throughout the production phase.

Under the PSC's framework, a government can experience issues enforcing regulations. The PSC lacks the regulatory framework that is often associated with the licensing system's checks and balances because it is frequently created as a self-contained statute. Consequently, the government is forced to choose between increasing its profits and implementing regulations on things like environmental practices, which would decrease its earnings.

Legislative Overview

The government improved its legal and regulatory framework in the middle of the 1980s. The Ghana National Petroleum Corporation Act, 1983 (PNDCL 64), which formed the Ghana National Petroleum Corporation (GNPC) as the nation's petroleum business to promote the nation's engagement in the upstream petroleum industry, was one of the major modifications that was implemented. The Petroleum E&P Law, 1984 (PNDCL 84), which has since been repealed, and the Petroleum Income Tax Law, 1987 (PNDCL 188), both of which sought to control business practices and taxation in the upstream petroleum industry, were other key initiatives (Godson-Amamoo and Adazi, 2018).

In accordance with the 1992 Constitution of the Republic of Ghana, all minerals discovered on, beneath, or within Ghanaian territory, as well as in Ghana's rivers and other waterways, exclusive economic zones, and regions that stretch within the country's territorial sea or the country's continental shelf, are deemed to be owned by the President of the Republic of Ghana on behalf of the Ghanaian people. Natural resources commissions must be established in accordance with the Constitution in order to effectively oversee and control the use of these resources. These commissions will be in charge of coordinating relevant legislation as well as managing and controlling how these resources are used. Additionally, in accordance with the Constitution, the legislature must provide its consent to any agreements that grant the right to utilize or produce minerals in Ghana (Adadzi and Godson-Amamoo, 2018).

In response to the significant discovery of commercially viable oil reserves in 2007, the government passed the Petroleum Commission Act, 2011 (Act 821), with the aim of establishing the Petroleum Commission as a governing institution responsible for coordinating operations in the upstream oil and gas sector in pursuant of the 1992 Constitution of Ghana. Additionally, the Petroleum Revenue Management Act, 2011 (Act 815) was passed to grant a comprehensive outline based on the management of oil and gas income is well spelt out. Subsequently, the Petroleum Revenue Management (Amendment) Act, 2015 (Act 893) was introduced to revise and enhance the provisions of Act 815. To replace the previous regulatory framework, the Petroleum (E&P) Act, 2016 (Act 919), commonly referred to as the E&P Act, was approved in 2016. This act superseded the Petroleum (E&P) Law, 1984 (PNDCL 84), and became the primary legislation regulating petroleum operations in the upstream sector.

Moreover, the Revenue Tax Act, 2015 (Act 896), underwent amendments to incorporate a framework for taxing the income of industrial contractors and subcontractors. These legislative measures, as highlighted by Adadzi and Godson – Amamoo in 2018, were introduced to establish a robust regulatory framework, to enforce the Constitution, and effectively manage the upstream oil and gas sector in Ghana.

To encourage the execution of relevant legislation for the industry, the state has passed series of regulations, directives, and policies specific to the industry through the Petroleum Commission and the Minister of Energy (the Minister). These are what they include:

- Local content and local participation regulations were established in 2013 (LI 2204)
- Petroleum commission fees and charges regulations were established in 2015 (LI 2221); the petroleum exploration and production-data management regulations were established in 2017 (LI 2257); and the petroleum exploration and production-health, safety and environment regulations were established in 2017 (LI 2258).
- The Energy Sector Strategy and Development Plan, the Gas Master Plan, the Gas Pricing Policy Guidelines to the Petroleum (Exploration and Production) (Measurement) Regulations.
- The Petroleum (Exploration and Production) (General) Regulations. 2018 (LI 2359).

- The Guidelines for the Formation of Joint Venture Companies in the Upstream Petroleum Industry of Ghana (March 2016). and The Oil and Gas Insurance Placement for the Upstream Sector.

Other Legislative Enactments

There are yet more regulations that do not directly impact the upstream oil and gas sector in addition to the ones that have previously been mentioned. These back the regulation of a few overlapping petroleum industry activity. The Environmental Assessment Regulations of 1999 (L.I.1652), the Environmental Protection Act of 1994 (Act 490), the Earmarked Funds Capping and Realignment Act of 2017 (Act 947), the Income Tax Act of 2015 (Act 896), the Data Protection Act of 2012 (Act 843), the Public Procurement Act of 2003 (Act 663), and the Income Tax Act of 2015 are among these laws, The Ghana Shipping Act, 2003 (Act 645), the Maritime Pollution Act, 2016 (Act 932), the Oil in Navigable Waters Act, 1964 (Act 235), the Ghana Shipping (Protection of Offshore Operations and Assets) Regulations, 2012 (L.I. 2010), and the Ghana Maritime Security Act, 2004 (Act 675) are all acts that govern maritime security in Ghana. These legislative instruments are so scattered that it makes it difficult, to know all the regulations that exist governing the upstream oil and gas sector.

Empirical Review of the Study

Adebayo (2018) examined public understanding of 30 Nigerian petroleum laws, and recommended that the people should be informed and educated on environmental rules. Adebayo (2018) went on to suggest that

environmental problems be incorporated in the curriculum and made an obligatory topic, akin to algebra and English, in order to promote awareness.

Adebayo (2018) asserts that the State may also raise awareness among oil sector players and operators so that they are well aware of their environmental responsibilities. In the end, it is critical that the government pushes multinational firms to defend local citizens' rights since doing so will mitigate the likelihood of harm to the community and the environment. Additionally, it is important to urge multinational firms to take appropriate efforts to maintain efficient risk assessments and environmental management systems, as well as to guarantee their adherence to environmental rules. By incorporating environmental considerations into their operations, petroleum exploration activities might be carried out with greater caution. Therefore, the government, multinational oil firms, and the general people must make a concerted effort to maintain ecological balance, natural, and safeguarding (Adebayo, 2018).

Ghebremusse (2014) assessed the fiscal regimes of upstream petroleum business in three oil-producing countries such as Ghana, Nigeria and Cameroon and found that there is the need for the fiscal regime of Ghana to be changed in order to maximize income creation. Currently, a large portion of the regime is designed to draw capital to an emerging oil and gas industry. For the fact that there are extensive volumes of petroleum reserves found in Ghana both offshore and onshore, there is the need for the state to be strategic in optimizing revenue for economic transformation and development by stabilising revenue now, and in the future. Both the fluctuating oil prices and the government's shifting

financial situation should be taken into consideration with these measures. In production sharing agreements, the regime can increase its take by raising its state participation (Ghebremusse, 2014).



CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

The study conducts a content analysis of the oil and gas laws of Ghana to assess the weaknesses therein and proffered suggestions for improving upon the weaknesses to enhance effective exploration, development, production and utilization of its oil resource. The section entails the research design, the data collection methods and analysis of data.

Research Design

The research was carried out in the upstream sector or the upstream oil and gas industry of Ghana. This was based on analysis of both secondary and primary data. Secondary data was obtained from various data sources. The laws, production regulations and other enactments pertaining to the oil and gas sector and other relevant documents and papers while the primary data was from interviews held with stakeholders in the industry. The type of research was basic research that critiqued the weaknesses of the upstream oil and gas laws of Ghana in the effective exploration, development, production and utilization of the oil and gas resources of Ghana. The research also compared the oil and gas laws of Ghana with laws from other countries and suggested ways of improving upon the existing laws.

Data Collection

Population

The target population of the study is major stakeholders in the upstream oil and gas sector in Ghana. This comprised experts from four (4) major international oil companies (Tullow Oil Plc, Eni International, Springfield Ltd, Aker Energy). Civil Society Groups (Public Interest Accountability Committee (PIAC), and Imani Ghana) and regulatory bodies (Ghana National Petroleum Company (GNPC), the National Petroleum Authority (NPA) and Ghana Gas).

Sample and Sample Procedure

The sample size for collection of the data was selected for convenience purposes. This is because most of the experts were not available due to busy schedules. A non-probability sampling method was used because of the nature of information and the respondents required for the research. The convenience sampling method was used to gather information from 50 experts from various oil and gas related backgrounds. They include lawyers, engineers, regulators and administrators from the upstream oil and gas industry who were interviewed on the objective of the study and the results are presented in Table 4.

Data Sources

The data was collected from both secondary and primary sources. The secondary sources included journals, articles, books internet sources, conference proceedings and paper on similar work on the subject. The data was largely qualitative and the collection of the data was based on judgement and convenience. Some of the data was collected from the relevant bodies in the

upstream oil and gas sector. Additionally, some of the data was collected from the primary sources of practitioners within the industry.

Interview

An interview was conducted to get primary data from the key stakeholders in the upstream oil and gas industry. This was intended to seek the views of the respondents on the weaknesses of Ghana's oil and gas laws and how they are implemented to the benefit of Ghanaians. The researcher saw the interview as the appropriate means of collecting qualitative data. Semi-structured interview questions were designed to give participants the chance to express themselves freely without strict limitations. However, the main aim of the researcher was to design the interview questions that would probe deeper information from the participants to cover the main research objectives.

Interviews are good because they are flexible and the interviewer can adjust the questions to suit the situation. It can also help to establish rapport and trust relationships, where the researcher can often obtain information that participants would provide on a questionnaire. The interview may also result in more accurate and honest responses, than questionnaire since the interviewer can explain and clarify both the purpose of the research and individual questions.

However, interviews can be extremely costly, lengthy and time consuming and can be biased. It sometimes may be difficult accessing respondents if they are busy.

Data Collection Procedure

The interviewees were called into a conference at each place of data collection. This is because most of them cannot be individually contacted and meeting each person individually would be costly and time involving. Each group of respondents were asked the same semi-structured set of interview questions and each group's responses are outlined in the next chapter. All the respondents were organised into 4 different groups. The demography of each group is also clearly outlined in the next chapter.

Data Analysis

The responses on the weaknesses were grouped together and the different discoveries made after comparing with another country, i.e., Nigeria. Four of the key laws i.e. Exploration and Production, Petroleum Revenue Management, Environmental Health and Safety and the Local Content laws were analysed while the views of the industry players were also sought to find out which way the weaknesses identified could be addressed. These responses are all included in the analysis of this study.

The researcher limited the studies to the specified oil and gas laws, as doing otherwise would have made the study unwieldy. Nonetheless, the researcher maintained his focus, thus to find out the weakness of the selected laws and what can be done to improve upon them.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

Prior to the start of Jubilee production, significant legislation pertaining to Ghana's petroleum industry, namely the Petroleum Exploration and Production Act of 1984 (P.N.D.C. Law 84) (PEPL), the Petroleum Income Tax Law of 1987 13 (P.N.D.C.L. 188) (PITL), and the Ghana National Petroleum Corporation Act of 1983 (P.N.D.C. Law 64) (GNPCL), were passed. Since their adoption in the 1980s, these important pieces of law that govern Ghana's fiscal system have stayed unchanged, failing to reflect modern developments and concerns in the sector.

Many individuals wondered if the outdated rules were still necessary to guarantee a fair distribution of the oil wealth to the Ghanaian people. There were concerns that the International Oil Companies (IOCs) may exploit legal loopholes to steal everything discovered, leaving the current generation and future generations with little to gain. Enforcing IOC compliance with royalty payments, taxes, and other financial responsibilities demanded by laws and petroleum agreements may surpass the institutions' capacities and tax collecting procedures. Nonetheless, adhering to industry best practices, such as fairness, transparency, sound governance, and promoting local participation, is critical to foster indigenous participation and protect Ghana from the negative effects experienced by other oil-producing countries such as Nigeria, Chad, and Gabon, colloquially known as the "oil curse" (Samanhya & Samanhya, 2016).

Ghana has a common law-based judicial system that is in place. Ghana generally upholds the rule of law. The Republic of Ghana's 1992 Constitution established a strong democratic institution and a culture that upholds the rule of law. The administration has shown a growing regard for the law in recent years. Its adherence to court rulings and the conclusions of commissions of inquiry's findings which found a number of duty bearers of the state culpable of demonstrating adverse to the laws. Nevertheless, rumors have circulated regarding several instances that involve political leaders triggering inquiries have been plagued with unjustified interruptions to give the impression of state influence (Kuenyehia, Kuenyehia & Kidisil, 2015).

Primary and secondary data for the study were solicited to answer the research questions. The major source was mostly conversations with professionals in the upstream petroleum business. Secondary sources included a wide range of references such as journals, websites, books, and other online resources. All of the sources concentrated on the petroleum sector in Ghana. The data analysis approach included detecting flaws in major legislation controlling oil and gas E&P, revenue management rules, and the local content law.

Demographic Characteristics of the Respondents

The study aims to collect a complete collection of data from the upstream oil and gas business by explicitly targeting specialists from various areas of the industry. The respondents are mostly top-level management personnel and include, health and safety experts, civil society organizations, regulatory authorities and petroleum engineers. There were also the auxiliary

staff with diverse expertise. The backgrounds of these experts are presented in this section under four respective tables depicting such details of the respondents as their role, gender, age and the number of years of experience.

Table 1: Role Distribution of the Respondents

Role of Respondents	Number of respondents
Civil societies	8
Petroleum law experts	2
Regulator of oil and gas laws	10
Auxiliary workers	12
Academia	3
Health and Safety in Petroleum	5
Petroleum Administrators	7
Engineers	3
Total	50

Source: Field Interview, 2019.

In all a total of 50 people assisted in the data collection, comprising both men and women. Their roles cover areas such as administration, law, academia, engineering, civil society activists, regulators, health and safety and auxiliary staff of the industry.

The study's objectives and the intended use of the interview data were explained before the interviews even began. All interviewees received assurances regarding the interviews' confidentiality and their usage in academic research. Appendix 'B' of this work contains a sample of the interview guide.

The interview guide was structured into four (4) parts. The first part "A" gives bio data of the respondent and the remaining parts designed to source data on each of the research questions.

Distribution of the Respondents by Gender

Interviews were conducted with both male and female participants in this study. As a result, the interviewer was compelled to note each interviewee's gender. The distribution of the socially assigned roles to sex of responders is seen in Table 2.

Table 2: Gender Distribution of the Respondents

Gender	Frequency	Percentage
Male	35	70%
Female	15	30%
Total	50	100%

Source: Field Interview, 2019.

The table above reveal that majority of the respondents were males, constituting 70% of the population, while 30% of them were females.

Distribution of Respondents' Age

For the entire sample of 50 people interviewed, it was found out that 9 of them are people who were aged below 30 years, while 18 of them were between 31 and 40 years. Fifteen were between 41 and 50 years while the remaining 8 of them were 50 years and beyond. This study considered employee motivation may change between age groups to achieve impartial outcomes. As a result, in order to evaluate the possible influence of age on employee motivation, the distribution of respondents across different age categories has to be examined.

The findings are presented in Table 3 below:

Table 3: Age Distribution of the Respondents

Age Group	Number of Respondents	Percentage
0-30	9	18%
31-40	18	36%
41-50	15	30%
≥ 51	8	16%
Total	50	100%

Source: Field Interview, 2019

The respondents' who were 30 years and below, making 18% of the population, may be thought of as youthful and may be regarded as an inexperienced group. Those who fell between 31-40 years who form about 36% may be more experienced and may have a better understanding of their roles and may be better positioned in making meaningful contributions. Those who fell between 41 - 50 years were 30% of the population; this group may be the very experienced in their job and can make critical decisions that can impact greatly on the organisation. There were only 16% of respondents who were 51 years and above. This last group may not only be experienced but may as well possess a great deal of institutional memory.

Work Experience of Respondents

The years of service of oil and gas industry experts who responded to the 68 interview questions were categorized into four divisions as presented in Table 4. The respondents' experience often influences their level of awareness about the topics addressed in the study. As a result, the aim of the research was to ascertain how long the respondents had been working in the business. Table 4 displays the results of this specific interview question.

Table 4: Work Experience of the Respondents

Year of Work (Years)	Number of Respondents	Percentage
0-5	10	20%
6-10	20	40%
11-15	14	28%
≥ 16	6	12%
Total	50	100%

Source: Field Interview, 2019.

It is evident that 20% of the officials interviewed spent five years or less in the industry. Forty percent (40%) have spent between 6 years and 10 years while 28% of them have spent 11-15 years and 12% have spent more than 15 years.

According to these data, a sizable fraction of the respondents had extensive job experience in the petroleum industry. Therefore, they would be in the position to provide satisfactory responses to the interview questions.

Demography of each Group

The respondents were categorized into four different groups and each group had its unique characteristics.

Group One

There were 18 members within group one. They were sampled from Aker Energy. Their expertise includes, Administration, Geological Engineering, Drilling Engineering, Health, Safety and Environmental Affairs, Rig Operation, Marketing and Accounts Management and Site Supervision.

Group Two

Members of group two were 12. The participants in the research were chosen from the PIAC. The PIAC as an independent body, is in charge of supervising the collection and administration of revenues made from the upstream petroleum E&P. This group comprised experts such as Lawyers, Accountants, Tax Attorneys, Oil and Gas Managers, Auditors, Forensic Experts, Academia, and other related fields.

Group Three

These are members from the Petroleum Commission. There were 17 members in this group performing specific functions in the governance of the upstream petroleum sector. They have expertise in Law, Marine Engineering, Petrochemistry, Surveying, Geological Engineering, Petroleum Engineering, Petroleum Law, Seismic Surveying and Oil and Gas Management.

Group Four

This research had three individuals that were academically affiliated. They all have unique educational backgrounds in various aspects of oil and gas from 67 respected international colleges. Their knowledge ranged from petroleum law to petroleum management and to accounting.

Knowledge of Petroleum Laws of Ghana

At this point of the interview, the respondents were asked to share whether or not they have personally worked with any of the laws or whether or not their roles include the use, the adherence, the application, the interpretation

or the enforcement of petroleum laws of Ghana. The responses are outlined below according to each group. There are four different groups that were contacted. The interview questions therefore were: does your role require the use, application or adherence of any petroleum law? Which of the laws do you work with, or apply in your work? How do you use, apply, or adhere to the laws? How long have you worked with those laws?

Application or use of Oil and Gas Laws

Most of the officials interviewed responded in affirmation that they use oil and gas laws significantly in the course of their work on regular basis. Some of the views are outlined below.

Group One

Members of Group One who were made up of Aker Energy, said they were mostly given some strict regulations regarding exploration and production. They said, they work with the GNPC and the Petroleum Commission, and cited the Petroleum Exploration and Production Act, 2016, (Act 919) as the major document in that relationship. The group also discussed using the Health, Safety, Security. and Environmental (HSSE) Manual. This guidebook describes the safety rules that firms in the petroleum sector must follow. Its mission is to safeguard the safety of its employees while also protecting the environment.

Table 5: Returned Responses from Aker Energy.

Laws Applied	Application
Petroleum Exploration and Production Act 2016, Act 919	Those who mentioned this act say, they know of it, but they don't need it for this work
Health Safety Security and Environmental (HSSE) Manual	Those who mentioned this say, 'they use it to determine the extent of safety gadgets to be installed'. They say, 'even though they have reviewed it, it is not much different from what is done internationally.
Guideline, petroleum Measurement Regulations	They said, it helps them to know the type of metering system to be installed on their production equipment.

Source: Field Interview, 2019.

Group Two

All of the Group Two respondents, who are also PIAC members, stated that they rely on the Petroleum Revenue Management Act, 2011. as modified by the Petroleum Revenue Management (Amendment) Act, 2015 (Act 893). This law gives them the authority to exercise unbiased control over the collection, distribution, and utilisation of petroleum revenue of Ghana. The three primary goals of PIAC are specified in Section 52 of the Petroleum Revenue Management Act (PRMA). These are as follows:

To oversee and assess the government's and other relevant entities' adherence to the guidelines set out in this Act regarding the management and use of petroleum income and investments.

To give the public a forum and a chance to debate whether budgets, money management, and usage are in keeping with the development goals listed in section 21(3).

To provide unbiased analyses of the management and use of petroleum income in order to support Parliament and the government in their respective roles of oversight and performance evaluation.

According to PIAC, they perform policing but more of audit of the petroleum activities mainly at the upstream sector. They indicated that their role did not limit them to any specific laws and that they work with almost all the laws pertaining to the industry. Table 6 below contains the responses from members of PIAC:

Table 6: Responses from members of PIAC

Laws Applied	How Laws are applied
Petroleum (Amended) Act, 2015 (Act 893)	They go round and collect data on the use of petroleum funds and analyse whether the petroleum funds are put to good use.
Local Content and Local Participation Regulations L.I. 2204	They make regular checks on site to confirm if the local content regulations are applied.
Health Safety Security and Environment (HSSE) Manual	They engage the EPA to get data on the adherence on the Petroleum companies to the environmental requirements.
Petroleum Income Tax (PNDCL 188)	They conduct periodic review of the petroleum taxes paid by the multinationals in order to ensure that right taxes are paid to the state.

Source: Field Interview, 2019.

Group Three

The members of group three are from the Petroleum Commission. They said they work with almost all the upstream laws and regulations which are over 15 in number. They perform regulatory functions over the upstream oil and gas companies. They grant licenses and award contracts to qualified companies in the upstream sector. They ensure that there is compliance with the oil and gas laws, some of which are: JV Guidelines; Local Content and Local Participation Regulations L.I. 2204; Oil & Gas Insurance Placement for the Upstream Sector; Petroleum Commission Act 2011 (Act 821); Petroleum Commission Fees and Charges Regulations L.I. 2221; Petroleum (Exploration & Production) Act, 2016 [Act 919]; Petroleum Exploration and Production (Measurement Regulations); Petroleum Income Tax (PNDCL 188); Petroleum Revenue Management Act 2011 (Act 815); Petroleum Exploration and Production-Data Management Regulation, 2017 (L.I. 2257); and Petroleum Exploration and Production (General) Regulations, 2018 (L.I. 2359).

Some of the responses from the members of the Petroleum Commission are as captured in Table 7.

Table 7: Responses from Members of the Petroleum Commission

Oil and Gas laws	Application
Petroleum Commission Act, 2011 (Act 821)	This is the act that gives the powers of the commission to perform its duties. It also sets the

guidelines through which the commission sets up its structures

Petroleum Commission Fees and Charges Regulations L.I. 2221 This is a regulation that authorizes the commission to charge its fees from the upstream petroleum companies.

Petroleum Exploration and Production (General) Regulations), 2018 (L.I. 2359) The commission uses this regulation to perform its duties regarding the contracts with oil and gas companies. exploration terms, royalties to be paid, and lifting and marketing.

Petroleum Exploration and Production-Data Management Regulation, 2017 (L.I. 2257) This regulation also authorizes the commission to collect data on the petroleum activities in the upstream sector and manages the data.

Petroleum Revenue Management Act, 2011 (Act 815) This is what mandates the commission to collect the revenue and charges. They said they do not physically collect the revenue. That is done by Ghana Revenue Authority (GRA). But they perform oversight responsibilities over the collection

Petroleum Exploration and Production - HSE Regulations 2017 (L.I. 2258) This law authorizes the commission to conduct material assets integrity, health and safety of the workers, and grant licenses for certain activities.

Source: Field Interview, 2019.

Group Four

Members of Group Four are from the academia. When they were asked about their experience with the oil and gas laws, they said as part of their work. they make references to the laws of the petroleum industry in delivering their lectures. They also mentioned that they teach from all the laws and make references to other petroleum laws from other jurisdictions. They mentioned that they are very conversant with the oil and gas laws. Table 8 below gives an insight into the interaction with members of Group Four

Table 8: Responses from members of Group Four

Oil and Gas Law applied	Application
Petroleum Revenue Management Act 815 – 2011	Some part of their syllabus includes some provisions of the Act. They sometimes critique portions and make recommendations.
Petroleum Exploration and Production – HSE Regulations 2017 (L.I. 2258)	They conduct regular reviews and use it to write papers for publication and also lecture notes.
Local Content and Local Participation Regulations L.I. 2204	They assess the provisions of this regulation to find out if there are inconsistencies that have to be addressed and write articles on them.

Source: Field Interview, 2019

Comparison with other Oil and Gas laws to identify gaps

Each of the respondents was asked if they had working knowledge of petroleum laws from other countries. Among all the responses given, the first four of them are sampled for analysis. They are:

- a) Exploration and production law
- b) Health and Safety law
- c) Local content law
- d) Revenue laws
- e) Others

Table 9: Responses on Knowledge of Petroleum Laws of other Countries

Laws	Frequency
Exploration and production law	15
Health and Safety law	10
Local content law	20
Revenue laws	10
Other laws	5
None	10

Source: Field Interview, 2019.

The responses as regard knowledge of laws from other countries apart from Ghana. Some of the respondents are conversant with two or more of the laws of other countries while some are conversant with just one. However, 10 of them

have no knowledge of laws from other countries. Some of the respondents said they have applied the laws in their jobs from other jurisdictions.

Petroleum E&P Law

The Petroleum E&P law as discussed in this study include Granting of Concessions, Joint Venture (JV) Agreements, Governance of the Petroleum Sector and Bidding for Contracts.

Granting of Concessions

The officials indicated that there exists a substantial difference between Ghana and Nigeria with regards to the exploratory operations carried out by multinational oil corporations (MOCs). MOCs aren't allowed to conduct wide geographic coverage during their exploration activities in Nigeria. Ghana, on the other hand, gives MOCS concessions, giving them the sole right to explore, extract, develop, and sell natural resources. Furthermore, these concessions have shorter terms than other concessions, and the bulk of recently concluded agreements contain shared and cooperative duties between the host countries and transnational firms.

Joint Venture (JV)

Another speaker noted that Nigeria predominantly uses the joint venture model for onshore and shallow water activities, as opposed to Ghana, where offshore operators participate in joint venture agreements. Nigeria's National Petroleum Corporation (NNPC), the nation's state-owned national oil firm, and international corporations participate in joint ventures to conduct the majority

of the country's petroleum exploration and production activities. Joint Operating Agreements (JOAs) are in charge of regulating these joint ventures in Nigeria. The JOA outlines how operating costs will be shared among partners and names one party as the sole operator. The NNPC has the option of acting as an operator in Nigeria. Every year, the operator creates suggestions for a work schedule and a shared budget of expenses that are allocated according to the number of shares.

Governance of the Petroleum Sector

According to information given by a respondent associated with Aker Energy, Ghana has established via specific law the overall duties of the several organizations involved in the petroleum sector. These include the Ghana National Petroleum Corporation Law of 1983 and the Petroleum Commission Act of 2011, both of which are governed by the nation's current legislative structure. There is a lot of overlap in how they function as a result. They regret that the three institutions' respective roles should be more clearly defined.

Bidding for Contracts

A respondent asserts that the Minister has the authority to bypass the outcomes of the tendering procedure and negotiate a petroleum deal directly. The Minister may choose to totally omit the tender process after consulting with the commission in situations when direct negotiations are thought to be the most effective strategy to ensure the best utilization of resources. These clauses might negate the advantages that come from having a law requiring competitive bidding, such as: transparency, accountability and value for money. This

certainly is a recipe for awarding poor contracts and may end up not serving the interest of the citizens.

Additionally, Dzikunu & Iddrisu (2022) stressed that a petroleum deal might be created by direct discussions or through a competitive bidding procedure. The Minister in charge of Energy decides on the best strategy to guarantee the best exploitation, development, and production of the oil and gas resource in a particular location.

Petroleum Revenue Management Bill (PRMB)

One of the respondents said that this bill is not in many jurisdictions and for most people it is the taxation organization that collects the revenue and transfers same to the central or local government.

According to a 2011 poll by Friedrich-Ebert-Stiftung (FES), the Petroleum Revenue Management Bill (PRMB) recommends that at least 30% of oil revenue be put into long-term reserves. The government's annual budget would include the remaining 70% of the cash. The PRMB has placed some conditions on the utilisation of the ABFA (Annual Budget Funding Amount), as well as reporting requirements for oil finds and investments and the establishment of a separate regulatory body. However, the PRMB does not offer a comprehensive strategy outlining which industries or ministries stand to gain the most from the money. For instance, the measure does not immediately provide for investments in the nation's infrastructure development. Although it is generally acknowledged that the government is attempting to enact legislative

mechanisms to control the administration of oil money, many opponents point out the lack of specifics.

Environmental and Social Impacts

The participants claim that the Environmental Bill of Ghana does not go into great detail about the need for environmental impact studies, environmental management plans, and yearly reports to be made publicly available. That this does not encourage transparency and compliance and therefore consider it a flaw as it could make the IOCS to renege on their responsibilities of communicating the impact of their investments on the environment.

According to Dzikunu & Iddrisu (2022), a contractor by law is expected to present a health and safety strategy to the Petroleum Commission. Three months before the start of the relevant petroleum activity, this submission must be made. The specifics of the operations, the environment, and operational presumptions should all be taken into account in the plan. It must include goals for environmental, health, and safety protection as well as guidelines for organizational structures, performance standards, waste management, and emergency planning and response particular to the oil and gas operation.

Local Content and Local Participation Regulations

According to the Regulations of 2013, the Commission is expected to announce their choice from day one to day ten. Else, the proposed contract(s) or purchase orders are deemed accepted. However, before a contractor may enter into a subcontract, this clause in the local content requirements from other jurisdictions has to have formal clearance from the relevant regulatory body.

According to the respondent, this is at variance with internationally accepted practice. The local content according to best practice is such that where the host nation is financing the project, then there does not arise restrictions as to the extent of local content inclusion.

Recommendations for Improvement

The respondents were asked if there were recommendations for improvement in the petroleum laws of Ghana.

Petroleum Revenue Management Bill

The respondents were indifferent about the Petroleum Management Bill since in their view it was an internal law regarding how the funds from the sale of oil liftings would be managed. They added that depending on the most important need of the country, the income from the petroleum production can be utilized for the purpose the country deemed fit. It is however worth noting that most countries channel the income from oil production into education, health and social infrastructure needs of the country.

Award of Contracts

According to a cross-section of the respondents, petroleum contracts have to be made through competitive bidding which minimizes corruption, but another set of views also argued that auctions were better than the competitive bidding.

In contrast to competitive bidding, a well-run auction, as provided by the Natural Resource Governance Institute (NGRI) (2015), may provide a

greater value for the nation and successfully fill in any knowledge gaps the government may have about international corporations. Inherently more transparent than direct talks, auctions reduce the chance that the wrong businesses or people will be granted exploration and extraction licenses (NGRI, 2015).

Granting of Concessions

Large geographic regions can no longer be covered by multinational oil firms while conducting exploration. The most recent contracts, which have been cut to more appropriate lengths from the previously given lengthy period for MOCs, entail shared and joint duties expected from parties from the host nations and the multinational corporations.

Radon (2005), observes that the current version of concession agreements frequently gives an oil firm the only right to carry out mineral or oil exploration, production, marketing, and exports inside a given territory for a set amount of time. For the right to exploit these rights, businesses bid against one another, sometimes including signing bonuses. The globe over, countries as different as Kuwait, Sudan, Angola, and Ecuador employ this kind of arrangement rather frequently.

Local Content and Local Participation

The respondents suggested that the local content bill should be looked at again as regards the inclusion of local expertise. The quota reserved for the local contractors is good but in terms of employment, the inclusion of key management personnel should be reviewed to make it more flexible.

LCPs should be established consistently within the framework of each unique country against its particular economic, social, and political background, in the view of Pereira, Mathews, and Trischmann (2019). Lessons from other nations may be pertinent, but without thorough thought and possible changes, they cannot simply be applied to another jurisdiction. The introduction of LCPs (Local Content Policies) may cause additional disruptions if the expectations of all parties concerned are not acknowledged and synchronized. Last but not least, LCPs must offer a realistic progression between the intended aims and the associated terms and conditions, which must be appropriate for each specific jurisdiction and location of the petroleum assets. Failure to take into account such factors may result in market disruption, ineffective or impractical processes, and/or a higher incidence of corruption.

Environmental and Social Impacts

The respondents suggested that the IOCs should be made to publish the investment they have made into protecting the environment, pollution, including amount of carbon emissions, measures put in place to prevent spillage, decommissioning process, and any other environmental concerns.

The monitoring of environmental impact may involve direct measurement and recording of quantitative data, according to the Joint Technical Report from the United Nations Environment Programme Industry and Environment (UNEP IE) and Oil Industry International E&P Forum (UNEP IE & E&P FORUM) published in 1997. This involves monitoring the amounts and concentrations of trash, pollutants, and discharges, which are then compared to internal or external standards. Indicators based on ecological/biological,

physical, and chemical properties may also be needed to quantify ambient environmental quality close to a site. Socioeconomic engagement, local liaison efforts, and even the evaluation of complaints are all examples of monitoring. Monitoring of process inputs, such as the kind and stock of chemicals used, resource consumption, equipment and plant performance, etc., may also be necessary when using a preventative approach to management. For host governments to pay attention to the reports, the corporations could be obliged to disclose them often.

Governance of the Petroleum Sector

The respondents recommended that some of the roles of each of the regulatory authorities be refined to avoid duplication and overlapping of duties just to avoid confusion in the minds of prospective contractors and occasion otherwise avoidable omissions and or confusions with dire consequences.

Lahn, Marcel, Mitchell, Myers, & Stevens, (2009) in a forum posit that the elements of good governance of the petroleum sector should have these functions: While strategy-making focuses on turning policies into workable plans, policy-making entails setting the direction, aims, and objectives. The implementation of policy is covered by operational decision-making, and monitoring and regulation work to assure compliance and offer confidence.

According to their viewpoint, an effective governance structure should prioritize sustainable development seeking to meet inter-generational needs, have well-defined objectives, roles and responsibilities that are clearly defined, allow people to perform the tasks assigned to them, enforce accountability for

decision-makers and performers, and guarantee the accuracy and transparency of information.

Bidding for contracts

The respondents recommended that the discretionary power given to the Minister to negotiate contracts can be problematic. The option for the Minister to use his discretionary power to award contracts should be exercised after a bidding entity has been assessed effectively by a state institution and has qualified before dealing with the Minister.

According to NGRI (2015), the government should implement a pre-qualification procedure for bidders to make sure that prospective license holders have the necessary technical and financial resources to carry out a program for resource development. Additionally, they must be qualified to manage the environmental hazards related to the project and the infrastructure it depends on.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Introduction

The main objective was to evaluate the laws and regulations in the Ghana's petroleum sector with primary reference to the upstream portion of the business. This includes the weaknesses and strengths of the laws as compared to laws and regulations in other jurisdictions. The study aimed to find solution to research questions such as what are the gaps in Ghana's upstream petroleum legislation; what are the best upstream petroleum models; and how can Ghana's upstream petroleum laws be improved.

Using discretion or convenience sampling approaches, the sample size was chosen as part of the study methodology. Participants in Ghana's upstream petroleum industry made up the sample. Four separate groups were created out of these people. Aker Energy, a member of group one, was an IOC (International Oil Company). Members of the PIAC, which was in charge of directing the administration and collection of revenues from petroleum resources, made up group two. Members of the Petroleum Commission from the regulating bodies made up group three. Academics who influence the direction of policy in the upstream petroleum industry made up the last group.

The data was largely qualitative and came from secondary sources such as journals, newspapers, internet sources, books and researches conducted by other people. This notwithstanding, a little quantitative data was also collected from primary sources for the analysis. Taking into consideration their demographic traits and the nature of their answers to the interview questions,

this information was gathered from people who were actively involved in the upstream petroleum sectors.

Summary of Major Findings

The following are some of the answers to the research questions from the study.

The study found that majority of the players in the upstream petroleum industry have at least worked with several petroleum laws and regulations. from other countries. Each group applied the law differently depending on the nature of its work. Group One members made up of officials from Aker Energy are into E&P of the petroleum resources. They therefore work with the Petroleum Commission and are expected to comply with the acts and legislative instruments of parliament of Ghana, the Health Safety Security and Environmental (HSSE) Manual.

Group Two members made up of officials of PIAC answered the interview questions stating that, they use the Petroleum Revenue Management (Amendment) Act, 2015 (Act 893) to assess how the petroleum revenue of Ghana is being managed and used as required by law.

The members of Group Three are from the Petroleum Commission. They said they work with almost all the upstream laws and regulations which number over fifteen (15). They perform regulatory functions over the upstream oil and gas companies. They grant licenses and award contracts to qualified companies in the upstream sector. They also ensure that there is compliance with the oil and gas laws.

Members of Group Four are from the academia. When they were asked about their experience with the oil and gas laws, they said as part of their work, they make references to the laws of the petroleum industry in delivering their lectures. They all mentioned that they teach from all the laws and make references to other petroleum laws from other jurisdictions.

With regards to the objective of investigating the weaknesses of the upstream petroleum laws in Ghana, the research findings suggest that sections of some of the laws in the upstream petroleum industry have some weaknesses. The laws analysed in this study were the petroleum E&P law, Health and Safety law, Local Content law and the Petroleum Revenue Management law.

The weaknesses of the Petroleum E&P laws are covered in the areas of Granting of Concession, Joint Venture (JV) Agreements, Governance of the Petroleum Sector and Bidding for Contracts. In terms of Granting of Concessions according to the researcher, concessions are granted with exclusive rights to the MOC to discover, exploit, lift and sell the petroleum resources. This is not the case in other countries.

With regards to the governance of the oil and gas industry, the researcher reveals that there is a lot of overlap in the way the governing institutions operate. The respondents lament that there is the need for clear segregation of duties and responsibilities for the three recognised organisations that play oversight roles in the petroleum sector in Ghana. These institutions are the GNPC, Petroleum Commission and the ministry responsible for petroleum affairs i.e., Ministry of Energy.

In bidding for Contracts, the Minister has the authority to ignore the outcome of procurement procedures on tendering. Through direct negotiations,

the Minister can go ahead to sign onto any petroleum agreement by disregarding tender procedures. Per the current status quo, the law recognises direct negotiation to be an efficient manner for petroleum agreements to maximise benefit from exploiting the petroleum resource than following the systematic and sequential processes provided for in the Public Procurement Act of Ghana. Such clauses in the laws have a tendency to weaken efforts in reaping utmost advantage in the prerequisite of the public procurement act that require competitive bidding process and hence a recipe for awarding poor contracts and may end up not serving the interest of the citizens.

The Environmental laws of Ghana is little silent on the disseminations of reports on the impact on the environment and mitigation possibilities on issues related to environment. This does not encourage transparency and compliance.

According to the Local Content Regulation, planned agreements in the form of contracts requiring procurement processes made to the Commission are regarded as been approved by the Minister in case the Commission is unable to disseminate the decision from day one to the tenth day. Nevertheless, in other jurisdictions, the local content regulation, necessitate a written approval from the appropriate approving authority prior to allow for a sub-contract to be legal.

The last research question is to find out how Ghana can improve upon its upstream oil and gas laws. The study identified some recommendations for improvement of the weaknesses identified. According to NGRI (2015), an international approach is that, a well-designed auction will secure an optimal return to nation and that auctions can support a host nation to deal with problems

that might arise from lack or inadequate information for informed decision with IOCs.

Modern form of concession agreements often grants an oil company exclusive rights to explore, develop, sell, and export oil or minerals extracted from a specified area for a fixed period of time.

In terms of the LCP, lessons from other countries could be relevant but they cannot be purely adopted into another jurisdiction without careful consideration and the implications of likely adaptations. The expectations of all stakeholders should be clearly understood and balanced, otherwise the introduction of LCPs may lead to further disruptions. Finally, LCPs should provide a reasonable progression with, and realism between the target goals and, the attached terms and conditions which should be suitable for each given jurisdiction and location of the petroleum assets.

Monitoring of environmental impact may take the form of direct measurement and recording of quantitative information, such as amounts and concentrations of discharges, emissions and wastes for measurement against corporate or statutory standards, consent limits or targets.

The elements of good governance of the petroleum sector should have these functions: Policy-making which is setting direction, goals and objectives, Strategy-making which is translating policies into plans of action, Operational decision-making which is implementation of policy and Monitoring and regulation which is providing assurance and compliance.

In order to prevent future disruptions from being caused by the introduction of LCPS, it is important to understand and balance the expectations of all stakeholders. Last but not least, LCPs should offer a realistic progression and fit each jurisdiction and location of the petroleum assets with terms and circumstances that are appropriate for the objective aims.

To track the environmental effect, quantitative data can be directly gathered and compared to set business or regulatory standards, consent limits, or targets. Quantitative data includes measurements and records of discharge volumes, pollutant concentrations, and waste quantities.

The following roles should be performed by the components of effective petroleum industry governance: Setting direction, aims, and objectives via policymaking developing strategies, which involves transforming policies into action plans, operational decision-making, which entails putting policy into practice and Assurance and compliance are provided via monitoring and regulation.

The option for the Minister to use his discretionary power to award contracts should be exercised after a bidding entity has been assessed effectively by a state institution and has qualified before dealing with the Minister.

Conclusions

Following the study's findings, the following conclusions were reached:

1. Some upstream petroleum laws of Ghana have some weaknesses. Ghana's petroleum laws are deficient in certain aspects. There is also no separate law

for the offshore and onshore activities and there is no sanction for anti-competition practices.

2. The legal framework depends on the fiscal regime of the upstream petroleum industry. The current system of a country has a big impact on how it regulates its upstream petroleum sector. Ghana currently has the Royalty and Tax system which has led to the laws that have been enacted. Should there be a change in the fiscal regime changes would have to be made to the laws.
3. The current laws are not coherent and lack clarity. Many of the laws that are enacted are not coherent and lack clarity. The Model Petroleum Agreement and the Petroleum Revenue Management Acts both have provisions that are not so clear. This makes it difficult to really understand the laws and also follow through. There is difficulty knowing which laws also apply to the sector because they are enacted not purposely for the oil sector but only affects certain parts of the sector. Examples are the Maritime laws and the environmental protection laws.
4. The upstream petroleum industry in Ghana is an emerging one. The legislation regulating the upstream petroleum sector must be flexible and long-lasting because it is still in the early phases of growth. To guarantee that the 39 laws are successful in promoting efficient E&P and usage of petroleum resources, regular and continuing assessments of the laws are required.
5. The regulatory bodies need political will to be able to perform effectively. The regulatory bodies will serve no purpose if they are not able to enforce the laws that have been enacted. There has to be a strong political will and

executive power backing the activities of the regulatory bodies like the GNPC, the GRA, the Petroleum Commission, the EPA, etc.

Recommendations

Based on the conclusions stated above, the recommendations below are suggested for action.

1. Amendment of existing laws to address the gaps in the sector. It is recommended that new laws should be enacted to cater for onshore activities and sanctions for anti-competition practices. There should also be laws governing the activities of joint ventures, and imposition of taxes on transfer of ownership. The governance system should be streamlined to allow for clarity.
2. To encourage clarity and consistency, efforts should be undertaken to improve the upstream oil and gas sector's governance structure. Institutions that have overlapping roles should be redefined to make things clearer to the stakeholders within the sector. The roles of the Ministry, the Petroleum Commission and GNPC should be realigned to allow for clarity and avoid overlapping and duplication of roles.
3. Given that the upstream petroleum industry is an emerging one and therefore the need to critically keep to continuously review and update the laws regulating it in order to successfully satisfy Ghanaians' needs and ambitions in terms of discovering, producing, and use of the petroleum resources.
4. All the outmoded laws must be repealed and replaced with better versions or amended as appropriate. Some of these legislations are the Petroleum Income Tax Law of 1987 (PNDC Law 188) and the Model Petroleum Agreements (MPA) from 2000.

Suggestions for Future Studies

The study suggests the following to be considered for further research.

- Assessment of the fiscal framework governing the upstream petroleum sector in Ghana.
- Examination of the effectiveness of each petroleum law in Ghana since their implementation.
- Evaluation of the influence of the petroleum laws on the efficient utilization of the oil and gas resources.



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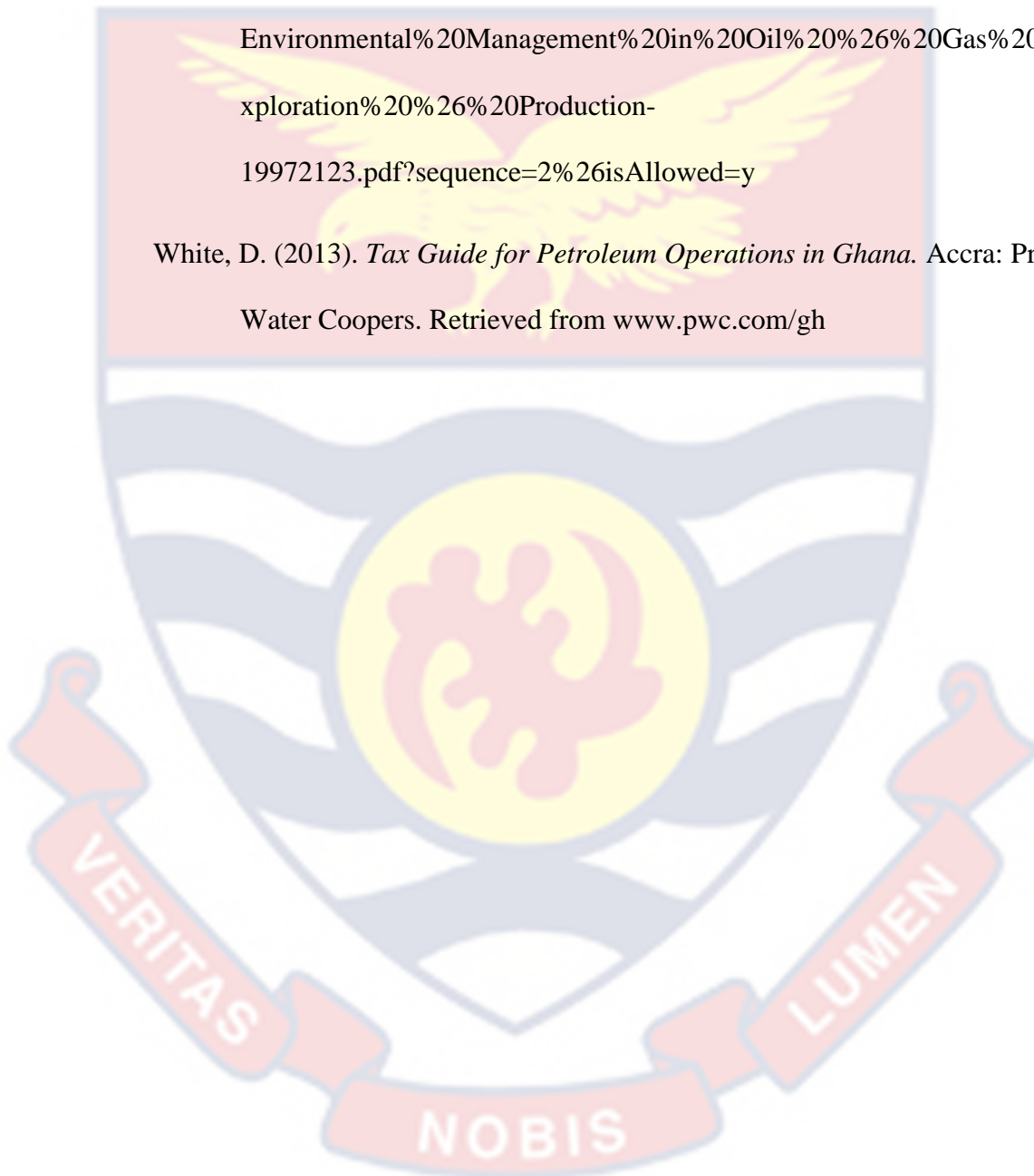
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APPENDICES

APPENDIX A: INTRODUCTION

The purpose of this questionnaire is to enable me complete my thesis for the award of a Master of Business Administration degree in Oil and Gas Management at the University of Cape Coast. The study is entitled “**A CONTENT ANALYSIS OF THE UPSTREAM OIL AND GAS LAWS IN GHANA**”.

I humbly request for your time to respond to the questionnaire which I have attached would be grateful if you could give the questions your utmost attention for accurate and candid answers to enable me achieved the objectives of the study.

It is optional to write your personal details in terms of your name and others for the purpose of remaining anonymous. You are however assured that the information obtained from you be kept as confidential as possible. Again, data solicited is only going to be used for academic purposes to contribute to literature and inform policy and nothing else.

I appreciate the treasure of time in responding to the questions.

Sincerely,

George Ayisono Biah

MBA Student.

University of Cape Coast.

APPENDIX B: INTERVIEW GUIDE

Preamble: Introduce yourself, the organization you represent, the purpose of the interview and the main areas to cover.

PART A**1. Background of the interviewee**

- a. Name:
- b. Position/Area of Responsibility:
- c. Organization:
- d. What role do you occupy and what are your duties?
- e. How long have you held that position in the organization?

PART B**2. Working Knowledge of Petroleum Laws in Ghana or elsewhere**

- a. Does your role require the use, application or adherence of any Petroleum law?
- b. Which of the laws do you work with, or apply in your work?
- c. How do you use, apply, or adhere to the laws?
- d. How long have you worked with those laws?

PART C**3. Comparison with others to identify gaps**

- i. Apart from the petroleum laws of Ghana, which other petroleum law do you used, applied or adhered to in your line of duty?
- ii. What are some of the provisions in that which are absent in Ghana's laws? Or vice versa

- iii. What would you recommend to be included in the petroleum laws of Ghana, based on your experience from the use of the other laws from other countries?

PART D

4. Recommendations and Suggestions

- a. What new aspect of the law would you recommend that it is introduced to the petroleum laws of Ghana?
- b. Which aspect of the law would you want to be taken out from the existing law?
- c. Which law is non-existent in Ghana's laws and you wish it is introduced?

APPENDIX C: EXCESS LOAD

Much of the data was collected from players within the upstream sector. This includes an IOC, the regulator, PIAC, and people from the Academia. Some data was also gathered from journals, articles, books and papers on related studies regarding petroleum industry laws. These involved the medium of the internet sources and other similar sources. The study found that the upstream petroleum laws in Ghana and the legal framework depends largely on the fiscal regime.