EXPLORING THE NEXUS BETWEEN CORPORATE ENVIRONMENTAL RESPONSIBILITY AND REGULATORY OVERSIGHT IN GHANA'S UPSTREAM PETROLEUM INDUSTRY

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December 2019

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ABSTRACT

The concept of Corporate Environmental Responsibility (CER) has, in recent times, attracted much scholarly attention. Nevertheless, most research has focused mainly on developed countries, with little attention to developing countries. In order to fill this gap in the literature, this study set out to identify and document how and why petroleum companies in Ghana's upstream petroleum industry undertake CER, while also analysing the link between their environmental behaviours and the environmental regulatory system that governs the industry.

Using qualitative research techniques, information was collected from an extensive document analysis, as well as semi-structured interviews with key actors in Ghana's upstream petroleum industry. Drawing from the literature, a schematic was designed to help identify the traits of key environmental behaviours (i.e. environmental communication and performance) of petroleum companies, thus, providing insights into how they undertake their CER in Ghana. Specifically, while environmental communications hold significant merits, by themselves, they do not fully characterize CER. Rather, they complement the environmental performance of the petroleum companies and inform whether or not they fulfil their CER. The study found that, although some petroleum companies undertake CER in Ghana to protect and project their corporate brands and reputations, they are also impelled to do so through the imposition of regulatory controls, the availability of essential petroleum infrastructure (e.g. gas receiving and treatment plants) in the country, as well as the pressures from society and social actors in Ghana. Findings further reveal that lapses in some regulatory functions stemmed from the ambiguities and delays pertaining to some of the key legal provisions governing the country's upstream petroleum industry. The study also identified some avenues that could facilitate the emergence of regulatory capture that potentially undermines the effectiveness of the environmental regulatory system and potentially results in regulatory failures. Recognizing that the current definitions of regulatory capture do not fully characterize it, the study presents a novel and comprehensive definition which enables better characterization and enhances adequate diagnosis of the phenomenon.

By exploring why and how petroleum companies fulfil their CER in Ghana, this study contributes to the literature by expanding knowledge on the indicative pathways and drivers that characterize CER in developing countries. Furthermore, this study suggests a nexus between regulatory capture and regulatory ineffectiveness in Ghana's petroleum industry, and also contributes to the scholarship of regulatory capture as it expands the theoretical and practical understanding relating to the definition, diagnosis and remediation of regulatory capture.

DECLARATION

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint-award of this degree.

I give permission for the digital version of my thesis to be made available on the web, via the University's digital research repository, the Library Search and also through web search engines, unless permission has been granted by the University to restrict access for a period of time.

I acknowledge the support I have received for my research through the provision of an Australian Government Research Training Program Scholarship.

06/12/2019

ACKNOWLEDGEMENTS

I wish to acknowledge and express my heartfelt gratitude to my supervisors, Associate Professor Melissa Jane Nursey-Bray and Dr Thomas Wanner, for their immense contribution, guidance and encouragement during my PhD candidature. Special thanks to A/Prof Nursey-Bray for the various opportunities she provided me to excel, both in my PhD candidature and my professional career.

My sincere thanks also goes to the University of Adelaide for awarding me a PhD scholarship. I am equally indebted to the Department of Geography, Environment and Population (GEP) for funding my fieldwork and attendance at conferences. The warm friendship, moral support and pieces of advice from fellow PhD colleagues and teaching staff are also gratefully acknowledged.

Furthermore, I acknowledge the assistance of my uncle, Mr. Markwei Akita, and Mr Edward Antwi and Dr Martin Larbi of the Centre for Energy, Environment, and Sustainable Development, Ghana. I also appreciate the numerous participants in my research for their valuable contributions. My heartfelt appreciation also goes to Dr Tanya Lyons for her professional editing services. Also, the hospitality, encouragement, support and informal contributions from my family, friends, colleagues and the entire Ghanaian community in Adelaide, especially, Prof and Mrs Yawson, are also gratefully acknowledged.

My indebtedness to my family cannot be quantified: I acknowledge and appreciate the love, support and tremendous sacrifice of my dad, Mr Emmanuel Martin Nii Larye Sowa (Aka, Superman) and my mum, Madam Faustina Akuorkor Laryea. This thesis is dedicated to them. My deepest appreciation also goes to my remarkable fiancée (soon to be Mrs Sowa), Rachel Wimana Mboneye (Aka MBB), for her unconditional love, constant prayers, understanding, endurance, support and encouragement during my PhD candidature.

Above all, I wish to express my earnest appreciation to the Almighty God for His protection, guidance and providence throughout my life, and especially during the pursuit of my doctorate. I am highly grateful for His permissive will that enabled me to complete my doctorate.

ABBREVIATIONS AND ACRONYMS

ACEP	Africa Centre for Energy Policy
AETC	African and Eastern Trade Corporation
API	American Petroleum Institute
AGI	Association of Ghana Industries
BNI	Bureau of National Investigations
BP	British Petroleum
CCGC	Climate Change Governance Checklist
CDP	Carbon Disclosure Project
CEESD	Centre for Energy, Environment and Sustainable Development
CEO	Chief Executive Officer
CEPS	Customs Excise and Preventive Service
CER	Cooperate Environmental Responsibility
CHPS	Community-based Health Planning and Services
CITES	Convention on International Trade in Endangered Species
CSIR	Council for Scientific and Industrial Research
CSO	Civil Society Organization
DG	Director-General
ED	Executive Director
E&P	Exploration and Production
EIA	Environmental Impact Assessment
EMP	Environmental Management Performance
EMS	Environmental Management Systems
ENGO	Environmental Non-Governmental Organization
EOP	Environmental Operational Performance
EPA	Environmental Protection Agency
EPC	Environmental Protection Council
EPI	Environmental Performance Indicator
EPM	Environmental Performance Measurement
FCPA	Foreign Corrupt Practices Act
FoN	Friends of Nation
FPSO	Floating, Production, Storage and Offloading

FSC	Forest Stewardship Council
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIFF	Ghana Institute of Freight Forwarders
GMA	Ghana Maritime Authority
GNPC	Ghana National Petroleum Corporation
GRA	Ghana Revenue Authority
GSA	Ghana Standards Authority
GSB	Ghana Standards Board
HSE	Health, Safety and Environment
HREC	Human Research Ethics Committee
IFC	International Finance Corporation
IGF	Internally Generated Funds
IOC	International Oil Company
IOGP	International Association of Oil and Gas Producers
IOOA	Irish Offshore Operators Association
IPIECA	International Petroleum Industry Environmental Conservation Association
IRS	Internal Revenue Service
ISO	International Organization for Standardization
ISODEC	Integrated Social Development Centre
JTTC	Jubilee Technical Training Centre
JV	Joint Venture
KIC	Kosmos Innovation Centre
KPI	Key Performance Indicators
LI	Legislative Instrument
MESTI	Ministry of Environment, Science, Technology and Innovation
MFEP	Ministry of Finance and Economic Planning
MMS	Minerals Management Service
MoEP	Ministry of Energy and Petroleum
MTA	Mahogany-Teak-Akasa
NADF	Non-Aqueous Drilling Fluid
NCCE	National Commission for Civic Education

NDC	National Democratic Congress
NGO	Non-Governmental Organization
NOAA	National Oceanic and Atmospheric Administration
NPP	New Patriotic Party
NUENGO	National Union of Environmental Nongovernmental Organizations
OCTP	Offshore Cape Three Points
OECD	Organisation for Economic Co-operation and Development
OGUK	Oil and Gas UK
OHSAS 18001	Occupational Health and Safety Assessment Series, 18001
OPEC	Organization of the Petroleum Exporting Countries
OSRL	Oil Spill Response Limited
PA	Petroleum Agreement
PANC	Petroleum Agreement Negotiation Committee
PC	Petroleum Commission
PNDCL	Provisional National Defense Council Law
PoD	Plan of Development
PURC	Public Utility Regulatory Commission
Q88	Questionnaire 88
RTI	Right to Information
RUF	Revolutionary United Front
SFP	Societé Française de Petrole
SIRE	Ship Inspection Report Programme
SLO	Social License to Operate
SSNIT	Social Security and National Insurance Trust
SOC	State Owned Company
SSA	Sub-Saharan Africa
STAR	Supportive Technical Assistance for Revitalising
SWP	Sea-Worthy Permit
TEN	Tweneboa-Enyenra-Ntomme
TGSS	Tullow Group Scholarship Scheme
TRC	Technical Review Committee
UN	United Nations
UNCHE	United Nations Conference on the Human Environment

UNEP	United Nations Environment Program
VOC	Volatile Organic Compound
VRU	Vapour Recovery Unit
WAOFCO	West Africa Oil and Fuel Company
WB	World Bank
WCTP	West Cape Three Points
WHO	World Health Organization

CHAPTER ONE: RESEARCH BACKGROUND AND PROBLEM STATEMENT

1.1 Research Background

Historic environmental disasters caused by the hydrocarbon industry (ITOFP 2012; Graham 2003; Videiro *et al.* 2002), have drawn massive public attention to the sustainability of the natural environment (Al-Majed *et al.* 2012). This industry has caused some of the world's most notable environmental disasters resulting from severe oil spills caused by, for example, rig explosions (e.g. Petrobras' P-36 Platform, Brazil in 2001) (Videiro *et al.* 2002); blow-out accidents (e.g. British Petroleum's (BP), Deepwater Horizon, Gulf of Mexico, US, in April 2010 and Petrobras' Enchova, Brazil, in 1988); and tanker groundings and collisions (e.g. Amoco Cadiz in 1978, Exxon Valdez in 1989, Prestige in 2002 and ABT Summer in 1991) (ITOFP 2012; Graham 2003). The International Tanker Owners Pollution Federation (ITOPF) maintains a database of the various accidents that have occurred in the hydrocarbon industry (ITOFP 2010).

Complementing this, other studies that focus on the environmental impacts of the fossil fuel industry[1] (IPCC 2011, 2007a, 2007b, 1995; Eggleston *et al.* 2006) , have led to a significant surge in environmental awareness – with respect to climate change and global warming due to the emission of greenhouse gases (GHGs). Following these manifestations, Corporate Environmental Responsibility (CER), the ecological pillar of Corporate Social Responsibility (CSR) (Baughn & McIntosh 2007), has become a key concern for environmentalists, policy makers and academics in various scholarly disciplines. This has created an increased interest in and scholarship on the concept of CER (See Trumpp *et al.* 2015; Rahman & Post 2012; Clarkson *et al.* 2008; Xie & Hayase 2007; Dummett 2006; Al-Tuwaijri *et al.* 2004; Harris & Crane 2002; Griffiths & Petrick 2001; Olsthoorn *et al.* 2001; Cormier & Magnan 1999; Altman 1998; Ilinitch *et al.* 1998; Azzone *et al.* 1996; Epstein 1996)

[1] The fossil fuel industry comprise the various companies that engage in the business of exploration, production, transportation and utilization of fossil fuels. Intrinsically, fossil fuels (e.g. hydrocarbons and coal), contain high carbon contents, whose emission into the atmosphere creates multiple environmentally related problems. This industry is strongly connected to the Climate Change discourse. (See IPCC 2011; 2007a, 2007b, 1995).

It is however, interesting to note that, the predominant focus of CER inquiry has usually been on developed countries (Prajogo *et al.* 2012; Clarkson *et al.* 2008; Dummett 2006; Banerjee 2002; Rivera 2002), as a result, very little is known about CER in most developing countries. This is despite the fact that increasingly, there are more companies with significant environmental footprints, particularly petroleum companies, which are operating in developing countries. A typical example is Ghana – which discovered commercial quantities of hydrocarbons in 2007. The dearth of scholarly attention, together with a quantum of negative environmental episodes in some developing countries (e.g. Nigeria) caused by petroleum companies, heighten the need to investigate the CERs of petroleum companies in developing countries. This present study therefore, addresses this issue by exploring the implementation of CER in developing countries, with a particular focus on Ghana's upstream[2] petroleum industry.

With respect to oil-producing nations, Ghana is a relatively new entrant. Commercial production of oil commenced in 2010 following the 2007 discovery by Kosmos Energy. Given the various negative environmental externalities associated with hydrocarbon operations (Pegg & Zabbey 2013; Ornitz & Champ 2002; Gin *et al.* 2001), coupled with some of the environmental disasters recorded in some prominent oil-producing countries (Uyigue & Agho 2007; Aaron 2006; Zabbey 2004), it is imperative to understand the environmental behaviours and related dynamics that epitomize Ghana's hydrocarbon industry, so as to put adequate measures in place to avert any environmental disasters. Although a few studies have made ephemeral comments on environmental safety in Ghana's petroleum industry (Panford 2017; Osei-Hwere 2015), there has yet to be explicit empirical studies that focus on the CER of the various companies within the industry. To ensure environmental safety in the petroleum industry, it is crucial for regulators to monitor petroleum activities, with the support of relevant regulations, and ensure that the petroleum companies fulfil their environmental obligations.

Against this background, using a qualitative approach, this study sets out to identify, explore and document the myriad ways (i.e. how), as well as the key factors (i.e. why) that

[2] The upstream petroleum industry entails activities comprising the exploration, development, production and decommissioning of hydrocarbon projects.

drive the petroleum companies in Ghana's upstream petroleum industry to undertake CERs. Accompanying this, the environmental regulatory system governing the upstream petroleum industry will also be thoroughly assessed to identify key challenges that may impact the efficiency of the regulatory system. Following this, a comprehensive discussion is made to explore the relationship between petroleum companies' CER and the environmental regulatory system.

This introductory chapter provides the rationale of this study, and highlights the key research questions, study aim and objectives. The chapter also presents the justification for this study, and its contribution to the body of knowledge on existing CER and regulatory governance literature. Lastly, this introduction outlines the scope and focus of this study and provides an overview of the thesis.

1.2 Problem Statement

The natural environment includes a vast variety of natural resources, such as water, soil, vegetation, minerals, metals and hydrocarbons, however, the incessant exploitation of these resources often pollutes or destroys it. There is no denying that the exploitation of natural resources is necessary to meet the ever-rising needs of human populations. Nevertheless, disregarding the fundamental worth of the natural environment, that it is the single most important asset vital for the existence and survival of all living things, particularly humans, is not only deleterious but ultimately unsustainable. Equally significant, there is a link between the natural environment and the exercise of human rights (Clark 2009; Idowu 1999): That it, the enjoyment of freedom and the ultimate pursuit of fulfilment in life (both of which are usually enshrined in many countries' constitutions) can only be optimally attained within a clean and safe environment. Therefore, when the natural environment is polluted or destroyed, apart from the obvious damage done to the habitable space and the effects on the health of living things, the natural rights automatically conferred on humans are either infringed upon or deprived (Clark 2009; Guerrette 1986; Feinberg 1981). Commentaries from Feinberg (1981), suggest that this type of right pertains to all humans – both current and future generations. The present generation, therefore, has a responsibility to protect the natural environment and transfer a clean and safe environment to the future generations.

These notwithstanding, historical events have shown the tremendous deprivation of the natural environment, of which human activities (e.g. petroleum operations) form the major environmental challenge confronting the global society (Ulhøi *et al.* 1996). Most of the hydrocarbon processes (e.g. seismic surveys, dredging and gas flaring) along the lifecycle of petroleum operations produce significant negative environmental externalities (Effiong & Etowa 2012; Donwa 2011). The flaring and venting of gases, for instance, have been noted by the Intergovernmental Panel on Climate Change (IPCC)[3] and other scholars, to emit considerable amounts of greenhouse gases (GHGs), which contribute to global warming and climate change (Meinshausen *et al.* 2009; Weart 2008; IPCC 2007b). Moreover, another significant environmental threat of hydrocarbon operations is the likelihood of oil spills (Kareem *et al.* 2012; Oteh & Eze 2012).

The severities and circumstances underpinning most of the environmental disasters caused by petroleum activities have brought the 'environmental responsibility' of petroleum companies into question (Lyon *et al.* 2015; Fadeyibi *et al.* 2011; Qu & Deng 2001). In Ghana, the occurrence of several negative environmental episodes caused by the mining industry (Al-Hassan & Amoako 2014; Kosich 2010; Akabzaa *et al.* 2007), including a petroleum waste discharge in 2011 into the marine environment (Osei-Hwere 2015; Amorin & Broni-Bediako 2013; Badgley 2012; Bentil 2010), has created the necessity for regulatory vigilance on petroleum operations and environmental protection.

Even though most petroleum companies, explicitly outline their CER policies as a means of displaying their environmental consciousness, there seems to be an inconsistency between most of their outlined environmental policies and actual performance. Experiences from the western portions of the Amazon in Ecuador (Miño, 2015; Finer *et al.*, 2008), and the Niger Delta in Nigeria (Zabbey, 2004), have demonstrated that the combined effect of inadequate regulatory systems and ineffective enforcement actions facilitates non-compliant and environmentally irresponsible behaviours among some petroleum companies. To buttress this claim, McCauley (2015), Donziger (2015) and Eshelman (2015), have revealed how the international petroleum company, Chevron, concealed

[3] The Intergovernmental Panel on Climate Change (IPCC) is an intergovernmental body initiated by the United Nations, devoted to providing scientific analyses of climate change. See https://www.ipcc.ch

numerous oil spills as part of its routine operations over the years due to regulatory negligence.

While these occurrences serve as a caution to scrutinize the manner in which petroleum companies undertake their environmental responsibilities, they also justify the need for a thorough exploration into the environmental regulatory system governing upstream petroleum activities in Ghana. The anticipated increase in petroleum production from 196,089 barrels per day (bpd) in 2019 to 420,020 bpd in 2023 (Joybusiness 2019a), indicates a possible parallel surge in investments to realize this growth in production. Given the various issues that accompany the hydrocarbon industry, it is imperative to appraise the current environmental regulatory system, while investigating the various ways in which petroleum companies undertake their CER in Ghana. This exercise will contribute to proper planning and subsequent actions that will protect Ghana's natural environment and enhance sustainability in the petroleum industry.

1.3 Significance and Justification of the Study

This particular study is important for two main reasons. Firstly, by providing new insights into the dynamics that underpin CER, especially in a developing country, this study will contribute to the improvement of our understanding of the concept of CER. Secondly, the findings of this study will provide valuable insights which could help stimulate regulatory oversight (i.e. how government regulatory agencies perform their regulatory functions), while also promoting environmental consciousness and discipline among companies within potentially polluting industries (e.g. petroleum companies) in Ghana and other developing countries.

1.3.1 Contribution to the Literature – Filling Knowledge Gaps in the Literature

Literature about Ghana's petroleum industry has usually focused on the use of hydrocarbon resources for national development and/or the issue of the resource curse phenomenon[4] (Panford 2017; Ablo 2015; Chalfin 2015; Hilson 2014; Obeng-Odoom 2014b; Obeng-

[4] The resource curse phenomenon broadly explains why countries with abundant natural resources (e.g. gold, diamond, oil and gas, etc.) usually have less economic expansion, poor development and less democracy, as compared with countries with little or no natural resources. (See Ross 2014, 2003; Auty 1993).

Odoom 2013; Asafu-Adjaye 2012; Gyampo 2010; Marful-Sau 2010; McCaskie 2008). This study seeks to contribute to the literature by providing new insights into the multiple issues that pertain to CER; the application of Environmental Regulatory Systems; Regulatory Interactions and Regulatory Capture.

Prior to the discovery of commercial quantities of hydrocarbon resources in 2007, literature about Ghana's petroleum industry was understandably limited. One of the earliest studies that considered Ghana's petroleum industry was undertaken by Godfried Opong Kesse (1986). He described the geological composition of Ghana's landmass and the historic wells that were drilled by some international petroleum companies exploring for oil. He further outlined specific areas in Ghana with high prospects of hydrocarbon deposits, and consequently suggested that in the search for offshore oil, the focus should be given to the Tano Basin, along the Ghanaian continental shelf. Indeed, most of the offshore oil discoveries that have been made are within or around this zone. (See Figure 4.2).

In contemporary times however, with the discovery of the Jubilee oil field[5] in 2007 by Kosmos Energy, there has been a huge increase in the literature on Ghana's petroleum industry. The 'resource curse' syndrome, as witnessed in other oil-producing countries, has driven research into the ramification and impact assessments of Ghana's hydrocarbon resources (Ayelazuno 2014; Plänitz 2014; Obeng-Odoom 2013; Manu 2011; Gyampo 2010). Many of the scholars that conducted research on this issue took precepts from other oil-producing countries and studied the various socio-economic and political impacts created by the resource. They then identified some reasons that demonstrated how Ghana is vulnerable to such impacts. Like many studies, these scholars proposed measures that could help the country in circumventing the identified implications (see e.g. Alagidede & Akpoza 2012; Gyampo 2010). Among these measures, they recommend that targeted regulatory mechanisms ought to be enacted and effectively enforced. Panford (2017), provides a comprehensive analysis of the connection between natural resources and development in Africa, with an emphasis on Ghana's likelihood of averting or welcoming the resource curse.

[5] The Jubilee Oil Field is Ghana's first-ever discovery of commercial quantities of hydrocarbons. The field is located in the Western Region of Ghana, about 60 km off its west coast.

Other researchers have assessed the accountability and transparency of the nation's petroleum industry (Ofori & Lujala 2015; Yaw 2013; Asafu-Adjaye 2012; Gyimah-Boadi & Prempeh 2012; Heller 2010), particularly, in relation to the efficient management of financial resources from oil finds (Mensah-Yawson 2013; Breisinger *et al.* 2010; Moss & Young 2009; Owusu-Ansah 2008). In this category, most of the researchers emphasize the role of the Ghana Extractive Industries Transparency Initiative[6] (GHEITI) in the transparent management of oil revenues. Similarly, most of these scholars use evidence from other oil-producing countries to rationalize how this strategy could yield desirable outcomes for Ghana.

Graham *et al.* 2016, also assessed the politics surrounding Ghana's oil and gas production, to ascertain the potential effects on the nation's overall development. These researchers adopted the 'resource curse' concept as their theoretical framework and observed the evolution of the nation's petroleum industry, together with the political trend, and evaluated the various issues – particularly, those that have to do with the distribution of financial resources. In their study, they found that politics is profoundly infused in Ghana's oil and gas industry, and caution that if political issues are wrongly managed, they could lead to some unrest and violence (Graham et al. 2016).

Furthermore, the 2007 Jubilee Field discovery produced high expectations among the majority of Ghanaians, especially, those in close proximity to the oil fields. Among other opportunities, the discovery was expected to facilitate the provision of new (and refurbishment of existing) social amenities, new jobs, higher incomes and ultimately improve the living standards of the Ghanaian populace (ERM 2014a). In addition to these expectations, some media outlets reported that the discovery put the limelight on the nation, bringing the smaller villages and towns that lead to the oil field global attention. This, as they proceeded further to suggest, hold the potential to gradually attract both private and public economic activities into those regions (GhanaBusinessNews 2016). Learning from the experiences of Chad and Nigeria (Bategeka et al. 2009; Gary 2008), failure to meet

[6] The Ghana Extractive Industries Transparency Initiative (GHEITI) is the Ghanaian equivalent of the global standard (i.e. Extractive Industries Transparency Initiative, EITI) developed for the effective governance of oil, gas and mineral resources. The initiative supports the role of key actors in addressing the key governance issues that characterize the extractives sector. See http://www.gheiti.gov.gh/site/index.php?option=com_content&view=frontpage&Itemid=1

these high expectations can instigate a number of social disorders. As a result, many scholars assessed and proposed contingencies that will aid in the systematic management of citizens' expectations (Kaleem & Guohua 2015; Asafu-Adjaye 2012; Agbefu 2011; Broni-Bediako & Addei 2010).

Moreover, the various social complexities created by Ghana's extractive industry, especially, the petroleum industry, have been studied with an emphasis on the adoption of corporate social responsibility (CSR) as a way of addressing these complexities (see Amoako 2016; Amponsah-Tawiah & Dartey-Baah 2016; Dartey-Baah et al. 2015; Hilson 2014, 2012; Andrews 2013; Bawole 2013; Ackah-Baidoo 2012; Hinson & Kodua 2012; Atuguba & Dowuona-Hammond 2006). Scholars who have conducted research into these issues have mainly appraised the principles and practicalities of various CSR policies and the extent to which they have or could assist in the realization of societal goals and the general objectives set by the industry. Notwithstanding these studies, it appears that very little or no focus has been devoted to the environmental component of CSR, which is CER – in effect, the environmental responsibilities of petroleum companies in Ghana. This present study seeks to bridge this gap, as it examines how and why petroleum companies in Ghana's upstream petroleum industry undertake their CERs.

Besides, despite the progress made to expand the literature about Ghana's petroleum industry, a commonly overlooked area is the exploration of the complexities surrounding the relationships and interactions between regulatory agencies and petroleum companies. Very little attention, if any, has been paid to the interplay between these actors, and as a result, regulatory capture[7], which *could* emerge and thrive on these relationships is unexplored. This present study, therefore, seeks to fill this knowledge gap by highlighting the various interactive processes that ensue between the key actors in Ghana's upstream petroleum industry, together with the accompanying threats – regulatory capture and potential failures. As this study sets out to appraise the environmental regulatory system

[7] Regulatory capture describes the influence and/or manipulation of an established regulatory system by the intent and action of the regulated firms, lobbyists and/or special interest groups. (See Etzioni 2009; Dal Bó 2006; Lowi 1979; Stigler 1971; Posner 1969; Kolko 1965; Bernstein 1955; Huntington 1952). This is comprehensively covered Sub-section 2.3.4.3.

governing upstream petroleum operations in Ghana, it will be the first step towards a novel approach in ensuring that regulatory systems are protected from regulatory capture.

1.3.2 Stimulate Regulatory Oversight, Promote Corporate Environmental Discipline and Provide Information Pertaining to Environmental Protection

The findings from this study will also provide insights into the environmental behaviours of upstream petroleum companies, as well as the strengths and weaknesses of the environmental regulatory system governing the industry. The data analysed will inform government officials, policy-makers, petroleum companies and other interested parties on the practices that appear effective and those that may require strategic improvement, as far as upstream petroleum operations and environmental safety are concerned.

This study is important because it provides a precautionary imperative for the regulation of upstream petroleum activities in Ghana, particularly within the context of environmental protection and safety. The economic and time costs of the adverse impacts of petroleum operations are huge. According to Alava and Calle (2013), the estimated cost of the environmental damage done to the Ecuadorian portion of the Amazon over a 40 year period has been about $18 billion. A United Nations Environment Program (UNEP) report (UNEP 2011), also reveals that it will cost at least $5 billion, and take up to 30 years to clean up the pollution in Ogoni, Niger Delta, Nigeria. Ghana possesses neither the financial resources nor the capacity (Aryeetey & Kanbur, 2005), to deal with any significant environmental incident triggered by the petroleum industry; especially, given the numerous socio-economic challenges confronting the country. These challenges include increased unemployment rates, deplorable road networks, poverty, inflation and the myriad challenges confronting the educational and healthcare systems, among others (Baah-Boateng 2015; Molini & Paci 2015; Adjei & Buor 2012; Aheto-Tsegah 2011; Sowa 2002; Aryeetey *et al.* 2000).

Furthermore, a porous environmental regulatory system that is accompanied by inadequate or selective compliance (i.e. environmental irresponsibility) by the petroleum companies is likely to engender adverse consequences on the natural environment. As is evident in the case of Ogoniland in Nigeria, local residents who reside in close proximity to petroleum

operations, are usually the first direct recipients of any harmful effects of petroleum operations. Given the vulnerability of such people, they usually suffer more, with long-lasting effects (Zabbey 2004). In line with this, by exploring the environmental regulatory system used in Ghana's upstream petroleum industry, this study thus, seeks to identify the regulatory gaps and challenges that pertain to the system. This present study also provides practicable recommendations on how to address these gaps and challenges, and in effect, strengthening the environmental regulatory system and optimizing the necessary structures that will contribute towards the preclusion of potential regulatory failures in Ghana's hydrocarbon industry.

Findings from this study present regulators and environmental assessors with a comprehensive catalogue of where, how and why (petroleum) companies in developing countries undertake their environmental responsibilities. With this information, interested parties (e.g. regulators and environmental assessors), during the exercise of environmental monitoring and assessments, will know where, when and what to look for, based upon which they can then devise relevant and applicable techniques and strategies to ascertain and assess whether or not companies are fulfilling their environmental responsibilities.

1.4 Research Questions

In order to appreciate the theoretical and practical dynamics of CER within Ghana's upstream petroleum industry, and also to explore the complexities surrounding the nexus between petroleum companies' environmental behaviours and the governing environmental regulatory system, the following questions are asked:

1. What measures currently exist within Ghana's upstream petroleum industry, to ensure the safety and protection of the natural environment?
    a. Are there any challenges that (may) affect the efficiency of these measures?
2. Under the context of CER, and as far as environmental protection is concerned, in which ways do petroleum companies undertake CER in Ghana's upstream industry?
    a. What are the key factors that drive petroleum companies to undertake CERs in Ghana?
    b. How is the fulfilment of environmental responsibilities by the petroleum companies perceived in Ghana?

3. What is the relationship between the environmental regulatory system and the environmental behaviours of the petroleum companies in Ghana's upstream petroleum industry?

1.5 Aim and Objectives

The principal aim of this study is to understand the theoretical and practical foundations of how and why petroleum companies in Ghana's upstream petroleum industry undertake CERs, while also appreciating the relationship between their environmental behaviours and the environmental regulatory system governing the industry. To achieve this aim, this study is conducted with three key objectives.

1. To map out and examine the environmental regulatory system governing Ghana's upstream petroleum industry.
    a. Identify key challenges inherent in the environmental regulatory system.
2. To identify and document how and why petroleum companies undertake CER in Ghana's upstream petroleum industry.
3. To explore the relationship between the environmental behaviours of the petroleum companies and the environmental regulatory system governing Ghana's upstream petroleum industry.

1.6 Scope and Focus of the Study

This study focuses on Ghana's upstream petroleum industry. For the purposes of this study, upstream petroleum industry, as described by Kloff & Wicks (2005), refers to the various petroleum operations that ensue during (1) Exploration and Discovery; (2) Appraisal; (3) Development; (4) Production; and (5) Decommissioning. Actors in the industry comprise government regulatory agencies, upstream petroleum companies, non-governmental organisations (NGOs) and civil society organisations (CSOs) concerned with petroleum operations and environmental protection. The government regulatory agencies that provide regulatory oversight on Ghana's upstream petroleum industry comprise the *Ministry of Energy and Petroleum (MoEP);* the *Ministry of Environment, Science, Technology and Innovation (MESTI);* the *Petroleum Commission (PC);* the *Environmental Protection Agency (EPA)* and the *Ghana Maritime Authority (GMA).* For the purposes of this study,

regulatory oversight refers to how the regulatory personnel populate these government regulatory agencies and perform their various legally defined regulatory functions.

The petroleum companies considered in this study include those that were registered with the Petroleum Commission as of 2015. This time period was chosen because it provides enough time for the registered petroleum companies to exhibit behaviours and traits that demonstrate whether or not they undertake their CER. The companies included here are the *Ghana National Petroleum Corporation (GNPC), Kosmos Energy (Ghana), Tullow Oil Limited (Ghana), Eni (Ghana), Erin Energy Corporation (formerly Camac Energy), Eco Atlantic Oil and Gas Limited, Sahara Group, Hess Corporation, Springfield Group, Swiss African Oil Company Limited, Amni International Petroleum Development Company Limited, Saltpond Offshore Producing Limited, UB Resources Limited, Medea Development Limited, AGM Petroleum* and *Heritage Oil Limited* (Petroleum Commission 2017a).

The NGOs and CSOs, as well as the duly accredited private firms that are concerned with petroleum operations and/or environmental safety in Ghana include the *Africa Centre for Energy Policy (ACEP); Imani Centre for Policy and Education; Zeal Environmental Technologies Limited* and the *Integrated Social Development Centre (ISODEC).*

Given the descriptive nature of this study, it is worth indicating that attempts are not made to empirically ascertain or compare the environmental performance or outcomes of the petroleum companies operating in Ghana's upstream industry. The study seeks to identify and document the indicative themes relating to how and why petroleum companies in Ghana's upstream industry undertake CER.

1.7 Structure of the Thesis

There are nine chapter in this thesis. This *Chapter 1* has presented the general background of the study and discussed the problem statement. This chapter has also provided the significance and justification of this study and listed the research questions, specific aim and the research objectives.

Chapter 2 will lay out the theoretical and conceptual underpinnings of the study by way of a comprehensive review of the literature on CER and will further discuss the need to ensure environmental safety.

Chapter 3 will outline the research methodology, highlighting the research methods and materials.

Chapter 4 will provide an overview of Ghana's petroleum industry, with an emphasis on the history, actors and various implications of petroleum resources to the country. This chapter also maps out the environmental regulatory system used in the industry.

Chapter 5 presents the findings of a comprehensive assessment of the regulatory system used to foster environmental safety in Ghana's upstream petroleum industry.

Chapter 6 presents the results relating to the indicative themes that characterize how and why upstream petroleum companies in Ghana undertake CER in Ghana. This chapter also outlines the various perceptions of some Ghanaians concerning the fulfilment of CER in the country's upstream petroleum industry.

Chapter 7 will outline the linkages between the fulfilment of CERs by petroleum companies and the implementation of the environmental regulatory system by regulators.

Chapter 8 links up the various findings of the study with an in-depth discussion of their implications.

Chapter 9 concludes this study with a summary, and outlines the limitations of the study, as well as recommendations for further research.

CHAPTER TWO: CONCEPTUALISING CORPORATE ENVIRONMENTAL RESPONSIBILITY AND THE NEED FOR REGULATORY OVERSIGHT

2.1 Introduction

This chapter presents the literature around the concept of Corporate Environmental Responsibility (CER). Recognizing that CER is the ecological dimension of Corporate Social Responsibility (CSR), this chapter begins with a synopsis of CSR – noting the origin, typology and debates – as it relates to this study. Following this, the concept of CER is elaborated, and the key issues, drivers and benefits associated with the adoption of environmentally responsible practices are highlighted. The classical approaches in CER research are also outlined, after which a discussion on the relevance of environmental regulatory systems in the attainment of environmental objectives is presented. The discussion draws from relevant interconnecting constructs such as Environmental Sustainability, Natural Resource Governance and the Resource Curse theory. The chapter proceeds with an overview of a typical regulatory system, along with an exploration into some associated challenges. This leads to a discussion of the theory of regulatory capture, with emphasis on the definitional gaps and method(s) of diagnosis.

2.2 Corporate Social Responsibility (CSR) – Origin and Typology

Scholarly discussions about the social responsibility of companies became more prominent in the mid-twentieth century following Howard Bowen's (1953), book entitled, *Social Responsibilities of the Businessman*. Bowen's publication led to the progressive interest in the concept of Corporate Social Responsibility (CSR) (Garriga & Melé 2004; Carroll 1979). In his book, Bowen was particularly concerned about business entities' social responsibility, where he queried the responsibilities society expects business executives to adopt (Bowen 1953, p. xi). His focus originated from his view that big business entities usually wield power and make vital decisions, and the implementation of these decisions often impacts the lives of regular citizens in a myriad different ways. Following this, several scholars have made significant contributions on to the CSR scholarship (Crane *et al.* 2019; Andriof & Waddock 2017; Hart & Sharfman 2015; Hilson 2012; Russo & Tencati 2009; Moon *et al.* 2005; Dyllick & Hockerts 2002; Davenport 2000; Carroll 1999, 1991, 1983,

1979; Berle & Means 1991; Davis & Blomstrom 1966; Greenwood 1964; McGuire 1963; Davis 1960; Frederick 1960; Mason *et al.* 1959).

As the concept grew in popularity, attempts to increase knowledge about it led to the development and proliferation of different terminologies between the 1960s and 1970s (Carroll 1999). This triggered a protracted evolution of the definition of CSR. In spite of its maturity and the quantum of studies conducted on the concept, CSR has yet to receive a universally accepted definition (Crowther 2008; Das 2006; Hopkins 2004; Carroll 1979). Even though the fundamental idea is clear, the focus of CSR varies across the world because the factors that inform it differs in nature and prominence (Stigson 2002). Different individuals and groups such as, academics, environmentalists, economists, policy analysts, government officials, NGOs and private companies, have different views about the theory of CSR. This is reflected in the underlying issues they examine, the ideologies they explore and the scopes that they often attach to the definition of CSR. In line with this, Votaw (1972, p. 25), observed that;

> Corporate social responsibility means something, but not always the same thing to everybody. To some it conveys the idea of legal responsibility or liability; to others, it means socially responsible behaviour in the ethical sense; to still others, the meaning transmitted is that of 'responsible for' in a causal mode; many simply equate it with a charitable contribution; some take it to mean socially conscious; many of those who embrace it most fervently see it as a mere synonym for legitimacy in the context of belonging or being proper or valid; a few see a sort of fiduciary duty imposing higher standards of behaviour on businessmen [*sic*] than on citizens at large…

Bowen's definition contributes to this view as he described CSR as "the obligations of 'businessmen' [*sic*] to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society" (Bowen 1953, p. 6). According to Davis and Blomstrom (1966, p. 12), the concept denotes one's responsibility to appreciate the repercussions of their own decisions and actions on the entire social structure. They further imply that business executives reflect social responsibility when they act beyond their firm's narrow economic and technical interests to consider the concerns and needs of the people who may be affected by the activities of

their business. Scholars, including Davis (1967, p. 46), also posit that the crux of CSR emanates from the concern for the ethical ramifications of an individuals' deeds as they might impact the interests of others.

Unlike these definitions that focus on business executives, subsequent literature has focused on the business entity as a whole. For instance, McGuire (1963, p.144), suggests that CSR describes the social responsibilities that a business entity is obliged to perform, which extend beyond the business entity's economic and legal requirements. The concept is also described as the "public posture toward society's economic and human resources and a willingness to see that those resources are used for broad social ends and not simply for the narrowly circumscribed interests of private persons and firms" (Frederick 1960, p. 60). This idea is partly accentuated by Walton (1967, p. 18), who suggests that CSR focuses on the interplay between society and business entities, and that this nexus ought to be considered by executives during the pursuit of their business entities' objectives.

Moreover, the definition of CSR has evolved even further with the recognition of the role of stakeholders in business entities. This recognition follows Johnson's (1971, p. 50), definition of the concept. In his definition, he describes a socially responsible business entity as one whose executive body strikes a balance between its myriad interests, rather than solely pursuing profits for its stockholders. He further suggests that a socially responsible business entity considers the welfare of its working staff, contractors, dealers, local communities and the entire nation (Johnson 1971, p. 50).

Other scholars, while describing CSR, have contextualized and compartmentalized the concept. For instance, Davis (1967), having already defined CSR with an emphasis on business executives, later redefined it as the posture of business entities as they contemplate and address issues outside their constricted "economic, technical and legal" obligations (Davis 1973, p. 312). Likewise, Carroll (1979, p. 500), one of the significant contributors to the scholarship on CSR, has also stated that "the social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time." Table 2.1 summarizes a few of the other definitions of corporate social responsibility.

Table 2.1: Selected Key Definitions of Corporate Social Responsibility

Definition	Author
The moral and practical obligation of market participants to consider the effect of their actions on collective or system-level outcomes and to then regulate their behaviour in order to contribute to bringing those outcomes into congruence with societal expectations.	Beal 2013, p. 4
Contributions of a company to society, apart from products or services the company deliver.	Verboven 2011, p. 415
Corporate response to environmental and social concerns.	Panwar *et al.* 2006, p. 4
CSR is concerned with treating the stakeholders of the firm ethically or in a responsible manner.	Hopkins 2004, p. 1
Actions that appear to further some social good, beyond the interests of the firm and that which is required by law.	McWilliams & Siegel 2001, p. 117
The basic idea of corporate social responsibility is that business and society are interwoven rather than distinct entities; therefore, society has certain expectations for appropriate business behaviour and outcomes.	Wood 1991a, p. 695

Source: Beal 2013; Verboven 2011; Panwar et al 2006; Hopkins 2004; McWilliams & Siegel 2001; Wood 1991

These definitions summarized in Table 2.1 are by no means exhaustive: different international bodies have also attributed varying definitions to CSR. For instance, the World Bank defines the concept as;

> The commitment of business to contribute to sustainable economic development, working with employees, their families, the local community and society at large to improve their quality of life in ways that are both good for business and good for development (cited in Surdyk *et al.* 2006, p. 67)

Further, the American Petroleum Institute/International Petroleum Industry Environmental Conservation Association (API/IPIECA), with emphasis on the hydrocarbon industry, describes CSR as;

> The voluntary commitment by business to manage its activities in a responsible way. Oil and gas companies aim to be active and responsible members of the communities in which they operate and to contribute to economic development while improving the quality of life. (API/IPIECA 2003)

2.2.1 The CSR Debate

The multiplicity of varying definitions that seek to either describe or expand knowledge on CSR, either partly or wholly, has created an environment wherein the nebulousness (Davis 1960), and disagreement about what CSR really means, is at the centre of a protracted debate (Beal 2013; Carroll 1979). Unlike other scholarly debates wherein usually two diametrically opposing views are argued, in the CSR debate, several issues are contested. For instance, whereas there are scholars who argue that CSR is too narrow (Birch 2001, p. 55), others claim it is too broad (Van Marrewijk 2003, p. 99). Others have also criticized CSR due to the difficulties in operationalizing it as a concept (Wood & Logsdon 2017). For other scholars, the criticisms arise from apprehensions that CSR is possibly a 'well-crafted' concept whose objective is skewed towards predetermined interests (Van Marrewijk 2003, p. 100).

Moreover, some argue that CSR opposes steady business, and wanes or diverts the primary focus of business, which is the creation and maximization of profits (Clement-Jones 2005). Advocates of this idea – the shareholder primacy principle[8] – further maintain that CSR may not be a necessity if the pursuit of profit maximization is executed fairly. Expressed differently, Steiner and Steiner (1991), suggest social responsibility is what companies display when they employ practices that avert damage, shield and improve social properties in the process of wealth creation. This notion is championed by one of the earlier scholars of the theory, Friedman (1970, p. 178), who asserted that;

> there is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engage in open and free competition without deception or fraud (Friedman 1970, p. 178)

Johnson (1971, p. 54), supports Friedman's stance, noting that with CSR, "businesses carry out social programs to add profits to their organization." Likewise, there are also scholars who suggest that companies that have built their occupations on the identification and remediation of problems in societies, create jobs which employ and remunerate people from

[8] The shareholder primacy principle in corporate governance is where the interests of the direct shareholders (i.e. the creation and maximization of profits) are prioritised during the operations of the business entity. (See Millon 2012; Stout 2001, 2012; Smith 1997).

those societies within which they operate, and that, that is enough 'social responsibility'. For instance, Drucker's (1984), comment that "business turns a social problem into economic opportunity and economic benefit, into productivity capacity, into human competence, into well-paid jobs, and into wealth", seems to project this idea (Crowther and Aras 2008, p. 12).

Contrary to these notions, scholars concerned with the broad stakeholder group contend that companies are not only accountable to their immediate shareholders, but accountable to all their stakeholders. This includes all entities that either gain from or are adversely affected by, and whose privileges are infringed upon or upheld by the operations of corporate entities both directly and indirectly (Freeman 2001). These entities comprise the companies' actual shareholders, their workforce, suppliers, their host community, and according to Hopkins (2004), the natural environment. The onus therefore, lies on companies to maintain a balance by embedding the interests of all stakeholders in their operations (Davis & Blomstrom 1966), since each is indispensable to the success of the companies. Insofar as companies exist in societies, they form a part of those societies (Wood 1991a), and therefore, are expected, at the very least, as a matter of obligation (i.e. when legally bound) to assume certain (social) responsibilities whose effective and timely executions will benefit the general public (Jamali & Mirshak 2007; Balabanis *et al*. 1998; Carroll 1979).

Furthermore, some companies assume philanthropic positions and take on various CSR projects as a way of giving back to society, and this is particularly evident in developing countries (Muthuri & Gilbert 2011; Amponsah-Tawiah & Dartey-Baah 2011; Ojo 2009; Visser 2006). This adds to the debate, as to whether or not CSR should be voluntary. Some scholars maintain that it is an obligation, while others suggest it should be a voluntary practice of companies. Samuelson (1971, p. 24), for instance, asserts that "a large company these days not only may engage in social responsibility, it had damn well better try to do so." On the contrary, the European Commission (2001, p. 4), stated that CSR is "a concept whereby companies decide *voluntarily* to contribute to a better society and a cleaner environment." Furthermore, as Walton (1967, p. 18), argued, "a company's social responsibilities includes a degree of voluntarism, rather than coercion." Mathew (2004),

further agrees with this view that CSR policies are most effective when implemented voluntarily and not coercively.

2.2.2 Alternative Constructs of Corporate Social Responsibility (CSR)

Despite the variation in the interpretation of CSR, most scholars appear to agree on the necessity of introducing new constructs and perspectives that reorient the nexus between companies and their 'social responsibilities'. Accordingly, the lingering debate on CSR has led to the development and introduction of new but contiguous concepts; many of which derive their expediencies from the three pillars of CSR – Social, Economic and Ecological (Rahman 2011; Freeman & Reed 1983).

The most common of these new concepts include Corporate Accountability (Smith 2014; Morgera 2009; Waddock 2004; Bebbington & Gray 1993); Issues Management (Yawar & Seuring 2017; Wood 1991b; Wartick & Rude 1986); Business Ethics (Bowie 2017; Ferrell & Fraedrich 2015; Donaldson 1989; De George 1987); Corporate Social Responsiveness (Zhang & Luo 2013; Lee 2007; Ackerman & Bauer 1976); Corporate Social Performance (CSP) (Hart & Sharfman 2015; Siltaoja 2014; Salma Sairally 2013; Wood 2010; Swanson 1995; Sethi 1975); Stakeholder Theory (Andriof & Waddock 2017; Russo & Tencati 2009; Jamali 2008; Clarkson 1995; Freeman & Evan 1988); Corporate Sustainability (Khan *et al.* 2016; Lozano 2015; Bos-Brouwers 2010; Montiel 2008; Dyllick & Hockerts 2002); and Corporate Citizenship (Crane *et al.* 2019; Aßländer & Curbach 2014; Moon *et al*. 2005; Valor 2005; Davenport 2000; Altman 1998; Marsden & Andriof 1998; Hackett 1969; Gossett 1957).

Each of these perspectives places more emphasis on companies' compliance to law; obligations to stakeholders; human rights; better quality of life; volunteerism; economic development; proper business practices; transparency; and accountability, therefore it appears that they focus more on the social and economic pillars of CSR, with cursory mentions of the ecological pillar (Rahman 2011). Thus, the necessity for the development of a new concept that would embrace the ecological pillar of CSR led to the concept of Corporate Environmental Responsibility (CER) (Gunningham 2009; Mazurkiewicz 2004;

Aragón-Correa & Sharma 2003; Banerjee 2002; Maxwell *et al*. 2000; Sharma 2000; Sharma & Vredenburg 1998).

The concept of CER draws from relevant interconnecting constructs such as Environmental Sustainability (Baland *et al.* 2018; Severo *et al.* 2015; Goodland 1995), Natural Resource Governance (Hendrix & Noland 2014; Shearing *et al*. 2013; Roll 2011), and the Resource Curse (Badeeb *et al.* 2017; Ross 2015; Corrigan 2014; Danquah 2009; Humphreys *et al.* 2007; Auty 1993). Fundamentally, the concept focuses on the protection and safety of the natural environment; its vulnerability to (polluting) companies; the essence of environmental regulatory systems; the actual drivers of environmental compliance; as well as the indicators and consequence of regulatory failures that pertain to the business-society-environment dynamic.

The next section delves into the concept of CER, to: (1) conceptualize the intricacies underscoring (petroleum) companies and their environmental responsibilities; and (2) establish a connection between CER and the need for government regulatory agencies to ensure environmental safety.

2.3 Corporate Environmental Responsibility (CER)

Corporate Environmental Responsibility, the ecological dimension of Corporate Social Responsibility (Baughn & McIntosh 2007), has, in contemporary times, taken centre stage. On one hand, the historic environmental disasters created by the polluting industry, such as the Exxon Valdez and BP oil spills[9] (Bishop *et al*. 2017; ITOFP 2012; Graham 2003; Videiro *et al.* 2002), have drawn massive public attention to the sustainability of the natural environment (Al-Majed *et al.* 2012). On the other hand, compelling literature with a primary focus on the environmental impacts of the fossil fuel industry (IPCC 2011, 2007a; 2007b; 1995; Eggleston *et al.* 2006), has initiated a significant surge in environmental

[9] The Exxon Valdez oil spill occurred on March 24, 1989 in the Prince William Sound, Alaska (US). This disaster occurred when the oil tanker, Exxon Valdez, en route to Long Beach, California, struck a reef. A total of about 10.8 million US gallons (i.e. 260,000 bbl, or 37,000 metric tonnes) of oil was spilled. In April 2010, the BP oil spill in the Gulf of Mexico, was the result of a well-blowout. In this latter case, an estimated volume of about 210 million US gallons of crude oil was spilled. These two major events are noted as some of the worst (human-made) environmental disasters in the world. (See ITOFP 2012; Graham 2003; Videiro *et al.* 2002).

awareness – with respect to climate change and global warming due to the emission of GHGs. In line with this awareness and the increased public pressures, there has been the enactment and subsequent deployment of several environmental legislative frameworks (Matejek & Gössling 2014). These changes have led to a significant shift in the disposition of companies towards the adoption of practices that target the protection of the natural environment (Padfield *et al.* 2016; Papargyropoulou *et al.* 2012; Banerjee 2008; Wahba 2008; Williamson *et al.* 2006) . This paradigm shift has presented numerous opportunities for several scholars to explore the different dynamics that underpin companies' environmental responsibilities and performances, as well as the opportunities and barriers impeding the performance of environmentally responsible actions (Cai *et al*. 2016; Rahman & Post 2012; Clarkson *et al.* 2008; Dummett 2006; Al-Tuwaijri *et al.* 2004; Harris & Crane 2002; Griffiths & Petrick 2001; Cormier & Magnan 1999; Altman 1998). CER has thus become an important concept in both developed and developing countries, with the concept gradually gaining more ground in the latter (Cai *et al.* 2016; Brammer & Pavelin 2008).

2.3.1 Definition of Corporate Environmental Responsibility (CER)

Like other social phenomena, there are various definitions of CER (Trumpp *et al.* 2015). Mintzberg (1987), describes the concept as the lingering efforts made to manage the interplay between business and the natural environment, while Maxwell *et al.* (2000), refer to it as the environmentally responsible actions taken by corporate entities that are not necessarily legally mandatory. The concept is also defined by Banerjee (2002, p. 177), as "the recognition and integration of environmental concerns into a firm's decision-making process." According to Mazurkiewicz (2004, p. 7), CER is;

> the duty to cover the environmental implications of the company's operations, products and facilities; eliminate waste and emissions; maximize the efficiency and productivity of its resources; and minimize practices that might adversely affect the enjoyment of the country's resources by future generations.

Additionally, Gunningham (2009, p. 215), points out that the term CER encapsulates the various actions companies undertake, beyond their legal obligations, that curtail their adverse environmental externalities and are beneficial to the sustenance of the natural environment.

Furthermore, while highlighting the relevance of the natural environment, the Corporate Chairman of Chevron Texaco, Dave O'Reilly, is noted to have once remarked that;

> …success is no longer determined solely by traditional financial or operational metrics. Today, we are held to new standards for corporate citizenship, human rights, and the environment that are no less rigorous than the financial requirement of the investment in communities (cited in Williams 2002, p. 26)

While these submissions recognize the prominence of the natural environment (Sharma & Vredenburg 1998; Russo & Fouts 1997; Hart 1995), they also emphasize the preclusion of environmental harms by companies (Banerjee 2002). In essence, the notion of CER is based on the conservation of the natural states of the three components of the natural environment (i.e. the terrestrial, aquatic and atmosphere), and/or the implementation of strategies that reverse any adverse impacts on them. The concept further conveys the notion that companies ought to consider and address the potential adverse environmental externalities of their operations (Dögl & Holtbrügge 2014).

Usually, the various strategies employed to address environmental concerns are judged on three core principles (Crowther & Aras 2008). These are (1) Accountability (i.e. recognizing and assuming responsibility for the externalities of a company's activities); (2) Transparency (i.e. willingness to divulge credible, accessible, timely and comprehensible information for stakeholders to know the actual impacts of a company's operations); and (3) Sustainability (i.e. practices whose effects wouldn't jeopardize the enjoyment of resources by current and future generations) (Crowther & Aras 2008).

One of the key objectives of this present study is to identify the indicative themes relating to how petroleum companies in Ghana's upstream petroleum industry undertake CER. To achieve this, the study reviews the multiple techniques that various scholars have used to assess and measure the environmental performance of companies. This strategy is motivated by the fact that most of the assessment mechanisms employ key indicators which give valuable insight into the environmental behaviours of companies. This study, therefore, takes precepts from the extant CER literature to map out the indicative themes

that characterize how petroleum companies in Ghana's upstream petroleum industry undertake their CER.

2.3.2 Classical Approaches in CER Research

Previous empirical studies that employed multiple strategies to investigate whether and how companies undertake their CER are key in the identification and understanding of the indicative themes relating to how petroleum companies in Ghana's upstream petroleum industry undertake their CER in Ghana.

In the CER literature, different scholars have employed an assortment of quantitative and qualitative techniques to measure and assess whether and how companies fulfil their environmental responsibilities. With the quantitative techniques, scholars have developed theoretically-oriented environmental performance measurement (EPM) models, with environmental performance indicators (EPIs) that assess the environmental performance of companies (Jung *et al.* 2001; Ilinitch *et al.* 1998; Azzone *et al.* 1996; Epstein 1996). Drawing on these models, others have moved further to standardize the available EPM approaches, in order to facilitate comparative analyses of the environmental performance of different companies within specific industries (Xie & Hayase 2007; Olsthoorn *et al.* 2001; Ilinitch *et al.* 1998).

More specifically, to measure the environmental performance of companies, Wells *et al.* (1992), developed an EPM model with specific dimensions that measure the operational processes used by companies. The model also evaluates the frequency of how these processes are improved in relation to their environmental outcomes and stakeholder satisfaction. In the same respect, Eckel and Fisher (1992), also developed an EPM model that evaluates companies' environmental policies and targets, and examines the proposed strategies and the systems the companies adopt to gather and report information. Eckel and Fisher's (1992), EPM model also assesses the consistency of internal monitoring activities conducted by the company. Young and Welford (1998), extended the scope of Wells *et al.* (1992), and Eckel and Fisher's (1992), EPM models by including additional dimensions that assess the quality of environmental policies adopted by companies, as well as the strategies they employ to address the environmental impacts of their operational processes.

Additionally, Azzone et al. (1996), and Azzone and Noci (1996), have also developed EPM models with dimensions that assess the state of the natural environment within which companies operate, and the environmental management schemes they develop to ensure environmental sustainability. The dimensions further evaluate the identified adverse environmental externalities of the companies' operations, along with their corresponding environmental management plans and systems. With Azzone and Noci's (1996), EPM model, the companies' environmental reputations are also evaluated as part of their environmental performance.

Epstein (1996), also introduced an EPM model that assesses companies' environmental performance, by examining how these companies internalize environmental issues in their operational processes. The model further evaluates the corresponding systems and methodologies employed to detect, consolidate and address environmental impacts. Moreover, the model also assesses the internal and external auditing mechanisms, together with the various systems employed to facilitate environmental reporting. It follows from Epstein's (1996), model that, a company that is truly environmentally responsible will not only focus on the actual environmental impacts of its operations but also puts in place proactive measures that instil environmentally responsible behaviours among its workforce throughout its organization (IISD 1996).

Building on Wood's (1991a), and Lober's (1996), models, Ilinitch *et al.* (1998), also developed an integrated EPM model that assesses the entire organisation and operational systems of a company, together with the various procedures employed to address environmental impacts. Their model goes further to assess companies' response to regulatory systems, as well as, whether and how companies consult with stakeholders in their efforts to ensure environmental safety. Jung *et al.* (2001), and Curkovic (2003), have also designed EPM models that examine the environmental management systems (EMS) adopted by companies, their operational processes, environmental outcomes and the way petroleum companies report environmentally related information (Jung *et al.* 2001).

In contemporary times, other scholars, including Momoshima (2004), and Tyteca *et al.* (2002), have rated and ranked companies by assigning scores to their environmental

performances. Applying a similar technique, Ceres, an American Environmental Non-Governmental Organization (ENGO), has designed a Climate Change Governance Checklist (CCGC), which evaluates how companies position themselves to address climate change issues. Using this checklist, companies are given scores based on their performance with the details of the checklist. These include how the companies' boards execute oversight responsibilities on climate change issues; how their environmental performance is managed; as well as, their public disclosures, emissions tracking and strategic planning (Cogan 2006). Several other scholars have also developed EPM models with different coding schemes that facilitate the assessment of companies' environmental responsibilities (Rahman & Post, 2011; Clarkson *et al.* 2008; Jose & Lee 2007). For instance, Clarkson *et al.* (2008), have designed an EPM model with 7 dimensions and 45 questions, ranging from companies' governance structure; vision and strategy; credibility; environmental expenditure; environmental performance; environmental profile and their environmental initiatives. The model relies on publicly available data to assess and score companies' CER based on their responses to these 45 questions. Likewise, employing three dimensions (i.e. the governance structure, credibility and environmental performance), Rahman and Post (2011), have also developed an EPM system. Like Clarkson *et al.* (2008), their EPM model also makes use of publicly available data to answer twenty-two discrete questions in the assessment of companies CER (Rahman & Post, 2011).

Despite their merits, these systems of assessment suffer from some key setbacks. There appears to be an element, or at best, a threat of bias when scores are used to rank and rate companies, especially when comparing the environmental performance of different companies (Momoshima 2004). Intrinsically, individual companies, even those within the same industry, differ across the various indicators that one might use to rate their environmental performances. Companies vary in terms of their environmental priorities, technological sophistication, operations, organization and corporate cultures, among other features (Tyteca *et al.* 2002). As a result, the individual bias of the assessor (whether deliberate or not), while considering or ignoring these variations, can lead to a besmirched situation wherein the ratings of companies' environmental performance will be based partly on their corporate reputations, and their corporate reputations, in turn, adjudged partly upon the rankings of their environmental performance (Ilinitch *et al.* 1998, p. 404). Therefore,

assessing companies' environmental performance by scoring their performance and ranking them, as implied by Young and Welford (1998), is not always entirely suitable for the comparative analysis of different companies' environmental performance. More so, when the indicators used are not comprehensive. Paradoxically, it has been suggested that the use of numerous indicators, most of which are difficult to obtain, does not only make the assessment of CER tedious but also too complex for end users (Rahman & Post, 2012).

On this premise, therefore, some scholars have adopted qualitative techniques to assess companies' environmental performance. Among them, there are those who have used the expenditure profiles on pollution abatement equipment and mechanisms, as well as the adoption by companies of 'green materials and products' (McWilliams & Siegel 2001; Russo & Fouts 1997), to analyse the outcome of the interplay between their environmental commitments and expenditures on activities and technologies that are geared towards the realization of environmental objectives (Nehrt 1996; Spicer 1978). An insightful piece by Wolfe and Howes (1993), suggests that the focus and investments made into environmental training, employee awareness and EMS, collectively display the behaviour of an environmentally responsible company. Other scholars have also assessed the environmental performance of companies by documenting their emission profiles (Hart & Ahuja 1996; Hamilton 1995).

Complementing these, Gardner and Stern (1996), used a behavioural method to assess the environmental performance of companies. They found that companies, while performing their environmental responsibilities, demonstrate two distinct behaviours – efficiency and curtailment behaviours. While efficiency behaviours describe the use of efficient technology to engender substantial and long-lasting effects on the natural environment; curtailment behaviours describe the behaviours that companies consistently repeat in order to realize any significant environmental outcomes (Gardner & Stern 1996).

Furthermore, building on the notion that a company's sheer "sense of environmental and social responsibility" is one of the key factors that drives it to be environmentally responsible (Steger 1993), scholars, such as, Bamberg (2003), assessed the environmental performance of companies by exploring the link between their environmental concern and

environmental behaviours. His findings subsequently revealed that because the environmental concern of companies impacts how environmental issues are often perceived and interpreted, they usually influence their environmental behaviours.

Lending credence to the exposition above, together with the various descriptions attributed to the concept of CER, it can be seen that the majority of scholars who have studied CER have mainly focused on companies' environmental visions and policies (Christmann 2004; Cramer 2005); their corporate governance (Onkila 2009; Jose & Lee 2007; Williamson *et al.* 2006; Matthews *et al*. 2004); their internal environmental initiatives (Gilley *et al.* 2000); their environmental expenditures (Guenther *et al*. 2007; Van Buren 1995) ; as well as their actual environmental performance (Lee *et al.* 2016; Rahman & Post 2012; Henri & Journeault 2008; Jose & Lee 2007; Moon & DeLeon 2007; Punte *et al.* 2006; Bansal & Roth 2000; Young & Welford 1998). Actually, all of these are usually revealed through the corporate environmental communication and corporate environmental performance of the companies under study. Corporate environmental communication, as used in this context, basically entails the explicit articulation or broadcast of key messages and narratives and/or demonstration of certain behaviours that reflect petroleum companies' environmental disposition, awareness, intentions, commitments, policies and outcomes. Corporate environmental performance, on the other hand, describes the actual implementation of companies' environmental obligations. Ultimately, these traits, which characterize companies' environmental behaviours (Dögl & Holtbrügge 2014), provide useful insights into whether or not, and if they do, how the companies undertake their CER. From this observation, therefore, it can be reasonably construed that companies' environmental behaviours reflect how they undertake their CER.

In line with this, several scholars moved to study how companies within the hydrocarbon industry behave towards environmental issues, particularly, with regards to the prevalent issue of climate change (Skjaerseth & Skodvin 2003; Levy & Kolk 2002; Levy & Rothenberg 2002; Van den Hove *et al.* 2002; Le Menestrel 2001; Rowlands 2000). In a typical example, Rowlands (2000), found that the environmental behaviours of petroleum companies, while responding to environmental issues, usually range from reactive to proactive tendencies. He demonstrates that while leadership and management structures

may determine environmental policies, petroleum companies espouse proactive environmental behaviours when operating in countries that are more concerned about environmental issues. He further shows that petroleum companies that have migrated to the use of renewable energy adopt relatively higher proactive environmental behaviours (Rowlands 2000).

Directly connected to this, Le Menestrel (2001), also explains that the petroleum companies that are more focused on the environmental consequences of their activities exhibit reactive environmental behaviours, while those focused on their actual processes exhibit proactive environmental behaviours. Van den Hove *et al.* (2002), also contribute to the literature by suggesting that whether reactive or proactive, the environmental behaviours demonstrated by petroleum companies seem to be vastly underpinned by the lingering political and scientific debates surrounding environmental issues. They further explain that although climate change is a contested 'reality', some petroleum companies, rather than challenging the science of climate change, move to assess and address their identified adverse environmental externalities (Van den Hove *et al.* 2002).

Indeed, whether reactive or proactive, it is obvious that petroleum companies' environmental behaviours provide insight into how they undertake their CER. Therefore, for the purposes here, this study has designed a novel and simple schematic to systematically identify and document the indicative themes relating to how the petroleum companies in Ghana's upstream petroleum industry undertake their CER. This schematic is elaborated in Chapter 3 below (also see Figure 3.2). The ensuing sub-section, however, presents an overview of the varied sets of factors that drive companies to undertake CER.

2.3.3 Factors Driving the Fulfilment of Corporate Environmental Responsibilities

There is a wide body of compelling literature that has explored the factors that inform companies' decisions to adopt and implement CER practices, partly or wholly as pre-emptive measures to avert adverse environmental repercussions of their operations (Prajogo *et al.* 2012; Johnstone & Labonne 2009; Dummett 2006; Potoski & Prakash 2005; Florida & Davison 2001; Kreuzer 2001; Wilson 2001 ; Bansal & Roth 2000; Rondinelli & Vastag 2000; Szeto & Fryxell 2000; Chin 1999; Ruddell & Stevens 1998; Victory 1997). Overall,

these factors range from economic, social, political and psychological perspectives, as shown in Table 2.2.

Table 2.2: Factors That Inform the Adoption of CER Practices

Psychological	**Economic**	**Social**	**Political**
Environmental awareness	Company image/reputation	Social licence to operate (SLO)	License/permit to operate
Environmental concern	Improved risk management	Pressure from NGOs and CSOs	Legal/regulatory duty
Personal values	Competitiveness	Religion	Political pressure
	Competitive advantage	Pressure from local communities	Improved standing with the government
	Pressure from shareholders and costumers		

Source: Dummett 2006; Mazurkiewicz 2004

While some researchers have explored the contribution of external factors such as, regulations and competition (Delmas 2003; Russo & Fouts 1997; Hart 1995), and pressures imposed on business entities by NGOs (Lawrence & Morell 1995), others have examined the contribution of internal factors such as the hierarchical design and managerial values of the business entity (Sharma 2000; Cordano & Frieze 2000). Furthermore, some scholars have conducted studies to ascertain the effects of environmental concern on environmentally responsible behaviours (Liere & Dunlap 1980), while others have studied the association among individual philosophical principles, environmental consciousness, emotions and environmental behaviour (Grob 1995). In a classic example, Bamberg (2003), evaluated the environmental performance of companies by investigating the nexus between their environmental concern and corresponding environmental behaviours. His findings indicate that because companies' environmental concern impacts how environmental issues are often perceived and interpreted, they influence their environmental behaviours. This revelation reiterates Steger's (1993), observation that a company's utter 'sense of environmental and social responsibility' is the most predominant factor that drives it to undertake its CERs.

Economically, there are companies that adopt CER practices as a necessary means to boost productivity and improve their financial returns (Wilson 2001; Kirkpatrick & Pouliot 1996). For such companies, the adoption of CER policies may go beyond the abatement of their environmental footprints. Though very popular, however, the notion that companies bear excessive costs in complying with environmental regulations is not always entirely accurate, particularly when juxtaposed with the numerous benefits gained (Quairel-Lanoizelee 2016; Russo & Tencati 2009). For instance, commentaries from Gadenne *et al.* (2009), and Kirkpatrick & Pouliot (1996), suggest that CER policies when implemented properly, improves operational efficiencies and bring about a reduction in waste; a dip in operational and energy costs; avoidance of fines and an improvement in stakeholders' satisfaction. Furthermore, the adoption and successful implementation of CER improves companies' competitive advantage (Hillman & Keim 2001), consequently, facilitating pathways through which those companies are able to distinguish themselves from their competitors and expand their market shares (Roy and Vezina 2001; van der Linde 2000).

Given the numerous benefits obtained from the adoption of CER practices, most companies, in recent times, have adopted different environmental strategies, such as the International Organization for Standardization's (ISO) framework on Environmental Management System[10] (i.e. the EMS-ISO14001) (ISO 14001: 2015; Prajogo *et al.* 2012; Naudé *et al.* 2011; Zutshi & Sohal 2004; Hilson & Nayee 2002). Using such policy documents as guidelines, both government regulatory agencies and companies have designed and streamlined their environmental management strategies into more lucid schemes (Donaldson 1996; Rondinelli & Vastag 1996; Cascio 1994). Among the benefits, companies that have gone further to certify their environmental management strategies are known to boost their market values, as investors exhibit higher confidence in such companies (Kirkpatrick & Pouliot 1996). The ISO 14001 certification also promotes good perceptions about the certified companies (ISO 14001: 2015; Cañón-de-Francia & Garcés-

[10] The International Organization for Standardization (ISO) is an autonomous and non-governmental global organization that designs and develops volitional, consensus-based and economically feasible standards and guidelines that facilitate innovation, based upon which solutions to pertinent global challenges can be found. See https://www.iso.org/iso-14001-environmental-management.html. The ISO standard for environmental management (i.e. the EMS-ISO 14000 family) is the international standard that provides business entities with systematic guidelines and requirements for the development and implementation of an effective EMS (Naudé *et al.* 2011; Zutshi & Sohal 2004).

Ayerbe 2009). These further embolden the company's competitive advantage. The Ford Motor Company, for instance, revealed that by adopting the ISO 14001-certified Environmental Management System (EMS) it was able to save money and considerably reduce its environmental impact (Wilson 2001).

From the social perspective, empirical evidence from Maignan and Ferrell (2003), suggests that social demands vary from society to society, but the demand for environmental safety seems universal (Welford *et al.* 2008; Kassinis & Vafeas 2006), although different societies may attribute different weights to different pathways that lead to the realization of environmental objectives. That being said, and supporting the connection between petroleum activities and environmental devastations, virtually every petroleum company is perceived by the general public to be environmentally unfriendly (Zyglidopoulos 2002). As a result, is it neither uncommon nor unsurprising to observe the social protests in communities where large companies, connected to the petroleum industry, arrive to operate (Taylor 2000; Vogel & Vogel 1996).

The incidence and rapid media coverage of the devastations caused by oil spills, leakages and accidents has created tremendous public awareness about the need to protect the natural environment. This awareness has subsequently led stakeholders, particularly environmental groups and activists, to pile persistent pressure on companies to ensure environmental prudence, and on governments to strictly enforce environmental laws. While some environmental groups engage in civil consensus building with representatives of government, the petroleum industry and groups of concerned citizens, others embark on chaotic protests in demanding that environmental concerns are met immediately. Greenpeace is one of the most vocal of the environmental pressure groups that has vowed, inter alia, to shut down the oil industry (Calgary Herald, 1993).

Lending credence to these realities, some companies, in order to minimize or avoid such protests and increasing pressures from influential environmental groups, the general public, regulators, and consumers, are known to disclose their environmental commitments and policies via the mass media to demonstrate to stakeholders that environmental safety is their priority and not an extra-curricular activity (Patten 2002; Walden & Schwartz 1997;

Boulding 1978). By this approach, the companies usually seek to indicate that the potential adverse environmental externalities of their operations have been internalized and will be duly addressed (Clarkson 1998).

Furthermore, as mentioned previously, Friedman (1970) argues that, essentially, the social responsibility of business is to maximize profits (i.e. the shareholder primacy principle). Indeed, many shareholders of potentially polluting companies have come to realize that being perceived as environmentally conscious and responsive (particularly within an era where the protection of the natural environment is one of the foremost topics in the global discourse) could drive and sustain their profit maximization agenda. This, they concede can be attained by their companies adopting and being seen to fulfil their environmental responsibilities. Shareholders, thus, usually appoint and ensure that CEOs and executives are able to effect a balanced integration of CSR and CER strategies in their management and operations (Hastings, 1999; Hendry, 2006). While this strategy assists in promoting the environmental legitimacy of companies (Cho & Patten 2007; Hunter & Bansal 2007), it is also a manifestation of the impact of shareholder- and public pressure on the companies' decision to adopt and implement environmentally responsible behaviours (Wrisberg *et al.* 2012; Clark 1999).

Moreover, there is ample empirical evidence that suggests that companies that are certified as environmentally conscious or friendly by third parties are perceived by society as environmentally responsible (ISO 14001: 2015; Cañón-de-Francia & Garcés-Ayerbe 2009). For instance, companies that have ISO 14001-certifications express their commitments to environmental safety; and as such, are usually perceived as more environmentally conscious by stakeholders (Cañón-de-Francia & Garcés-Ayerbe 2009). Furthermore, a study by Bewley and Li (2000), demonstrates that companies that are under constant scrutiny from the mass media, as well as, those that have significant political exposure, are more environmentally responsible. This, in turn, helps the companies to obtain their 'social license to operate' (SLO) in local communities (Moffat *et al.* 2014; Syn, 2014; Black, 2013; Prno & Slocombe 2012).

The SLO describes the continuous social acceptance and approval of companies by the local communities within which the companies operate (Moffat *et al.* 2014; Syn 2014; Black 2013; Prno & Slocombe 2012; Boutilier & Thomson 2011). Importantly, the SLO is an intangible social contract (Lacey *et al.* 2016; Morrison 2014; Franks *et al.* 2013), which is founded on the social legitimacy of the activities of the company (Prno & Slocombe 2012). Usually, this sort of legitimacy results from "a generalized perception or assumption that the actions of [the company] are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs and definitions", (Suchman 1995, p. 574). According to Gunningham *et al.* (2004, p.307), the SLO, in fact, "governs the extent to which a corporation is constrained to meet societal expectations and avoid activities that societies (or influential elements within them) deem unacceptable, whether or not those expectations are embodied in law."

Therefore, prior to obtaining the SLO, companies need to demonstrate that their activities meet the accepted norms, values and principles of the host society. Only after this requirement is satisfied, would the host society recognize and give the company their SLO. It is therefore, obvious from this context that the SLO is very decisive in driving prudent environmental performance by operating companies. Actually, the recorded confrontation and, sometimes, violent clashes between companies and local societies (Hilson & Yakovleva, 2007; Hilson, 2002), when the activities of the companies are perceived to be at variance with socially accepted standards or norms demonstrates that getting the recognition and approval of the local society is a prerequisite to obtaining a social license to operate (Ofori & Ofori 2019). Subsequently, being socially recognized by host societies helps to avert conflicts (Moffat *et al.* 2014; Syn 2014; Black 2013; Hatzold 2013; Prno & Slocombe 2012; Behrends et al. 2011; Bridge 2004), and their accompanying costs (Bridge, 2004), while also enabling the companies to focus on their operations (Davis and Franks 2014; Galbreath 2010; Sohn 2007; Bansal & Roth 2000). Moreover, obtaining and retaining the social license to operate further enhances the company's social reputation (Galbreath 2010), and this is another essential factor that drives some companies to adopt CER practices (Al-Tuwaijri *et al.* 2004). When a company achieves a respectable social standing in the society, it firmly entrenches its social legitimacy (Boutilier & Thomson 2011; Hart

1995), while inevitably improving its brand and the value of its intangible resources (Tien-Shang Lee 2012; Galbreath 2010).

Furthermore, the literature shows that in some instances the behaviours of some companies, as far as CER is concerned, are influenced by religion (Du *et al.* 2014; Dyreng *et al.* 2012; El Ghoul *et al.* 2012; McGuire *et al.* 2011; Hilary & Hui 2009). This stems from the notion that within religious societies, religious beliefs, norms and values engender greater social cohesion and consciousness, which together foster social responsibility. For instance, almost all religious sects believe that the world, and by extension, the natural environment was created by a supernatural being (i.e. God for Christians and Allah for Muslims), and as such must be treated with respect (Rice 2006; Enderle 1997). Closely allied with this belief, Buddhists also hold the belief that every living creature is part of a wider web of interconnectedness and interdependence, based upon which its law of karma[11] implores each person to act responsibly. Companies that operate in societies wherein religion is deeply rooted are sometimes compelled by those religious virtues to be socially and environmentally responsible during their operations (Daniels 2011; Marques 2012). From this, it follows that irrespective of whether the managers of a particular company are religious or not, once their company is located within an area where religion plays an active role in the society, the managers are likely to be influenced by the religious norms to act in ways which are consistent with those norms (Dyreng *et al.* 2012; McGuire *et al.* 2011). Empirical studies on the effect of Chinese Buddhism on CER by Du *et al.* (2014), corroborate this observation. In their study, they conclude that indeed, religion impacts corporate environmental responsibility (Du *et al.* 2014, pg. 503).

Politically, some nations, such as Australia and Germany, have strong environmental regulations when it comes to ensuring that companies adhere to environmentally responsible practices, as this complements their efforts to maintain or improve the state of their countries' natural environment (Mazurkiewicz 2004). In many instances, therefore, companies are bound by laws, which are sometimes politically initiated, to implement environmentally responsible practices, partly or wholly as pre-emptive measures to avert

[11] The law of Karma broadly refers to the cause and effect cycle. It describes the outcome of one's words, thoughts and deeds. That is to say what happens to an individual is a corresponding reaction that is evoked by the individual's own words, thoughts and deeds. (See Hurst n.d.).

adverse environmental repercussions of their operations (Dummett 2006; McWilliams & Siegel 2001). Empirical evidence from Australia and Germany demonstrate that legal obligations were the most dominant factors that drive companies to fulfil their environmental responsibilities (Dummett 2006; Steger 1993).

Beyond these psychological, political and socio-economic factors, the various internal complexities of companies also determine whether or not, (and the extent to which they will go) to then undertake their environmental responsibilities. Research has shown that the size of a company is a key factor that informs its decision to be environmentally responsible (Bowen 2000). Whereas scholars such as Lepoutre and Heene (2006), and Morrow and Rondinelli (2002), suggest that smaller companies have similar drives in adopting proactive environmental management policies, compared to larger companies, Anton *et al*. (2004) and Etzion (2007), maintain that bigger companies with vast assets are more likely to adopt and implement wide-ranging environmental policies. This is largely due to the belief that the bigger companies, despite their obvious conspicuousness that draws more attention and scrutiny from stakeholders and regulators, also possess sufficient resources which they invest towards the development of their environmental performances (Darnall *et al*. 2010; Etzion 2007).

Drawing from the above, this present study also seeks to identify and understand the key factors that drive petroleum companies in Ghana's upstream industry to undertake their CER.

2.3.4 Corporate Environmental Responsibility and the Need for Regulatory Oversight

Most of the damage inflicted upon the natural environment by the actions of corporations has, over the years, been attributed to the absence and/or difficulties confronting established environmental regulatory systems (Thurber *et al.* 2010). In spite of this observation, however, it is interesting to note that some scholars oppose the introduction of such environmental regulatory systems, maintaining that they hinder the free-market and restrain the growth of businesses (Mulatu *et al*. 2010; Etzioni 2009). Proponents, on the other hand, assert that the absence or ineptitude of such regulatory systems, together with the challenges confronting their adequate implementations facilitate many of the adverse occurrences

whose severity necessitate the introduction of the environmental regulatory systems in the first place (Grande 2010; Gadenne *et al*. 2009). Moreover, Helm, (2006), asserts that the introduction of environmental regulatory systems, is necessary since the cost of the identified environmental threats (and after-effects of disasters) greatly outweighs the cost of interventions aimed at preventing or curtailing those threats.

Within the hydrocarbon industry, for instance, despite the manifestation of severe environmental episodes, adequate governmental decisions (Auty & Kiiski 2001), in the form of competent environmental regulatory systems, are either absent or very low, particularly in developing countries (e.g. Nigeria). This may be attributed to the economic prowess of the hydrocarbon resources, together with the preoccupation with the need to ensure that specific economic targets are realized. For instance, in Angola, oil resources contribute to about 60 percent of the country's economy and about 80 percent of the government's income (Panford 2017). In Nigeria, about 75 percent of the nation's total revenue is obtained from oil production (Hinshaw 2015), while in the Republic of Congo the resources account for about 50 percent of the country's Gross Domestic Product (GDP) (Baumüller *et al*. 2011). Given the heavy reliance on the hydrocarbon industry by these countries, coupled with the fact that they have suffered some of the worst environmental devastations resulting from hydrocarbon operations, it emerges that the economic importance of the hydrocarbon resources incentivizes the governments and their agencies to ignore the environmental and socio-cultural costs (Berry 2003), thereby limiting their capacities to critically evaluate and establish robust environmental regulatory systems to regulate the exploitation of their hydrocarbon resources. What may be ignored by these governments is that the economic implications and cost of negative environmental externalities of the hydrocarbon industry are as severe as the externalities themselves (West 2017; Gill *et al*. 2012; Sumaila *et al.* 2012), – usually running into billions of dollars (Amadeo 2016).

That notwithstanding, in many instances where regulatory systems do exist, it has been suggested that some government regulatory agencies either lack the capacity, are derelict or are unwilling to enforce the regulatory provisions (Opondo 2009; Moon & Vogel 2008; Campbell 2007). As a result, compliance from some petroleum companies is frequently

deficient. While some petroleum companies have been seen to indulge in practices that demonstrate their stark noncompliance with regulatory provisions, others are alleged to comply selectively, when it suits them (Ugoh & Ukpere 2012). An illustrative example is Chevron's noncompliance with environmental regulations in the western portions of the Amazon in Ecuador, where it operates (Eshelman, 2015; Miño, 2015; Finer *et al.,* 2008). Leaked videos that surfaced some years ago demonstrate how the petroleum company had concealed numerous oil spills as part of its routine operations over the years (Donziger, 2015; McCauley, 2015). In another example, Ugoh and Ukpere (2012), found that some petroleum companies in Nigeria had failed to comply with regulatory provisions that were aimed at protecting the natural environment. This confirms the claims recorded in a 1996 report by Project Underground, as cited by Olaniran and Williams (2008), that in Nigeria alone, despite the presence of environmental regulations, about 40 per cent of the country's total oil spills were caused by a single petroleum company – Shell Nigeria. Equally revealing, even though gas flaring activities remain banned in Nigeria, except under critical technical circumstances, such as the breakdown of vital machinery (Edino *et al.* 2010), the activities persist with impunity (Mustapha 2010).

The resource curse phenomenon has been used to describe the possible socio-economic and political complexities that may emanate from the endowment of abundant natural resources. Overcoming this so-called 'curse' has been a major focus of government policy and associated research (Badeeb *et al.* 2017; Ross 2015; Corrigan 2014; Roll 2011; Danquah 2009; Mehlum *et al*. 2006; Sachs & Warner 1995; Auty 1993). The failure then, to develop and effectively operationalize a robust environmental regulatory system may equally contribute to the factors that damage the natural environment. Therefore, in order to prevent any environmental damage from the exploitation of hydrocarbons, which will form an additional layer of complexity to the endowed country, it is imperative that an adequate environmental regulatory system is put in place to govern the environmental behaviours of petroleum companies. On this premise, therefore, the next sub-section provides a brief overview of the resource curse phenomenon, in order to contextualize and to appreciate the complexity that would be created with the addition of environmental damage, resulting from the combined effects of poor environmental regulatory systems and environmentally irresponsible behaviours from petroleum companies.

2.3.4.1 The Resource Curse

The pervasiveness, severity and implications of the negative impacts associated with hydrocarbon resources (for that matter, all natural resources) have led to the coining of the term 'resource curse'. Auty (1993), whose works led to the application of the idea of a resource curse phenomenon, first used the term in economics literature (Stevens 2003), to explain why countries with abundant natural resources (e.g. gold, diamond, oil and gas, etc.) usually have less economic expansion, poor development and less democracy, as compared with countries with little or no natural resources (Badeeb *et al*. 2017; Ross 2014, 2003; Auty 1993). For instance, unlike countries such as Australia, Canada and Norway wherein hydrocarbon resources have led to optimum economic expansion (Mehlum *et al.* 2006; Moore 1993; Deutsch 1961; Lipset 1960); the inconsistencies between the volume of hydrocarbon resources and the scope of exploitation, together with the numerous challenges (e.g. environmental, social, economic and political chaos) confronting countries like Angola, the Democratic Republic of Congo, Equatorial Guinea, Nigeria, Iraq and Venezuela indicate that the endowment of hydrocarbon resources creates more problems than benefits (Roll 2011; Danquah 2009; Mehlum *et al.* 2006; Sachs & Warner 1995; Gelb 1988). So much so that Juan Pablo Perez Alfonzo, the then Minister of Mines and Hydrocarbons of Venezuela (also known as the Father of the Organization of the Petroleum Exporting Countries [OPEC][12]), being frustrated with the failure of the country's oil resources to meet the country's developmental needs, described the 'oil' as the "devil's excrement" (cited in Ross 1999, p. 297).

The resource curse phenomenon is one of the most researched topics with regards to natural resource management. Extensive studies have shown that abundant petroleum resources brings about corruption that may lead to the breakdown of adequate and resourceful investments in education and human capital (Vicente 2010; Gylfason 2001; Leite & Weidmann 1999). Of particular importance, hydrocarbon resources in most developing countries (especially those within the African sub-region) tend to afflict endowed countries with a myriad issue which end up retarding or preventing development in those countries.

[12] OPEC was formed in 1960 in Baghdad, and is an intergovernmental organisation of petroleum-producing nations. The main objective of the OPEC is to harmonize and coordinate the petroleum policies of its Member Countries, with particular focus on stabilizing the oil market so as to reap fair returns for investors. OPEC also works to ensure efficient, economic and steady supply of oil to consumers. Currently OPEC is headquartered in Vienna, Austria. See https://www.opec.org/opec_web/en/17.htm.

For instance, in spite of the rich endowment with hydrocarbon resources, Equatorial Guinea is one of the least developed countries and among the most politically restrictive in the world (Panford 2017). It is argued that after rising to power in 1979, the President of Equatorial Guinea, Teodoro Obiang Nguema Mbasogo, used monies accrued from the country's oil finds to fortify his position and also to enrich his Esangui clan (Wood 2004), both to the detriment of the country's development. Moreover, research evidence indicates that entrenched corruption in Cameroon's petroleum industry helped President Paul Biya to retain power since 1984, and this partly explains the slow progress in the country's developmental agenda (Frynas 2005; Pegg 2006). Likewise, in Gabon, Soderling (2006), outlines how the country's oil finds have stalled democracy. Here, it is noted that President Omar Bongo used oil funds to entice and influence multinational corporations while holding on firmly to power for over half a century, yet unable or perhaps, unwilling to embark on developmental programs for Gabon (Soderling 2006). These situations which are also quite evident in Sudan and Nigeria, as well as other oil-rich non-African developing countries like Venezuela, speaks to the core of the resource curse phenomenon (Idemudia 2012; Rossi 2011; Patey 2010).

Complementing these, other studies have also demonstrated the link between the presence of large quantities of hydrocarbon resources and high levels of poverty (Ross 2007, 2003). Typical examples can be seen in countries like Nigeria, Sudan, Gabon, Equatorial Guinea and Chad, among others (Leonard2016; Obi 2007; Myers & House 2005; Ali 2003; Ndumbe 2002). There are yet other scholars that have observed instances where the endowment of large hydrocarbon resources has created persistent political chaos and instability (Humphreys 2005; Collier 2003; Ross 2003). In connection with this issue, different cases of totalitarianism, civil wars and tensions have been observed in several oil-rich countries (Jensen & Wantchekon 2004; Wantchekon 2002; Ross 2001). Suggestions from Collier and Hoeffler (2001), and De Soysa (2002), indicate that there is a greater chance of resource-dependent and resource-rich countries to easily lapse into civil conflicts – as is evident in Libya and the Middle East (Ross 2012). There is also the belief that the wealth generated via the exploitation of natural resources provides both the funding and the motive for armed conflicts in some countries. A classic example is the use of Sierra

Leonean ‘blood’ diamonds to finance the decade-long conflict between the country’s government and the rebel army, the Revolutionary United Front (RUF) (Rashid 2016).

Just as there are multiple advantages obtained from hydrocarbon resources (e.g. source of fuel for electric power generation; petrol and diesel for medium and heavy-duty vehicles; jet fuels for aircrafts; kerosene and gas for both industrial and household consumptions; synthetic materials; medicines; polythene and household items used in everyday life) (Speight 2015; OPEC 2004; Giddens 1938), there are also disadvantages. Hydrocarbons, like most natural resources, due to their structural compositions, mode of extractions and transportation, have created some of the worst environmental disasters the world has ever witnessed (ITOFP 2012; Vethamony *et al.* 2007; Graham 2003; Videiro *et al.* 2002; Gin *et al.* 2001; Michel *et al.* 1992). Gas flaring activities, as well as the accidental and/or deliberate spills of hydrocarbons – whether major or minor – have created disastrous effects, particularly in many developing countries that are also endowed with the resource (Donziger 2015; McCauley 2015; Miño 2015).

A typical example can be seen in the Niger Delta in Nigeria where extensive oil spills have destroyed large expanses of cultivable lands (Panford 2017; Uyigue & Agho 2007; Aaron 2006; Zabbey 2004). The situation is so dire that even cassava, a drought-resistant crop that can flourish with little soil nutrients, can no longer be cultivated in the area (Panford 2017). Accompanying these impacts, the destruction of the natural environment has led to the geographical displacement of populations in close proximity to the oil fields; increased levels of unemployment as a result of the loss of sources of livelihood; increased poverty; social agitations; violence and subsequently underdevelopment (Jack-Akhigbe 2013; Pegg & Zabbey 2013; Aaron 2006). In addition to the Nigerian example, operations by Camsea, Texaco and Chevron in Ecuador and Peru (especially the western parts of the Amazon, which is rich in wildlife) have caused widespread environmental disasters that have severely impacted the survival of both humans and wildlife (Finer *et al.* 2008; Watts 2005; Browder & Godfrey 1997).

Typically, the adverse environmental externalities (Vethamony *et al.* 2007; Gin *et al.* 2001), of hydrocarbon operations have both short and long-term effects which are often difficult

to remedy. Whereas some of the environmental impacts materialize years after, others linger on for decades. For instance, on 24th March 1989, the Exxon Valdez accident that resulted in the release of about 37,000 tons of oil impacted approximately 2100km of shoreline (Graham 2003). In spite of the immense emergency response following the spill, the National Oceanic and Atmospheric Administration (NOAA), showed that about 26,000 gallons of oil still remained in the soil along the Alaskan shoreline in 2007. Local fishermen in Cordova, Alaska, are still believed to be struggling, years after the spill devastated the fishing industry in that region (Snyder 2010).

Furthermore, the interactions between the natural resources and, according to Basedau and Lacher (2006), non-resources[13], determine to a large extent the type of impact the resource will have on a country – whether positive or negative. If the interaction is effective, it may create peaceful and harmonious conditions in the country; otherwise, it could generate a host of problems (Kideghesho 2008; Meshack *et al*. 2006). With this in mind, it can be seen that natural resources in themselves contribute little to the many problems associated with or attributed to them. Rather, it is *how they are exploited* that causes issues. Several scholars concur with this statement and agree that most of the problems created by the endowment of rich natural resources arise as a result of weak or unavailable resource management, as well as ineffective fiscal and regulatory institutions in the endowed country (Subramanian & Sala-i-Martin 2003; Isham *et al.* 2002; Karl 1997; Mitra 1994). Additional evidence also reveal that lapses in governance and a complete lack of accountability and transparency in the extractive industry fuel the very practices that nurture and promote the existence of the resource curse (Cabrales & Hauk 2011; Hilson & Maconachie 2009; Stevens & Dietsche 2007).

Clearly, it appears that the availability of such fundamental elements is essential in determining the fate of oil-rich countries; so much so that, if and when appropriate policies are adopted and effectively implemented, the resource curse could be minimized or better still, be averted (Murshed 2004, 2001; Findlay & Lundahl 1994).

[13] Non-resources, as implied by Basedau and Lacher (2006), refer to the conditions and circumstances which are unique to the resource-endowed country. Within the context of the resource curse theory, the non-resources comprise the availability of socio-economic amenities, extent of development, societal relations, institutional competence, as well as the procedures and actions adopted by political and agency leaders in the management of resources. (See Basedau & Lacher 2006).

While there may not be a direct link between environmental damage and the resource curse, the addition of environmental damage to the already complex and multidimensional issue of the resource curse will aggravate matters even more. This, therefore, justifies the need for the development and implementation of robust environmental regulatory systems to govern the operations in the natural resources and the extractive sectors. If and when robust environmental regulatory systems are established and effectively implemented, the incidence of environmental disasters may be averted. Implicit in this submission is the fact that the availability of robust environmental regulatory systems is critically essential in determining the state of the natural environment of oil-rich countries. Rather than undermining the economic prowess, as some may perceive (Dechezleprêtre & Sato 2017; Cai *et al.* 2005), such systems are likely to foster harmonious coexistence with the pursuit of environmental objectives. Thus, the ensuing sub-section provides a brief overview of regulatory systems.

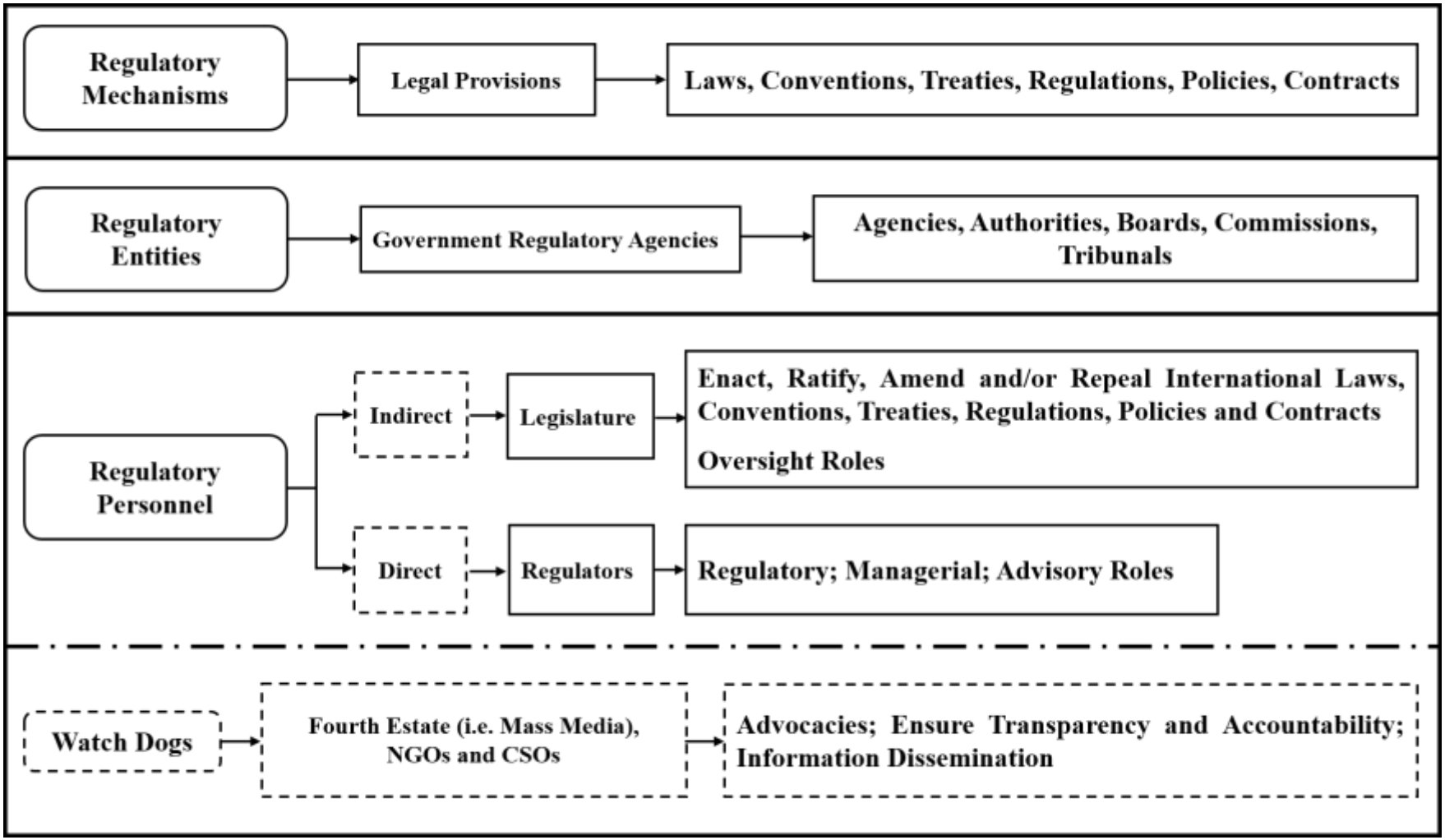
2.3.4.2 Regulatory Systems

Drawing from Salembier (2002), this present study describes a regulatory system as a set of connected regulatory provisions – regulatory mechanisms, entities and personnel – that form the regulatory infrastructure used to regulate the behaviours, activities and procedures of both public and private entities. Examples of such entities include companies, state agencies and educational institutions. These three components of the regulatory system, seemingly distinct, are inseparable. This paradox is much more palpable when one observes that within each component there are human elements whose continuous interactions with one another connects the components of the regulatory system.

The regulatory mechanisms, taking the form of laws, conventions, regulations and contracts, are usually formulated, ratified and enacted by the legislature to govern the behaviours and practices of private and public entities (Baldwin *et al.* 2012; Kirkpatrick & Parker 2004). Additionally, the legislature, per their constitutional mandate, can amend and/or repeal existing regulatory mechanisms when there is the need to do so. The government, through its legislative arm, further establishes regulatory entities, and delegates the operationalization and enforcement of the regulatory mechanisms to them. Such regulatory entities comprise the structures and arrangement of legally established

regulatory agencies, authorities, boards, commissions and administrative or independent tribunals (Hamilton 2008). Figure 2.1 shows an illustration of a typical regulatory system.

Figure 2.1: Schematic of a Typical Regulatory System



Author's Construct

The regulatory personnel, on the other hand, may be placed into two categories – direct and indirect regulatory personnel. The legislature, with regards to its functions, acts as indirect regulatory personnel. Besides the promulgation of regulatory mechanisms, the legislature is also empowered to conduct oversight functions; *vis-à-vis*, the establishment of special Parliamentary Committees that supervise the activities of specific state agencies and regulatory entities.

The authority to implement regulatory mechanisms is vested in the established regulatory agencies, nevertheless, the human elements who populate these agencies, assume the authority and execute the mandates vested in the agencies. These human elements, often referred to as Public Agents (Bowstead & Reynolds 1985), or Public Servants, are the direct regulatory personnel and the actual regulators responsible for the enforcement of the regulatory mechanisms that the legislature enacts. Personnel who are employed and assume specific regulatory roles in the agency are thus, conferred with the authority to act in the name of and within the constitutional mandate of their respective regulatory agencies. To exemplify this further, a President, for instance, has no real power of his/her own: The power he/she wields is what is conferred on him/her only by virtue of assuming the Office of the Presidency. It is the Office that has the authority, and the President – the human element – exercises the mandate vested in the office.

Another essential component of governance, as pertains to regulatory governance, is the involvement of the fourth estate (i.e. the press, mass media) (Whitten-Woodring & James 2012; Lewis *et al.* 2008; Gentzkow *et al.* 2006; Lawson 2004), whose rise and significance since the 1980s has led to its prominence in governance at different levels – international, regional, sub-regional and national (Karns & Mingst 2004). While the mass media exposes the failures and/or ineptitudes of both governments and regulators during the exercise of their constitutional mandates to the general public, NGOs and CSOs also contribute towards regulatory governance, mainly by shaping decisions and policies (Kluvánková-Oravská *et al*. 2009; Papadopoulos 2007). They also operate to ensure transparency and accountability. Additionally, NGOs and CSOs also serve as credible repositories of information and data, and provide extensive analyses which, very often, prompts public action. Furthermore, they participate both directly and indirectly in international and

domestic discourses relating to the protection of the natural environment, human rights and other humanitarian issues. While these bodies may not be directly involved in regulatory processes, their contributions augment the quality of regulatory decisions and processes (Pellizzoni 2003; Steele 2001), consequently leading to the effective functioning of regulatory systems. As a result, they have been included as part of a typical regulatory system.

It is informative to note that regulatory mechanisms, such as policies and regulations, were usually motivated by the Public Interest Theory, which holds that following the demand of the general public, regulations are supplied to correct ineffective market practices (Pigou 1932). The Public Interest theory hinges on two fundamental assumptions. Firstly, the theory assumes that markets are fragile, and will fail if left alone. Secondly, the theory assumes that governmental intervention is necessary, less costly and in the best interest of the general public (Posner 1974). Thus, so as to regulate the activities of companies, as well as correct possible market failures, governments intervene and assume the role of a "benevolent and omniscient dictator acting on behalf of society as a whole" (Boehm 2007, p.1).

In this present era however, the establishment and deployment of environmental regulatory systems move beyond economic intervention, and are usually aimed at protecting the universal repository of resources needed for economic growth (i.e. the natural environment) against harms, and to improve social welfare (Herman 1981). Such regulatory systems possess both ethical and moral obligations, the disregard of which threaten both the foundations that enhance economic growth (Parker 2002), and the actual haven that supports human survival and the exercise of human rights. These notwithstanding, most regulatory systems, as well as other systems that take on regulatory designs and objectives, are confronted with several challenges, the principal of which is the threat of regulatory capture and its repercussions.

2.3.4.3 Regulatory Capture – Typology

Since its conception and formalization by leading scholars, the understanding and use of regulatory capture has expanded (see e.g. Hempling 2014; Carpenter & Moss 2013; Yackee

2012; Dal Bó 2006; Lowi 1979; Stigler 1971; Posner 1969; Kolko 1965; Bernstein 1955; Huntington 1952), yet scholars have yet to reach a consensus on its precise definition (Carpenter & Moss 2013; Yackee 2012; Schlozman & Tierney 1986). For instance, Bernstein (1955, p.92), defines regulatory capture as the regulatory agencies' predisposition to "relate their goals and objectives to the demands of dominant interest groups in the economy." The phenomenon is also described by Stigler (1971), as the capacity of the regulated community to adopt regulations to build entry barriers to a market, in order to secure rents. Furthermore, Fortmann (1990, p. 362), suggests that regulatory capture "occurs when the clientele of a public agency comes to control the agency, thereby deflecting its behaviour from its mandated mission."

Dal Bó (2006, p. 203), provides both broad and narrow definitions of regulatory capture. He posits that a broad interpretation of regulatory capture is "the process through which special interests affect state intervention in any of its forms, which can include areas as diverse as the setting of taxes, the choice of foreign or monetary policy, or the legislation affecting R&D", while the narrow interpretation 'is specifically the process through which regulated monopolies end up manipulating the state agencies that are supposed to control them' (Dal Bó 2006, p. 203). In another definition, Posner (2013, p.49), also describes regulatory capture as 'the subversion of regulatory agencies by the firms they regulate.'

In addition to these definitions, Hempling (2014 p. 25), also notes that a "regulator is 'captured' when [he/she] is in a constant state of 'being persuaded': persuaded based on a persuader's identity rather than an argument's merits." Several other scholars have provided various definitions for the concept of regulatory capture, and Table 2.3 presents a selected few of these definitions.

Table 2.3: Selected Definitions of Regulatory Capture

Definition	Author
The control of agency policy decision-making by a sub-population of individuals or organizations outside of the agency.	Yackee 2012, p.5
A shorthand for the phenomenon whereby regulated entities wield their superior organizational capabilities to secure favourable agency outcomes at the expense of the diffuse public.	Bagley 2010, p.2
The responsiveness to the desires of the industry or groups being regulated.	Barkow 2010, p.21
Regulatory capture occurs when officials inappropriately identify with the interests of a client or industry.	Adams *et al.* 2007, p.1
The process by which vested interests bias the incentives of regulators and governments to act in their interests rather than the broader public interest.	Helm 2006, p.174

Source: Yackee 2012; Bagley 2010; Barkow 2010; Adams et al. 2007; Helm 2006

2.3.4.3.1 Definitional Gaps

What is interesting about these definitions is that the emphasis and scopes are usually within particular contexts; and this may be explained by the scholarly backgrounds of the experts who have defined the phenomenon. For instance, while most economists, like Stigler (1971), consider regulatory capture from a vastly economic perspective, experts with political science and law backgrounds consider the phenomenon mainly from policy-oriented and governance perspectives (e.g. Barkow 2010).

It is obvious that different regulations serve different purposes. For example, economic and financial regulations differ in essence, purpose, scope and jurisdiction from environmental regulations. Given these differences, regulated firms will adopt varied techniques to have the regulations work in their favour. While it is true that regulated firms are required to adhere to their corresponding governing regulatory mechanisms in order to operate in a market, it is equally true that some firms move further to advocate and support the introduction of specific regulations, possibly due to their involvement in the formulation of those regulations (i.e. ex-ante capture). Others, on the other hand, will use every available effort to circumvent the deployed regulatory mechanisms (i.e. ex-post capture) (Boehm 2007). Ex-ante and ex-post are terms used to distinguish the types of capture by placing time values on them. While the former highlights the dominance of actors within the

regulated industry in influencing the design and formulation of regulatory mechanisms, the latter emphasizes the efforts these actors employ to circumvent the regulatory mechanisms when they are enacted (Boehm 2007). Usually, with ex-post capture, actors within the regulated industry attempt to minimize the cost of compliance, usually by influencing government regulators to be lax when implementing the established regulations (Peltzman 1976; Sabatier 1975; Stigler 1971; Bernstein 1955).

A handful of leading scholars, for example, Stigler (1971), recognized this dynamic, and defined regulatory capture as the "adoption of regulations" by the regulated community for their own benefits – typically ex-ante capture. The majority of definitions put forward by many other scholars emphasize how *regulated firms* evade and/or compromise regulatory efforts – typically ex-post capture (Posner 2013; Dal Bó 2006). Even though some definitions do not explicitly use the word, it can be easily inferred (Bagley 2010).

An equally important observation peculiar to these definitions is that, despite the varying descriptions and the divergence in scholarly contexts, regulatory capture is attributed to the capture of different components of the regulatory system. While some definitions focus on regulatory entities (i.e. legally established regulatory agencies) (e.g. Posner 2013), others focus on the regulatory personnel (e.g. Hempling 2014; Adams *et al.* 2007). Yet, in other definitions, the focus is on the regulatory mechanisms employed to control firms' activities and behaviours (e.g. Yackee 2012). Moreover, while some of the definitions point solely to regulated firms as those who do the capturing (e.g. Yackee 2012; Stigler 1971), others point to dominant interest groups in an economy, as those who do the capturing, and not specifically the regulated entities (e.g. Bernstein 1955). Other definitions are vague on who the actual captor is (e.g. Helm 2006).

It also helps to note that in itself, the term, regulatory capture possesses a negative connotation that often describes the outcome or process leading to some undesired effect(s) (i.e. particularly, regulatory failures). Although it is true that regulatory failures may be caused by other factors, the emergence and perpetuation of regulatory capture almost always results in regulatory failures (in the worst-case scenario), and this is why it is a critical issue. Some observers may argue that, at worst, regulatory capture leads to a

compromised regulatory system which may still be effective in implementing 'captured' policies, and not necessarily regulatory failures. That notwithstanding, the implementation of the compromised or captured policies and processes, which may seem effective in the short term, will gradually, whether subtly or not, contribute to regulatory failures which may only manifest through a crisis.

There are myriad practical cases within which regulatory capture has contributed to regulatory failures. Prominent among them, regulatory capture is named as a key contributing factor in the regulatory failures that led to the financial meltdown in 2007-2009 (Baker 2010), and the BP oil spill in 2010 in the United States (US) (O'Driscoll Jr 2010; Glicksman 2010; Wang 2010; Frank 2009). It has also been suggested by Venkatasubramanian (2011), that regulatory capture contributed to the regulatory failures that resulted in the Enron Scandal, which made headlines in 2001. Enron Corporation was an American company in the energy trade. It was revealed in October 2001 that Enron was involved in corporate corruption and accounting fraud, aided by Arthur Andersen – Enron's audit firm. The scandal resulted in the bankruptcy of the Corporation. It is reported that while Enron shareholders lost about $74 billion, its staff lost both their jobs and pension benefits, which was also in billions (see e.g. Plotz 2002).

Equally complementary to these examples, regulatory capture, via the 'Revolving Doors' phenomenon (i.e. the movement of personnel between government (regulatory) agencies and companies (i.e. regulated firms) (Kowalewski *et al.* 1991), [to be discussed below]) is noted to have played a key role in the nuclear regulatory failures that led to the Fukushima Nuclear Accident in 2011 in Japan (Wang & Chen 2012; Horiuchi & Shimizu 2001; Schaede 1995). Drawing from the plethora of practical examples, these few cases suggest a link between regulatory capture and potential regulatory failures, to be discussed below. Even though regulatory capture may not lead to regulatory failures in all cases, the fact that its existence and perpetuation in some noteworthy instances has resulted in outcomes that demonstrate regulatory failures are clearly evidence that regulatory capture can lead to regulatory failures. Interestingly, however, some previous definitions, including some of the ones outlined in the previous subsection, ignore this possibility.

Appreciating some of these issues, Carpenter and Moss (2013, p.14), provided a general and much more flexible characterization of the phenomenon. They define regulatory capture as;

> The result or process by which regulation, in law or application, is consistently or repeatedly directed away from the public interest and toward the interests of the regulated industry, by the intent and action of the industry itself.

Even though this definition successfully addresses most of the concerns pertaining to the earlier definitions, like the others, it too focuses on a particular component of the regulatory system – the regulatory mechanisms (i.e. regulations). Though important, highlighting specific components of the regulatory system in the definition of regulatory capture does not only restrain the generalizability of the phenomenon by limiting the contextual remit within which to apply the phenomenon; it also ignores the futuristic evolution of the essential exigencies that may impact the phenomenon. For instance, unlike the Stiglerian (i. e. the traditional) definition of regulatory capture, not all regulatory systems lend themselves to capture, *vis-à-vis*, the formulation of a 'barrier-entry regulation'. Some environmental regulations (e.g. regulations governing the emission of GHGs) whose merits are realized in the long term usually inconvenience companies in the polluting industry who incur instantaneous costs for pollution abatement technology and possible cuts in production (Williams 1999; Wilson 1980). Companies that are subject to such regulations are more likely to circumvent the jurisdiction of the regulation than they would lobby for a barrier-entry regulation (Carpenter 2004), as is the case with the Stiglerian definition of regulatory capture.

Lending credence to these issues, Posner (2013), suggests that the complexities inherent in modern regulations render most of the 1960s capture models inefficient in explaining modern regulatory regimes. Indeed, most of the earlier models were designed under the guidance of the narrow definitions ascribed to the phenomenon. It is therefore not surprising that the somewhat narrow definitions have facilitated the observed flaws in some traditional capture models.

Irrespective of the identified flaws, however, most of the definitions share a unique similarity. For regulatory capture to exist, there has to be some sort of influence over, or control of a government regulatory system by the regulated firms, interest groups, or those acting on their behalf, in the interest of the regulated industry.

Recognizing the issues outlined, this present study redefines regulatory capture to reflect the full characterization of what the phenomenon really means. This new definition, contrary to the earlier ones that focused on particular components of the regulatory system or circumstances, highlights the totality of regulatory capture. In view of the definitional gaps, and with the general idea of regulatory systems in mind, this study thus, modifies the definition put forward by Carpenter and Moss (2013), and redefines regulatory capture as;

> The process that undermines or, in the worst case, results in the partial or total collapse of a government regulatory system through the consistent or repeated application of components of the regulatory system in the interests of the regulated industry, instead of the general public, by the intent and action of actors within the regulated industry or those operating on its behalf.

This definition brings together the key elements that have been elaborated. Firstly, it recognizes that it is the regulatory system, via the capture of its components, which is undermined or ultimately rendered ineffective. Also implicit in the definition is the fact that the captors are the actors within the regulated industry. These could comprise the actual regulated firms, their lobbyists and interest groups. The interest groups may also comprise regulatory personnel (i.e. legislature and regulators), media personnel, activists, NGOs, CSOs and private entities who benefit from the operations of the regulated firms. The definition also addresses the conscious efforts made by the actors in the regulated industry to evade part of or the entire command of regulatory systems, or gain from their formation, by manipulating (i.e. capturing) particular components of the regulatory system. Finally, the definition, by focussing on the entire regulatory system and the actors within respective regulated industries, exhibits a flexible feature which makes it applicable in any context, notwithstanding future variations.

With this explanation, it is obvious that a single industry can be subject to a particular regulatory system, and the regulated firms within that industry, entities acting on their behalf and/or those that benefit from their operations (i.e. the special interest groups) may seek to influence and manipulate that relevant regulatory system. They do this by exploiting any of the constituting components of the regulatory system. For example, whereas a regulatory system established to govern the production of cocoa may be captured by organized cocoa planting firms, cocoa fertilizer companies and cocoa processing firms may equally seek to capture the regulatory system so as to protect and advance their interests; which are tied to the production of cocoa. Likewise, a regulatory system established to govern sports activities may not only be captured by the sports clubs, but also alcoholic beverage companies, advertising companies and other sports-related companies. The same can be concluded in the energy sector (Kraft 2015; Dal Bó 2006; Gormley Jr 1983; Sabatier 1975), transportation, financial services and the marine resources sector (Thomas *et al.* 2010).

2.3.4.3.2 Diagnosing Regulatory Capture

Contrary to the popular assumption that regulatory capture is unidimensional (i.e. either it exists or it doesn't) (Makkai & Braithwaite 1992), analysis of the complicated web of divergent and overlapping interests, interactions and roles among the actors within the industry confirm that the phenomenon is indeed a multidimensional construct (Carpenter & Moss 2013; Baker 2010; Helm 2005; Makkai & Braithwaite 1992).

The 'Revolving Doors' phenomenon is one of the key pathways that facilitates the emergence of regulatory capture (Helm 2006; Dal Bó 2006). This phenomenon was popularised by Ralph Nader in the 1970s when he remarked that most government regulatory agencies become "captives" of the regulated community largely due to the invasion of the agency by former corporate executives, who assume prominent posts in the agencies (cited in Clinard & Yeager 1980: 106-9). The Revolving Doors phenomenon has two unique features, and these are characteristic of several economies. There are the 'entry-stage' Revolving Doors (i.e. the flow of personnel from private companies into government agencies) and the 'exit-stage' Revolving Doors (i.e. the flow of personnel from government agencies into private companies) (Kowalewski *et al.* 1991).

While many proponents are vocal in maintaining that the Revolving Doors system is beneficial and should be encouraged (Quirk 2014; Plant & Gortner 1981; Nadel 1976), critics maintain that they are disastrous (Kneier 1976; Morrow et al. 1970), and therefore should be disallowed. Supporters of the phenomenon maintain that keeping the revolving doors policy open is essential in diminishing the issue of limited expertise in the labour market (Bernstein 1955); obtaining the required political and economic expertise, (Quirk 2014); augmenting administrative efficiency (Plant & Gortner 1981); and reducing wasteful practices and mismanagement, particularly in government agencies (Kneier 1976).

On the contrary, critics assert that encouraging the Revolving Doors phenomenon creates avenues whereby large companies are able to capture governments and regulators and influence their policies and regulatory activities (Etzioni 2009; Kneier 1976; Morrow *et al.* 1970). They further claim that the Revolving Doors create conflicts of interests which are often to the detriment of the regulatory agency. Coming from the regulated community into a government regulatory agency, new regulators are more likely to support the interests of the regulated community (Kedia *et al.* 2015; Makkai & Braithwaite 1992; Cohen 1986), and thus, make pro-industry decisions due to their ties with the regulated industry. Regulated firms may thus, obtain more auspicious regulatory decisions. Consequently, the essential qualities that government regulators ought to have – sturdy mental independence, unflinching integrity and high professional neutrality – are usually weakened by keeping the Revolving Doors opened (Kedia *et al.* 2015).

Other vital factors that may indicate the presence of regulatory capture, by virtue of their connection with one another, are grouped into 'Familiarity, Reciprocity and Asymmetric Information' (Helm 2006). 'Familiarity', as used in this context, denotes the relationship with (e. g. acquaintance) or the state of having personal knowledge about some entity or issue. Capture through familiarity usually manifests through familiar and familial relationships between the actors, which is anchored on trust; and familiarity (as well as a lack of awareness – unfamiliarity) with industrial processes, both regulatory and technical (Poortinga & Pidgeon 2006; Siegrist *et al*. 2005; Cvetkovich 1999; Miller 1993). The familiarity between and among humans usually creates varying levels of emotional attachments, and whether positive or negative, most of these emotional attachments

towards particular people or circumstances compromise professionalism, particularly on the part of government regulators. For instance, Kwak (2013), explains that regulated firms, via 'cultural capture', usually make conscious efforts to influence the thought processes of regulators, by socially engaging with them and making them see issues from their perspective. This way, regulators start to think like those in the regulated firms. Familiarity also encompasses the groups regulators may want to be identified with. When a regulator is affiliated to a group, he or she may gain some benefits. These benefits may require his/her conformity with certain principles the group upholds (Kwak 2013; Abrams & Hogg 2001; Akerlof & Kranton 2000).

With regards to Reciprocity, Coleman (2000, p. 102), suggests that within every human relationship and interaction, there are give-and-take scenarios which are accentuated vastly by the expectations and obligations traded between the consenting parties. He explains that;

> …if A does something for B and trusts B to reciprocate in the future, this establishes an expectation in A and obligation on the part of B. This obligation can be conceived as a credit slip held by A for performance by B

This dynamic, which underscores the phenomenon of reciprocity breeds bribery and corruption. For instance, the issue of some regulatory agencies financing their regulatory activities almost entirely from covert payments, grants and gifts received from regulated firms that are under their supervision bolsters the act of reciprocity; which is a clear avenue through which capture may emerge (Barkow 2010; Ramirez 1999).

Finally, 'Asymmetric' information or information asymmetries focuses on the submission of disproportionate information and/or withholding of privileged information by one party (usually, the regulated community), which poses unfair hindrance upon the other party (usually, the government regulatory agencies) in the exercise of their duties. Very little scholarly attention has, however, been devoted to the contribution of asymmetric information in regulatory capture; and where there has been some (limited) attention, it has only been theoretical (Dal Bó 2006; Levine & Forrence 1990). In the US for instance, Folk (1991), notes that as the Environmental Protection Agency (EPA) relies heavily on the regulated community for important resources, an institutional bias that favours the

regulated community may be created. Whereas the regulated community may provide misleading data or information (Bagley 2010), some independent experts and academics, due to their alliance with the regulated community, may make cooperation with regulators difficult and information credibility questionable.

Numerous big companies have partnered with multiple educational and research institutes (Hanson & Yosifon 2003); with the purpose of getting privileged access and control over specific jointly-arranged research conducted there (Noble 1983). There are also instances wherein heads of regulated firms 'co-opt' leading experts in specific disciplines; since government regulators may employ the expertise of those experts in their regulatory functions (particularly, in the formulation of regulatory mechanisms) (Owen & Braeutigam 1978). The expectations of such companies, are that with the results of the research, they will be able to provide "scientific and technical rationalizations" (Wynne 1975), that support their rhetoric, or at least, create enough uncertainties to either prevent the promulgation of a new policy or facilitate the withdrawal of an old one (Michaels & Jones, 2005); depending on the agenda of the involved companies.

Since the regulated community (or at least the involved regulated firms) are in control of the information/data, they possess solid influence and monopoly over what to provide the government regulatory agencies (Djankov *et al.* 2003). An illustrative example can be seen in the case where some US banks wittingly provided disingenuous financial records in order to mislead their regulators (Garcia 2010). Equally evident is the example of the Tobacco industry, wherein for decades scientists were employed to mislead the public about the health implications of smoking (Holden & Lee 2009).

As alluded to earlier, regulatory capture might lead to regulatory failures which may only manifest through a crisis. The final sub-section in this chapter presents a brief overview of regulatory failures.

2.3.4.4 Regulatory Failures

Another important issue that accompanies regulatory systems is the potential failure of the system. Regulatory systems are pivotal in the effective functioning and survival of

societies. The definitive substance of any regulatory system however, lies in its effectiveness and efficiency (Kirkpatrick & Parker 2007), both of which are largely defined by the interplay between the human elements that populate the regulatory system (i.e. the regulatory personnel) and those within the regulated community (i.e. the regulated firms, special interest groups, etc.) (Rees 2017).

Although regulatory systems are generally designed to serve the best interests of the general public, very often, they fall short in meeting this objective. Comprehensive analyses of some historic global crises have revealed the contribution of regulatory failures, suggesting that some relevant regulatory systems were ineffective in tackling the very issues for which they were designed. The most notable of these crises comprise the Enron Scandal that surfaced in 2001 (Venkatasubramanian 2011); the financial meltdown in the US in 2007/2008 (Baker 2010); the BP oil spill in the Gulf of Mexico in 2010 (O'Driscoll Jr 2010; Glicksman 2010; Wang 2010; Frank 2009); and the Fukushima nuclear accident (Wang & Chen 2012; Tabuchi *et al*. 2011; Clenfield & Sato 2007). What is interesting with some of these crises, is that the early indicators that signify the threat of regulatory failures were either ignored (Tabuchi *et al.* 2011), or non-identifiable, possibly due to negligence or a lack of proper understanding of regulatory systems and their accompanying complexities (Jänicke 1997). For instance, in the US, the 'controversially' appointed Secretary of Interior, Ken Salazar, whose strong ties with the energy industry represented a case of conflict of interest (Broder 2008; Urbina 2010), was largely ignored. Indeed his ties with the energy industry is believed to have affected the operations of the US Minerals Management Service (MMS), in charge of regulating offshore oil drilling (O'Driscoll Jr 2010; Urbina 2010; Wang 2010; Frank 2009; Broder 2008), which may have contributed to the BP oil spill in 2010.

Designing and maintaining regulatory systems requires significant effort and resources including time, money and expertise. It is, therefore, unreasonable to invest so much effort and resources into designing regulatory systems, just to see them fail. In spite of the quantum of resources invested in regulatory systems however, it is particularly challenging to have a perfect regulatory system. That notwithstanding, minimizing the inherent risks as

well as the potential factors that may facilitate regulatory failures is key in ensuring the efficiency and effectiveness of regulatory systems.

Reflecting on the importance and composition of (environmental) regulatory systems, together with the relevant factors that contribute to their failures, there is sufficient justification to assess the environmental regulatory system used in Ghana's upstream petroleum industry. In view of this, the environmental regulatory system governing Ghana's upstream petroleum industry is thoroughly assessed in this present study, and a comprehensive discussion explores the relationship between petroleum companies' CER and the environmental regulatory system. The findings from this assessment will provide valuable insights that may inform the design, implementation and protection of the environmental regulatory system used in the industry.

2.4 CSR and CER in Africa's Petroleum Industry

The literature on corporate social responsibility (CSR) in Africa's petroleum industry is rich and quite extensive (see Pandford 2017; Amoako 2016; Vertigans *et al*. 2015; Dartey-Baah *et al*. 2015; Hilson 2014, 2012; Bawole 2013; Muthuri 2013; Ackah-Baidoo 2012; Hinson & Kodua 2012; Idemudia 2011; Maria & Devuyst 2011; Rahman 2011; Ojo 2009; Opondo 2009; Jamali & Mirshak 2007; Atuguba & Dowuona-Hammond 2006; Visser 2006). Nonetheless, a huge emphasis on existing literature is placed on the pursuit of socio-economic development while very little attention is paid to addressing environmental issues. The leadership of potentially polluting companies that may have heeded to the recommendations of some scholars have taken up more socio-economic-oriented CSR initiatives such as the provision of health screening, provision of educational materials, donation of supplies to orphanages and hospitals and poverty alleviation (Idemudia 2009). For instance, Smith (2010), reveals that Tullow Oil spent about US$ 8 million between 2007 and 2010 on CSR in Ghana to provide books and science equipment to Nsien Secondary School, at Nkroful, and organizing health screening for local residents in the Western Region.

What is interesting about the implementation of these CSR initiatives is that they are done on voluntary basis and are also rarely monitored and unenforced (Atuguba & Dowuona-Hammond 2006). A few scholars who have analysed the actual impacts of some of these

CSR initiatives when they are implemented have made some discouraging findings (Dumez *et al.* 2017). Idemudia (2009), for example, recorded no positive effect from the poverty alleviation CSR initiatives championed by petroleum companies in Nigeria. Likewise, Cash (2012), also found no positive indication that suggests that the CSR initiatives aimed at reducing poverty in Chad was successful. Wiig and Ramalho (2005), also observed a similar trend in Angola which they ascribe to the profit-seeking agenda that petroleum companies attached to CSR initiatives. Frynas (2010), and Utting and Ives (2006), also reveal that the various CSR initiatives aimed at improving transparency in the petroleum sector have flopped.

The huge focus on pursuing socio-economic CSR initiatives while paying little or no attention to environmental concerns is quite interesting. Especially, given that most of the countries that are given less environmental attention during the uneven and inconsistent implementation of these CSR initiatives are actually those that have experienced various forms of environmental degradations and thus require more attention. For instance, the Niger Delta in Nigeria (Zabbey, 2004) has experience some of the worst environmental devastations due to petroleum operations. Nonetheless, rather than making efforts at cleaning up or curbing environmental imprudence, CSR initiatives are geared more towards socio-economic programs and less towards protecting the environment (Ojo 2009). Ghana's gold mining sector is another example where the focus of CSR initiatives have been vastly on socio-economics and less on environmental protection, even though the sector has caused some of the worst environmental pollution in the country (Bawole, 2013; Appiah-Opoku, 2001; Akabzaa and Darimani, 2001).

Given the importance of the natural environment, in exchange for the hydrocarbon resources that petroleum companies extract, it is imperative that the natural environment is not left in a bad state. It is therefore important that during the planning and implementation of CSR the focus is not limited to only meeting the socio-economic needs of local communities but also to consider and proactively attend to the protection and safety of the natural environment – the crux of CER. In agreement, while Lubin and Etsy (2010) assert that the acknowledgement and integration of environmental protection into the framework of CSR is an imperative, and not a voluntary or optional endeavour, Hoffman & Bazerman

(2007), further suggest that petroleum companies need to become more practical in addressing their environmental footprints. This assertion is particularly imperious as the petroleum companies have caused some of the most devastating environmental conditions as seen in Ecuador, Nigeria, Sudan and Colombia (Zabbey 2004; Ojowu *et al.* 2007; Roome 1998). Also compelling is the fact that the petroleum companies usually possess the necessary resources (i.e. human, financial and logistics), global reach and political clout (Whiting & Benett 2001) – all of which can be geared towards the fulfilment of environmental responsibilities in host countries.

Taking these together, in conjunction with submissions from the preceding sections of this chapter, the issue of CSR and more particularly CER is not a matter of whether petroleum companies have an obligation to consider the needs of their host societies, especially their environmental demands, but more importantly, whether they do so consistently and effectively, and how far they should go to consider these needs (Wilson 2003). One of the principal impetus for petroleum companies, in particular, to adopt and pursue CER strategies emanates from the consistent pressures from environmental activists, government regulations and marketplace incentives, as divulged in earlier sections. As to whether or not these pressures do (or will) impel petroleum companies, especially those operating in Ghana's upstream industry, to *actually* fulfil their CER is a matter worthy of empirical investigation; exactly what this study sets out to do.

2.5 Conclusion

This chapter has presented a broad overview of CER, along with the need to ensure environmental safety in the petroleum industry. Exploration was further made into the concept of regulatory capture, to appreciate its typology, definitional gaps and diagnosis. This chapter has thus, laid the conceptual foundation for the identification and documentation of the indicative themes relating to how and why petroleum companies in Ghana's upstream petroleum industry undertake CER. Furthermore, this chapter paved the way to appreciate the relationship between the petroleum companies' environmental behaviours and the environmental regulatory system governing Ghana's upstream petroleum industry.

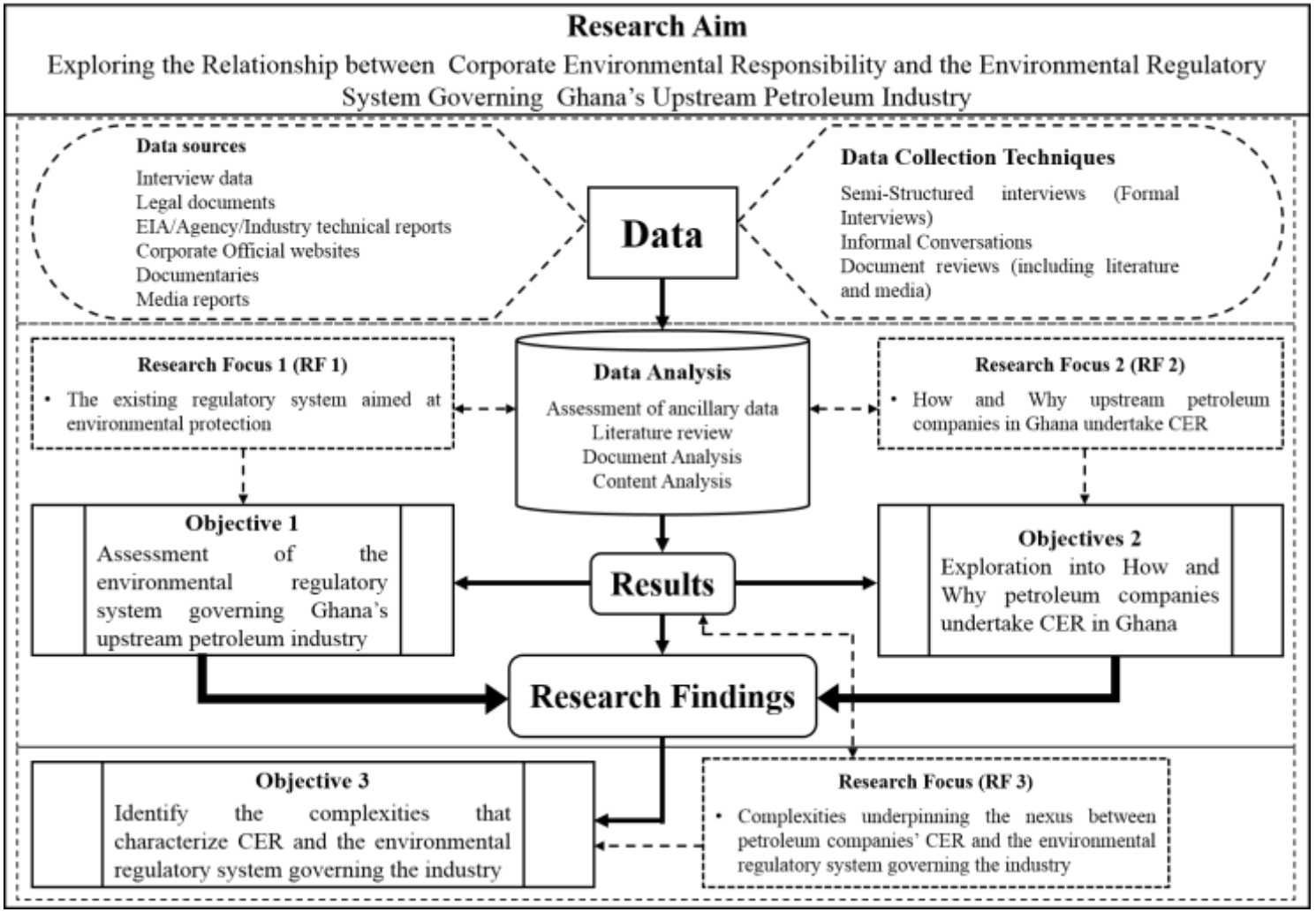
The next chapter presents the methodological framework adopted for this study.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the methodological framework used to undertake this study which aims to identify and document the indicative themes relating to how and why petroleum companies undertake their CERs in Ghana's upstream petroleum industry, and explore the relationship between their environmental behaviours and the environmental regulatory system governing the industry. The first part of this chapter presents the epistemological and ontological foundations of the study. Following this, the research techniques are outlined, including the research design and method, data sources, data acquisition techniques, participants, as well as the data analysis techniques. This chapter further highlights the ethical considerations and assumptions of the study. The methodological framework adopted for the study is described in Figure 3.1 below.

Figure 3.1: Methodological Framework Adopted for the Study



Author's Construct

3.2 Epistemological and Ontological Foundations of the Research

In social science research, scholars have, over the years, contemplated how social phenomena must be studied, along with the applicable techniques to adopt in such studies (Becker *et al.* 2012; Garner *et al.* 2009). These contemplations have focused on Ontology, which deals with the actual nature of social phenomena or elements and Epistemology, which describes the philosophy of knowledge or how knowledge is arrived at (Krauss 2005; Crotty 1998). Scholars suggest that both epistemological and ontological philosophies play vital roles in the methodology adopted for social science research (Krauss 2005; Grix 2004; Bryman 2001). This is due to the fact that the techniques and procedures a researcher employs to understand a social problem, identify reliable data sources, collect relevant data, analyse the data, and ultimately produce or discover knowledge, have a linear connection with the ontological and epistemological principles that underscore the social problem and its relation to the social world (Becker *et al.* 2012; Grix 2004). That is to say, what exists, in reality, will almost always govern how those entities can be known or investigated. In effect, ontology impacts the formulation of research questions and the specific methods employed to answer those questions (Bryman 2001). There are three predominant pillars that embody the epistemological philosophy. These are Positivism, Interpretivism and Critical Theory (Lincoln *et al.* 2011; Glicken 2003; Kincheloe & McLaren 2002; Bryman 2001; Crotty 1998).

Positivist scholars hold the notion that positivism emanates from the notion of objectivity, as seen with scientific judgements; and therefore posit that social science research must be conducted in a manner that is objective (Garner *et al.* 2009; Bryman 2001). While scholars within the positivist fraternity consider reality or the phenomena under study to exist independent of our knowledge of it, they also believe that the social world is revealed to us and not something constructed by us (Grix 2004; Crotty 1998). Moreover, positivists regard the world and the universe as fixed entities that function on the principle of cause and effect, which are measurable by the use of scientific methods. Thus, for positivists, empiricism – observations and measurements – form the core of scientific enquiry (Krauss 2005). Logical reasoning is then used to formulate theories and hypotheses that can be tested and verified (Krauss 2005; Bryman 2001).

The corresponding ontological assertion of the positivism epistemology is objectivism, which conveys the notion that social phenomena or realities affect us as outward actualities that are beyond our reach or influence (Becker *et al.* 2012; Crotty 1998). Objectivists maintain that social reality or the phenomena under study is independent of the investigators and that only through explicit observations or measurements can knowledge be discovered and substantiated (Krauss 2005). This, therefore, presupposes that scientific knowledge is fixed, and can only be discovered through appropriate research. In line with this, positivists advocate the adoption of scientific techniques and practices in social science research (Krauss 2005; Grix 2004).

The next pillar is interpretivism (Becker *et al.* 2012; Garner *et al*. 2009). Unlike positivists, subscribers to the interpretivist orthodoxy maintain that the knowledge that is being pursued is usually embedded in the meanings and values attached to the phenomena under investigation (Krauss 2005). In effect, reality, rather than existing independent of our knowledge of it, is considered a multifaceted social construction of meanings, values, experiences, consciousness and understanding of entities (Kitchin & Tate 2013; Grix 2004). As interpretivists hold the view that the subject matter of social science research is vastly different from the natural sciences (Becker *et al*. 2012), they argue social science research necessitates a different rationale and research technique – one that highlights the distinctiveness of humans (Bryman 2001). That is to say, rather than observing and measuring, as championed by positivists, knowledge about reality can be obtained from the interpretative capacities of humans.

Correspondingly, constructionism or constructivism, as used in some literature, is the ontological claim for the interpretivist epistemology. The notion of constructivists is that social phenomena, together with the various meanings that are attached to them are dynamic, and that this fluidity is caused by social actors (Bryman 2001). In essence, not only are social phenomena and their peripheral issues initiated through social interactions, but they are also always changing (Becker *et al.* 2012). Usually, constructionists, through interviews, participant observation, life histories, documents and audio-visual resources, collect soft data, which are rich in words, to identify and explore social phenomena (Bryman 2016; Kitchin & Tate 2013; Grix 2004).

Critical theory describes how social systems are constructed through the persistent interactions among power, justice, race, class, gender, education, religion, ideology, economy, dialogues and social institutions, among others (Kincheloe & McLaren 2002). As the main idea of the critical theory is the exploration of domineering relationships, it focuses on the power relations that play out in society, so as to divulge issues of supremacy and injustice (Crotty 1998).

Subjectivism is the corresponding ontological claim for the critical theory epistemology. Subjectivists support the view that the meanings attached to social phenomena and objects are not created through the interactions between the object and subject; further suggesting that rather than the social objects contributing to the meanings attached to them, the meanings are imposed on them by the subjects (Crotty 1998).

The 'constructionist approach' is the more suitable epistemological philosophy for this study due to its capacity to facilitate the conceptualization of petroleum companies' environmental responsibilities in Ghana's upstream petroleum industry, and regulator mandates in ensuring the safety of the natural environment. Accordingly, in this study the concept of corporate environmental responsibility, together with the experiences and perspectives of those involved in the industry, who are subject to the demonstration of environmentally responsible behaviours or are involved in ensuring them will be explored. This identification informed the choice of the research methodology adopted in the study (Bryman 2016; Becker *et al.* 2012; Krauss 2005). The ensuing sub-section elaborates on the research approach of the study.

3.3 Research Techniques

A typical research methodology, as noted by Kitchin & Tate (2013), consists of logically interconnected sets of guidelines and procedures that facilitate the exploration of specific phenomena or realities within the confines of epistemological and ontological considerations. Every piece of research, owing to its specific aim, outlined objectives and identified questions to be answered, warrants the use of particular research methods (Creswell 1994). Each method affords the opportunity for the acquisition of data, and the creation of knowledge within any disciplinary field (Powell & Myers 1995), which can then

be disseminated to a broad range of audience. The credibility of the generated knowledge is nevertheless, largely dependent on the strength and adequacy of the particular research method used. Thus, the research method employed for any field of knowledge acquisition must be appropriate and rigorous enough to sufficiently justify the credibility of the obtained results (Powell & Myers 1995).

In social science research, three main techniques of inquiry exist; Qualitative, Quantitative and Mixed Method Research Techniques (Babbie 2015; Creswell 2013). As stated initially, the specific objectives of a study will determine the type of technique to employ. Yet, different researchers depending on their backgrounds prefer particular modes of inquiry – qualitative, quantitative or a blend of both (i.e. the mixed methods). Subjective preference for one technique over the other has instigated divergent perspectives about the best technique for social science research, and this has generated debate among some social scientists (Reichardt & Rallis 1994).

Quantitative research techniques by definition employ numerical data for the analyses of social phenomena (Lindsay 2006). This mode of inquiry makes use of quantifiable techniques to test theories and concepts by examining the relationships between relevant variables (Creswell 2013). On the other hand, qualitative research techniques focus on the collection of data that is rich in information and can facilitate real-world conclusions about social phenomena in particular environmental settings (Neuman 2006). Qualitative modes of inquiry usually explore the meanings and implications ascribed to social and anthropological issues (Creswell 2013). The Mixed Methods research technique adopts both qualitative and quantitative research techniques for a particular study (Greene *et al.* 2005). This way, the limitations of one technique are neutralized by the strengths of the other, consequently enhancing the credibility of the findings (Greene *et al.* 2005). Adapting from Neuman & Kreuger 2003; Taylor & Trumbull 2000; Sarantakos 1998; Tashakkori & Teddlie 1998; Creswell 1994; Denzin & Lincoln 1994 and Guba & Lincoln 1994, Table 3.1 outlines key differences between quantitative and qualitative research techniques.

Table 3.1: Comparison of Quantitative and Qualitative Research Approaches

Element	Quantitative Research	Qualitative Research
Nature of Reality	Objective; simple; single; tangible; sense impressions	Subjective; problematic; holistic, a social construct
Hypothesis	Formulated before the study	Formulated through/after the study
Purpose	To test the hypothesis that the research begins with	To capture and discover meaning once the researcher becomes immersed in the data
Approach	Objective	Subjective
Role of Value	Value neutral; value free inquiry	Normative; value-bound inquiry; value present and explicit
Context	Independent of context	Situationally restrained
Epistemology	Is etiological – interested in why things happen	Is interpretive – interested in how things happen
Study Orientation	In particularistic; studies elements, variables	Is holistic – studies whole units
Focus	On variables	On interactive processes, events
Researcher Role	Rather passive; separation from the object; dethatched	Active, interactive and involved
Emphasis	Places priority on studying differences	Places emphasis on studying similarities
Design	Well planned and prescriptive	Well planned but not prescriptive
Key to Research	Reliability	Authenticity
Research Basis	Based on facts	Based on understanding
Measurement	Objective facts	Construction of social reality, cultural meaning
Sampling	Is representative	May not be representative; may have small samples
Replication	Procedures are standard and replication is assumed	Research procedures are particular, and replication is very rare
Data Collection	In the form of numbers from precise measurements	Data in the form of words and images from documents, observations and transcripts
Data Analysis	Quantitative and mathematical; extensive use of statistics; reductive	Less emphasis on statistics, more on verbal and qualitative analysis; explicative and thematic analysis; often collection and analysis occur simultaneously
Interpretation	Proceed by using statistics, tables, or charts and discussing how and what they show relates to the hypothesis; development of conclusion based upon data; clarity based upon interpreting numerical data	Proceeds by extracting themes or generalisations from evidence and organising data to present a coherent, consistent picture; development of values and judgement based upon data
Reporting	Highly integrated findings	Mostly not integrated findings; rich narrative descriptions; void of numerical data

Source: Ashley & Boyd 2006, pg. 73

3.3.1 Choice of Qualitative Research Approach

Qualitative research techniques were used in this study because they offer an effective way to explore CER in Ghana's upstream petroleum industry. Additionally, this particular choice is appropriate because it facilitates the gathering of relevant information and data needed to appreciate complex social phenomena (Upjohn *et al.* 2013; Petty *et al.* 2012a; Morehouse & Maykut 2002). Qualitative research focuses on the collection and analyses of information about anthropological subjects, their interaction with one another and their environments, and their experiences (Winchester & Rofe 2000). This type of research approach affords the opportunity to suitably and acceptably contextualize and describe social phenomena that occur naturally or inductively. As the researcher engages with participants in the study (or participates in their way of life), through interviews, focus group discussions, observations, human experiences, interactions, emotions and perspectives on specific issues can be explored and interpreted by adopting this particular technique of inquiry (Creswell 2013).

Winchester and Rofe, (2000), compartmentalize qualitative research techniques into specific classes. They note that this research technique answers questions founded on individual experiences, social structures or a combination of both. They explain that social structures are internally connected objectives or practices which bear cultural, social, environmental, economic and political features. This study fits within this space; as it aims to examine the relationship between government regulatory agencies and petroleum companies within Ghana's upstream industry. The interaction between these actors is interwoven in environmental, economic and political interdependences. The use of qualitative research methods will thus, reveal the inherent dynamics and processes underpinning the demonstration of environmentally responsible behaviours by petroleum companies and the exercise of regulatory mandates by the regulators.

A qualitative approach also answers questions about individual experiences (Babbie 2015; Yin 2015). First of all, qualitative research techniques ought to make connecting elucidations. They should also provide an understanding of the actual significance of activities, circumstances and events that occur within a social domain. Qualitative research techniques need to express the manner in which a sampled population perceives,

understands, interprets and reacts to prevailing contingencies (Babbie 2015; Yin 2015). Finally, they should also facilitate appropriate approaches to appreciate, ascertain and study the processes that produce particular results. This method facilitates a pathway making it easier to get closer to the actors involved in Ghana's petroleum industry. This way, it is possible to assess their interactions with one another and examine their involvement and response to the environmental regulatory system. Obtaining expert testimonies that are unique to particular individuals is essential in identifying and understanding the drivers of CER and the factors that may contribute to regulatory failures.

3.3.2 Research Design – Case Study

For the purpose of this study, it was important to choose a relevant research design that will enable the attainment of relevant findings (Babbie 2015; Yin 2015, 2011; Creswell 1998). Even though research designs such as the Grounded Theory, Phenomenology, Narrative and Ethnography (Petty *et al*. 2012b), exist within the discipline of social sciences, the Case Study research design was deemed most appropriate for this study.

To begin with, this study is not set out to explore the culture of participants (Petty *et al.* 2012a), or obtain vivid descriptions of a social phenomenon (Babbie 2015), which an ethnographic research design seeks to accomplish. Given that this study necessitates a holistic and detailed exploration into the indicative trends that characterize how and why petroleum companies undertake CER in Ghana, as well as the capacities of regulatory agencies in ensuring environmental safety, the narrative research design, which makes use of stories from a limited number of participants also isn't appropriate (Petty *et al.* 2012a). Moreover, while a phenomenological research design explores the personal experiences of participants in connection with a specific social phenomenon, it usually does not allow the in-depth exploration of relevant issues that underscore a particular social phenomenon over a period of time, (Petty *et al*. 2012a), and therefore, is also not suitable for this study. Furthermore, the prime focus of this study is not to develop any new theory from the analysis of common themes and patterns, as is the characteristic of a grounded theory research design (Babbie 2015; Myers 2013).

For the purposes of this study, therefore, the case study research design is chosen. This approach enhances up-close, inclusive, and comprehensive investigation of a phenomenon, together with its related contextual settings (Yin 2015, 2011; Siti-Nabiha *et al*. 2012;). It also enables the use of multiple sources of data and evidence to explore real-life situations, together with the relevant contextual settings under which those situations play out (Myers 2013). Moreover, case study research designs offer flexibility and adaptability even as the study progresses (Yin 2011).

3.4 Research Method – Data Collection

For this study, two main data collection methods were used: (1) document analysis (including relevant literature and media); and (2) semi-structured interviews. While the data collection from document analysis occurred throughout the duration of the research, the semi-structured interviews, spanned a period of six months from August 2017 to January 2018.

3.4.1 Document and Literature Review

To achieve Objective 1 and parts of Objectives 2 and 3, extensive documentary analysis was necessary. The documentary analysis was vital for the understanding and assessment of the environmental regulatory system governing Ghana's upstream petroleum industry, together with the modes and manner in which petroleum companies operating in the industry undertake corporate environmental responsibilities. The documentary analysis further facilitated the establishment of the interplay between the (in)effectiveness of the environmental regulatory system and the environmental behaviours and responsibilities of the petroleum companies. For this particular exercise, one hundred and thirty-five publicly available documents were obtained and thoroughly reviewed. These documents comprise Legal Documents (i.e. Ghana's Constitution, Acts, Petroleum Agreements and Regulations), Environmental and Social Action Plans, Sustainability Reports, Annual Reports, Environmental and Social Impact Assessment Reports, CSR Reports, Environmental Management Plans, Petroleum Project Information, Community Investment Reports, Securities and Exchange Commission (SEC) Filings, Policy Statements, as well as, Corporate Ethics and Business Guidelines. Most of these reports are usually certified by

independent auditors, therefore they can be considered credible (Akinyomi 2013), particularly for academic purposes.

Recognizing that upstream petroleum companies usually announce their environmental responsibilities, via their official websites (Muthuri & Gilbert 2011; Russo & Tencati 2009; Jose & Lee 2007; Bansal & Clelland 2004; Zyglidopoulos 2002), the official websites of both petroleum companies and regulatory agencies in Ghana were also accessed in order to assess the various available documents that highlight the demonstration of their environmental responsibilities and regulatory duties, respectively. This approach was motivated by prior studies conducted by (Kim *et al.* 2010; Jose & Lee 2007; Coupland 2006), who used the contents of the official websites of companies as a basis of their research (Kim *et al.* 2010). McMillan (2000), has, however, suggested that during the assessment of the contents available on a website, researchers need to detect specific coding contexts and units. While the coding context describes the bulk of the information that pertains to specific topics, the coding units describe the actual sections of the information that is identifiable and measurable.

Additional pieces of information were also obtained from reviewing a large body of literature on petroleum operations and environmental sustainability, both globally and in Ghana. Pieces of information were obtained from dissertations, books and peer-reviewed articles, which were accessible from the University of Adelaide's (online) library, journals, documents and public databases (e.g. Google Scholar, ProQuest, ScienceDirect and Web of Science). The review was done to identify the associated theories and concepts relevant to the study; appreciate the nature of the discourse surrounding petroleum operations and environmental safety; contextualize petroleum operations and CER in Ghana; understand the various approaches used in CER research; and also to identify the gaps in the extant literature (Becker *et al.* 2012).

3.4.1.1 Review of Mass Media Content

The study also drew information from the mass media, comprising news reports from the local media, panel discussions from TV shows, magazines and documentaries on Ghana's extractive industry and the associated environmental issues. This exercise was necessary to

achieve Objective 1 and parts of Objectives 2 and 3. Specifically, the review of mass media content provided additional insights into Ghana's extractives sector, particularly, its upstream petroleum industry. More specifically, the review provided extensive understanding about Ghana's governance system, politics, natural resources management, corruption, regulatory inefficiencies and a severe lack of capacity in the extractives sector.

According to Newbold *et al.* (2002), this systematic way of studying and collating information from the contents of mass media was introduced by Harold Lasswell in the 1920s. This technique gained popularity in analyzing the communication content of films between 1920 and 1930 (Macnamara 2005; Selby & Cowdery 1995). Extant literature has shown the relevance and convenience in gathering rich and relevant information from the contents of mass media in social science research (Riffe *et al.* 2005; Pennebaker 2011; Newbold *et al.* 2002; Mayring 2004; Selby & Cowdery 1995). Among these scholars, Newbold *et al.* (2002), propose three key factors to consider when collecting information from the contents of mass media. These comprise the form of media (i.e. magazine, news articles or films); the timing of the media (i.e. period within which the content of the mass media was made available) and the relevance of the contents to the research (Newbold *et al.* 2002). The literature further suggests that the data collection process using the contents of the mass media (e.g. news items) can be enhanced by selecting and combining the actual text with the various signs, images, dominant characteristics and depictions in the media (Newbold *et al.* 2002; Selby & Cowdery 1995). Pennebaker (2011), also emphasizes the importance of linguistic styles, particularly, the use of pronouns, adjectives and verbs, when reviewing the contents of the mass media for the purposes of data collection. Essentially, active and passive verbs provide variable meanings, while the type of tone (whether aggressive or not) used to describe the issues and actors demonstrate the general atmosphere and feeling about the issues. Cumulatively, all of these enrich the data collection process as they facilitate better understanding of the contents of the media (Macnamara 2005).

Following Macnamara (2005), this present study adopts the purposive sampling technique for the review of media contents. This way, I identified and selected the most prominent media outlet that is generally perceived by the majority of Ghanaians to be non-politically

aligned – the Multimedia Group. The Multimedia Group is a consortium of Ghanaian media outlets comprising six radio stations, six news websites and a satellite television network. The Multimedia Group has, over the years, received several local and international awards in recognition for its leadership in the media space. Specifically, *Myjoyonline*, *Joynews* and *Joynews file*, were selected as these are the most prominent of the other media sources. Myjoyonline is an online current affairs news portal, while Joynews is a popular commercial free-to-air television news channel. Joynews file on the other hand, is a popular news analysis show where various actors including politicians, lawyers, experts and personnel from NGOs and CSOs debate critical issues that make headlines in Ghana. The study also utilises other media outlets, such as, *The Guardian*, *The Statesman*, *The New York Times* and *the Ghana Business News*, among others, as they are also relatively popular in Ghana and cover the relevant Ghanaian news of interest to this present study. For the purpose of data collection via the review of media contents, following Riffe *et al* (2005), it was important to subscribe to these media outlets in order to get prompt notifications as and when news items in relation to this study broke. The researcher can then carefully read the articles, identify and make corresponding references to the actual portions that are relevant to this study.

To assess the environmental regulatory system governing Ghana's upstream petroleum industry, and also to analyse the indicative themes relating to how and why petroleum companies conduct their CER in Ghana, the relevant (environmental) statements from the outlined sources were used as the unit of analysis (Milne & Adler 1999).

3.4.2 Semi-Structured Interviews

As the pieces of information made publicly available on the official websites of both the petroleum companies and regulatory agencies are, very often limited; in the sense that they do not always provide enough indication on the actual issues that characterize their environmental behaviours and conduct, semi-structured interviews were also conducted to provide relevant supplementary information. The semi-structured interviews enabled the researcher to explore deeper into the more intricate issues (Babbie 2015; Creswell 2013; Rapley 2004), that pertain to the fulfilment of CER by petroleum companies and the regulatory conduct of government regulators. This provided rich information necessary for the achievement of Objectives 1, 2 and 3. The application of this research technique was

resourceful as it enabled deep deliberation and appreciation of the key issues that underpin the industry. Direct comments and personal experiences from key actors in the industry were also vital in establishing the nexus between the (in)efficiency of the governing environmental regulatory system and the environmental practices of petroleum companies operating in Ghana's upstream sector. It is, however, important to point out that the interviews were in no way arranged to test any particular theory or confirm the researcher's position on a particular issue.

Due to the dearth of qualitative studies on CER in Ghana's extractive industry, it was difficult to identify and adapt an already existing measuring instrument. As a result, three different sets of semi-structured interview guides (Yin 2015; Lofland & Lofland 1984), were developed to collect empirical data for analyses – one each for the regulatory agencies, upstream petroleum companies and NGOs and CSOs (see Appendices 2, 3 and 4). This instrument enabled the researcher to engage participants in deeper conversations, and easily follow up on comments made by the participants to clarify interpretations and inferences (Morse 2015; Yin 2015). The lines of questioning for the interviews were developed and contextualized within the Ghanaian domain after an extensive review of literature, as recommended by Chadwick *et al.* (1984). The questions were designed to identify the actual actors in the industry and also to get responses that will describe their roles and interactions with one another. The questions were also designed to capture institutional capacities, mandates and obligations; to ascertain how they may impede or enhance the regulatory functions of the government regulatory agencies. Finally, the questions were designed in such a way that together they will solicit personal and institutional perspectives in the industry that would reveal the environmental behaviours and regulatory conduct of petroleum companies and regulators, respectively.

Babbie (2015), Neuman (2013) and Chadwick *et al.* (1984), have listed a few problems associated with the use of interviews as a data collection technique. They note that the interviewer could influence the outcome of an interview exercise as a result of the erroneous presentation of questions, incorrect characterizations, wrong record keeping and deliberate bias, among others. They also note that the deportment of the interviewer may affect the perception of the respondent whose responses to certain questions will be biased. It is also

noted that participants sometimes attempt to please the interviewer by answering in a particular way due to the popularity of the issue under consideration (Chadwick *et al.* 1984). Having outlined the problems, Babbie (2015), Neuman (2013) and Chadwick *et al.* (1984), went further and provided suggestions on what to do to when confronted with these challenges. Noting these suggestions, the researcher overcame them by recording each interview session, taking extensive notes and seeking informed consent from each participant prior to the interviews.

Additionally, for the semi-structured interview guides that were used, a simplistic language was maintained, with each particular guide addressing a specific group of respondents. This was a deliberate attempt aimed at minimizing mischaracterisation and misunderstanding during the interview sessions. The interview guide also provided assistance when it came to asking any sensitive questions. Questions were cautiously worded not only to gather valid responses from respondents but also to avoid provocation. The interview guides were made up of a series of open-ended questions with several prompts. Overall, the string of interview questions were connected to the research objectives Gray (2013). During the interview sessions, preliminary questions were asked with the aim of establishing rapport and trust with the participants. Questions were contextualized to encourage more than simple 'no', 'yes' or 'maybe' responses. Participants were also invited to respond to queries with illustrations and scenarios when necessary, so as to suitably contextualize their responses.

With the exception of two participants who did not want the interview sessions recorded, all the formal interview sessions were recorded, and detailed notes were taken in the absence of recordings. During the interview sessions, the participants were questioned until no new information emerged (i.e. until information saturation was attained) (Crang & Cook 2007; Berg *et al*. 2004; Robertson 1993). Suggestions by Berg and Lune, (2004), indicate that this technique – information saturation – serves as a standard for measuring the conclusiveness of an enquiry. After every interview session, the recordings were transcribed (Ritchie *et al.* 2013). A number of informal interviews that took the form of casual conversations with additional participants were also conducted. Due to the informal nature of these interviews, notes were not taken directly. Nevertheless, as advised by

Babbie (2015), detailed accounts and points were jotted down right after the conversations were over, and added to my analysis.

3.4.2.1 Interview Participants

To accurately explore the issues pertaining to CER in Ghana's upstream sector, it was imperative, to recruit and interview participants whose unique positions in their respective agencies and companies afforded them the opportunities to acquire substantial insights into the dynamics and complexities of the petroleum industry and environmental issues (Trotter II 2012; Rouleau & Balogun 2011; Mantere 2008). It was equally important to recruit participants who had attained a certain level of maturity in the industry since such participants were more likely to possess significant knowledge and information about the inherent and surrounding issues in the industry and their respective organizations/agencies (Creswell 2013). Accordingly, regular officers, mid-level and high ranking personnel were invited to participate in the study. These included participants who operate in Ghana's upstream petroleum industry; those who take part in drafting regulatory mechanisms; those who engage in petroleum waste management; those who conduct environmental audits; those who advocate environmental protection; those who create public awareness and those who participate in several other environmental and regulatory functions in Ghana.

Overall, formal interviews were undertaken with 16 participants from two Ministries, four government regulatory agencies, one upstream petroleum company and two NGOs. Whereas all the government regulatory agencies agreed to participate in the study, only one out of the sixteen petroleum companies acquiesced to the invitation to participate in the study. Among those that declined, one made a formal phone call explaining that the company was in operation and therefore did not have time to grant interviews. Another petroleum company sent a formal email declining any interviews. One other company agreed to participate, however, subsequent attempts that were made to arrange interview sessions proved futile. The other petroleum companies, on the other hand, did not respond to the research invitation.

In addition to the formal interviews, informal discussions were also held with seven other participants, who shared vital information relevant to the subject matter of this study. These

participants include one Member of Parliament, one staff of the Office of the President, one employee of a petroleum company, one personnel from a government regulatory agency and three personnel from non-governmental organizations. Submissions by Tashakkori and Teddlie, (1998), suggest that an appropriate sample size is achieved when one reaches information saturation. Given the fact that the semi-structured interviews were conducted to complement and validate the findings from the document analysis and literature review, information saturation was achieved with a sample size of twenty-three participants (Lasch *et al.* 2010; Francis *et al.* 2010; Mason 2010; Creswell 1998; Bertaux 1981).

3.4.2.2 Preliminary Interview

Given that acquaintance with the research area and prior knowledge about the study group are vital in qualitative studies, several pieces of background information were collected in order to become familiar with the industry and the actors involved, and thus determine the acceptable modes of engagement. These were derived from an extensive review of relevant literature, and importantly, from an introductory interview with one of Ghana's experts on Energy Economics – Dr Ishmael Ackah. This was conducted to gain more baseline knowledge about the petroleum companies under research and the upstream sector of Ghana's petroleum industry.

The information gathered during this phase includes the (confirmation of the) main government regulatory agencies in Ghana; brief histories of some of them; the actual number of operating fields in Ghana; the (operating) upstream petroleum companies registered under the Petroleum Commission and other social customs that underpin the ethics of (institutional) engagement. This interview provided valuable background information in preparation for the actual interviews.

3.4.2.3 Interview Sessions and Ethical Considerations

This sub-section shows the various ethical considerations that were made before and during the study. Firstly, it is important to indicate that the study was conducted in compliance with the Australian Code for the Responsible Conduct of Research[14]. Ethical approval was

[14] The details of the Australian Code for the Responsible Conduct of Research can be accessed at; https://www.nhmrc.gov.au/about-us/publications/australian-code-responsible-conduct-research-2018

granted by the University of Adelaide's Human Research Ethics Committee (HREC) (Approval Number: H-2017-028) (see Appendix 1). With the assistance of the Centre for Energy, Environment and Sustainable Development (CEESD) in Ghana – upstream petroleum companies, government regulatory agencies, as well as NGOs and CSOs were initially contacted via email. The purpose of the email was to present and explain the purpose of the study to these entities, and ultimately, seek their consent to allow their companies or agencies to grant interviews that would aid in the data acquisition process of the study (Piper & Simons 2005). When permission was granted, follow up and reminder phone calls were made the day before scheduled interviews. This way the participants had ample time to organize their thoughts and prepare for the interview.

Before the commencement of the interview sessions, however, participants were taken through the Participants Information Sheet. This document contained the purpose of the study, as well as, the rights and obligations conferred on the participants. Participants were informed that the pieces of information obtained from the interviews were solely for academic purposes. They were also made aware that their participation in the interview sessions was voluntary, and that even after agreeing to participate they were free to withdraw at any time. They were assured that their decision to withdraw would be respected and will not affect their relationship with their superiors who delegated them. The participants, in most cases, preferred to remain anonymous. Therefore, to respect their confidentiality, pseudonyms are used to de-identify them (Piper & Simons 2005; Neuman & Kreuger 2003).

Finally, when participants were satisfied with the conditions and agreed to participate, they were asked to append their signatures to the Participant Consent Forms, to show evidence of their consent. The signed documents were photocopied and a copy was left with the participants. The only participating petroleum company presented a non-disclosure document to be signed by the researcher. Their reason was to make sure that the information been sought would be used only for the purpose for which it was solicited. After all these processes, the interviews began. Follow up interviews were arranged to clarify issues that emerged during the course of the interviews. Neither money nor gifts were used to incentivize any participant in any way. Also, the interviews and fieldwork, in general, posed

no health or safety threats to the researcher or the participants. Finally, it is worth noting that the researcher had no prior relationship with any employees of the petroleum companies, government regulatory agencies or NGOs and CSOs. Each interview session lasted for a period not exceeding one hour. The data that were recorded during the interview sessions were transcribed verbatim and analysed. Overall, the data collection, via the semi-structured interviews, spanned a period of six months, from August 2017 to January 2018 during fieldwork in Ghana.

3.4.2.4 Positionality and Reflexivity

The researcher's positionality and reflexivity are two important elements in social science research (Hammersley & Atkinson 2007; Jørgensen & Phillips 2002). Whereas reflexivity describes the power relations between the participants of the interview and the researcher (Jørgensen & Phillips 2002; Burr 1995), positionality describes how the researcher, by virtue of his/her gender, ethnicity, race, creed and life experience, relates with and places him/herself within the context of the issue under discussion (Andres 2012). These two elements have been widely acknowledged, and reflexivity is understood to influence the interpretation of pieces of information obtained from interviews (Mauthner & Doucet 2003). That is, as the researcher places him/herself within the context of the issue under discussion, he/she continuously shifts positions depending on the benefits and limitation associated to the direction of the discussion and the power relations between him/her and the participant (Andres 2012; Mullings 1999).

On these issues, it is important to declare the identity of the researcher conducting this present study. As a male Ghanaian, the researcher was familiar with the local environment, especially the areas within which the companies are situated. However, it is noteworthy that many of the participants in the study are prominent personalities in Ghana's petroleum industry and in society – some with political clout. Thus, during the interview sessions, the researcher was aware of the balance of power which leant towards these participants. In order to eliminate any adverse impacts of this power dynamic on the interviews and subsequent interpretation, the researcher reflected on the impact of these roles and the respective influence of these participants, and contextualized their testimonies within the upstream industry, both before and during the interview sessions.

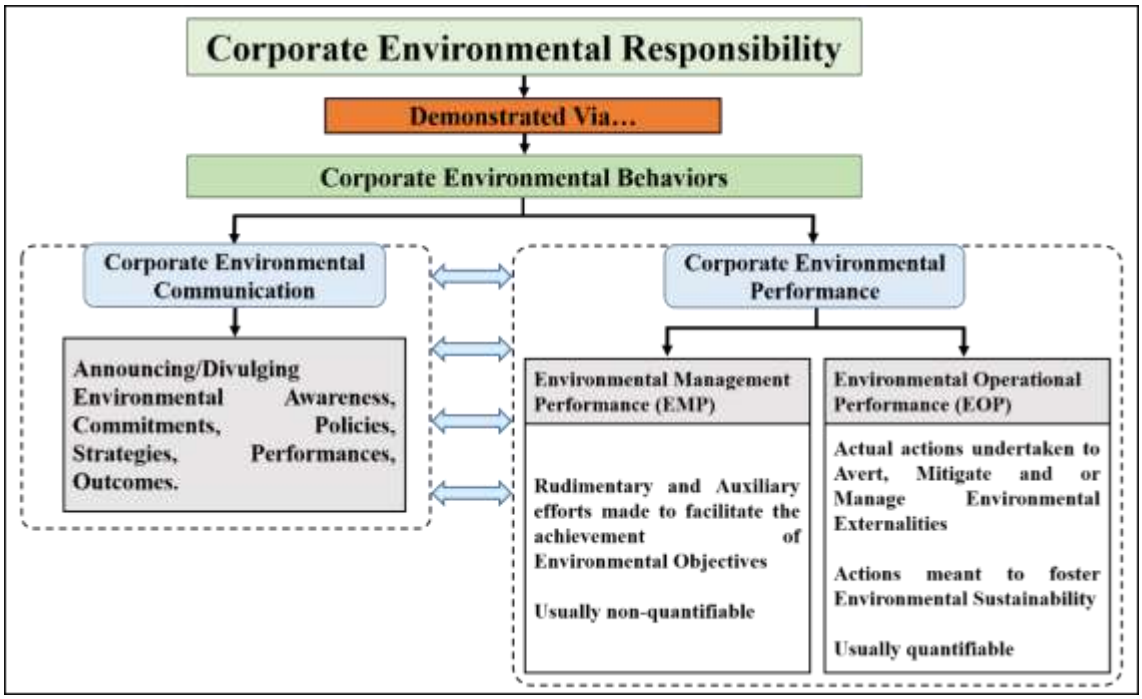
3.4.2.5 Assumptions

It is important to state the assumptions of this study (Simon & Goes 2011). Firstly, it is assumed that all the participants gave honest responses to the interview questions and their behaviours during the interview sessions were their actual everyday attributes and not necessarily their reactions to particular issues. This assumption was necessary because the posture of some participants may exude their reluctance to elaborate more on specific issues, while others may exaggerate some issues. It was also assumed that due to their involvement with the industry, participants' responses reflected their actual experiences and the true situation about the dynamics in the industry. Another assumption was that the participants had an in-depth understanding of the industry. Finally, even though there are service companies that operate within the upstream sector, the operations of most of these service companies are contracted by the operating petroleum companies. As a result, these service companies were considered to operate under the purview of the operating petroleum companies and thus, are responsible for them.

3.4.3 Data Analysis – A Methodological Schematic

Specifically, to achieve Objective 2 – the analysis of the CERs of the petroleum companies in Ghana – a schematic was devised, as shown in Figure 3.2. This schematic outlines the key underlining issues whose assessment are imperative to the actual understanding and appraisal of the corporate environmental responsibilities (CER) of petroleum companies operating in Ghana's upstream petroleum industry. The schematic facilitates the exploration of the companies' environmental behaviours by examining their environmental communication, environmental management performance and environmental operational performance. Together, these aspects inform whether or not, and how the petroleum companies (if they do) fulfil their environmental responsibilities in Ghana.

Figure 3.2: Schematic Depicting the Ways in which Corporate Environmental Responsibilities are Undertaken



Author's Construct

Corporate Environmental Communication

As shown in this schematic, corporate environmental communication, as used in this context, entails the explicit articulation/broadcast of key messages and narratives, as well as the subtle and obvious demonstration of certain deportments that reflect petroleum companies' environmental dispositions, awareness, intentions, commitments, policies and outcomes. Essentially, there is a universal perception that the petroleum industry is vastly environmentally unfriendly (Zyglidopoulos 2002). This perception has driven most petroleum companies to display how environmentally responsible they are by exhibiting their respective commitments and affinities towards the protection of the natural environment. The primary and most conspicuous way through which petroleum companies demonstrate this commitment is via environmental communication. In this way, they convey the idea that they are fully aware of the adverse environmental externalities of their operations and have adequately internalized strategies to ensure environmental safety in their routine operations (Patten 2002; Clarkson 1998; Walden & Schwartz 1997; Boulding 1978). While environmental communications in most developed countries are usually in compliance with regulatory provisions, Li *et al.* (2010), have shown that in some

developing countries environmental communications are mostly perceived as tools to manage the reputation of various companies. This notwithstanding, previous studies have shown a positive correlation between environmental communication and CER (Egri & Ralston 2008; Coglianese & Nash 2001). Recognizing this association, this Corporate Environmental Communication is used here to identify the key messages and narratives, as well as, the deportments and modes through which petroleum companies appear to express and communicate the fulfilment of their CER in Ghana's upstream petroleum industry (Albino e*t al*. 2009; Jose & Lee 2007; Cramer 2005; Christmann 2004).

Corporate Environmental Performance

Corporate environmental performance, as depicted in the above Figure 3.2, and as used in this context, describes the actual implementation of companies' environmental obligations. The actual performance of environmental obligations is the most critical in undertaking CER, therefore, this factor facilitates the identification and documentation of how petroleum companies actually undertake their environmental responsibilities in Ghana's upstream industry.

Following Ilinitch *et al.* (1998), the environmental performance of petroleum companies is explored via two key categories – Environmental Management Performance (EMP) and Environmental Operational Performance (EOP). Indicators of the EMP, which are usually non-quantifiable, describe the rudimentary and auxiliary efforts that are made to facilitate the achievement of environmental objectives. On the other hand, the indicators of the EOP describe the quantifiable and measurable environmental events or outcomes. Specifically, EOP indicators capture the actual actions that petroleum companies undertake in order to avert, mitigate and/or manage the identified adverse environmental externalities of their operations. EOP also encompasses the various actions that the petroleum companies take to foster environmental sustainability. For this study, the EMP of the petroleum companies is explored, drawing from Rahman & Post (2011); Clarkson *et al* (2008); Guenther *et al.* (2007); Jose & Lee (2007); Cogan (2006); Matthews *et al.* (2004); and Ilinitch *et al.* (1998), among others. Although some key EMPs precede EOPs, they are, quite often, done concurrently. This is because it is only after companies strategically position themselves and put in place the relevant environmental safety measures, that they can implement and

subsequently assess the outcomes of their environmental policies and performance (Wolfe & Howes 1993; Wells *et al.* 1992). During the performance of EOPs also, other forms of EMP activities are usually undertaken as well. As a result, in order to fully understand how petroleum companies actually perform their environmental obligations, it is important to use both the EMPs and EOPs (Olsthoorn *et al.* 2001). Indeed remarks from Jung *et al.* (2001), suggest that some companies publicly exude significant environmental commitments and policies (EMPs) but make no actual attempts to fulfil those policies (EOPs). Given this possibility, the EOP of petroleum companies is also explored, adapting precepts from Clarkson *et al.* (2008); Punte *et al.* (2006); and Stanwick & Stanwick (1998), among others.

The arrows joining the Corporate Environmental Communication and Performance in Figure 3.2 show that rather than being mutually exclusive, the actions performed in each are usually done concurrently. Together, the environmental communication and environmental performance (EMPs and EOPs) epitomize petroleum companies' environmental behaviours, and reveal pertinent pieces of information that will, collectively, provide vital insight into how they undertake CER in Ghana's upstream industry.

3.4.3.1 Thematic Analyses

The various datasets obtained were analysed using the thematic analytical approach (Babbie 2015). Such techniques are widely used in qualitative research (Babbie 2015; Yin 2015; Creswell 2013; Guest *et al.* 2011); since they facilitate the analytical identification, recording and grouping of patterns within data into classes (or themes) (Braun & Clarke 2006). Accordingly, the pieces of information obtained were systematically and rigorously analysed to identify relevant emergent issues (Fereday & Muir-Cochrane 2006). Following this, where applicable, pieces of information from the semi-structured interviews were used to complement and validate those obtained from the document reviews. Indeed, the thematic analytical approach was appropriate for this study because it allowed the categorization into groups, the prevalent ideas and issues that emerged from both the document reviews and interviews (Yin 2015; Creswell 2013; Petty *et al.* 2012a). The generated themes were then developed into discussions and were used to address specific research questions (Daly *et al.* 1997).

3.4.4 Standards of Data Quality

Typically, qualitative research methods that involve interviews with large numbers of participants is an arduous task, and according to Peshkin and Glesne, (1992), are practically impossible, because not everyone can be interviewed extensively. Tashakkori and Teddlie, (1998), have also suggested that even with smaller sample sizes, only a fraction will be available for the research. Moreover, given that qualitative methods deal predominantly with textual data; which, quite often, possess multiple values, interpretation of such textual data usually face the risk of bias, which in turn may create issues of credibility (Graneheim & Lundman 2004).

That notwithstanding, research findings ought to have true real-world representations that are adequately supported by credible evidence. The credibility of research findings is basically a function of the validity and reliability of the data collected (Erlingsson & Brysiewicz 2013). According to Babbie (2015), while reliability describes the tendency of achieving similar results when the same technique is continuously applied to an object; the "validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration" (Babbie 2015, p. 143). Also, whereas reliability involves the collection of relevant error-free data (Tashakkori & Teddlie 1998), validity describes the general quality of the research (Babbie 2015; Thomas & Magilvy 2011).

Therefore, to enhance the credibility of this study, strenuous attempts were made to collect relevant data which were void of errors from multiple sources. The method of *triangulation* was then applied to check and establish the validity of the study. This involved the collection and analyses of data from multiple perspectives. Beyond whether or not the data/information were consistent, the method of triangulation provided opportunities to verify and/or find out deeper meanings in the obtained data (Patton 2005). Moreover, the literature suggests that the saturation of data from multiple credible sources emboldens the reliability and validity of a qualitative study (Fusch & Ness 2015; Morse 2015).

3.5 Conclusion

This chapter has elaborated on the methodological framework adopted for the study. The chapter discussed issues pertaining to the types, sources, management and analyses of data in this study. Other essential matters which are characteristic of social science research, such as the actual mode of inquiry, the particular method, standards of data quality and ethical considerations have all been addressed. The chapter also outlined the reasons why certain choices and decisions were made to conduct the study in the way that it was. The chapter concluded with a brief overview on the assumptions and limitations of the study. These subsections impel readers to exercise caution when attempting to apply findings from this study elsewhere. The succeeding chapter presents a general profile of Ghana's upstream petroleum industry with the accompanying environmental regulatory system.

CHAPTER FOUR: GHANA'S UPSTREAM PETROLEUM INDUSTRY AND THE GOVERNING ENVIRONMENTAL REGULATORY SYSTEM

4.1 Introduction

This chapter presents both a profile of the Republic of Ghana, as well as the results of an institutional analysis so as to set the context for this study. The chapter commences by presenting a brief profile of Ghana and moves on to describe the nation's upstream petroleum industry, with emphasis on its history and the stages within the life-cycle of petroleum projects in Ghana where the various actors interact with one another. The significance and implications of hydrocarbon resources to the country are also elaborated. Following this, the chapter maps out and presents the environmental regulatory system governing the country's upstream petroleum industry – the applicable regulatory mechanisms, relevant regulatory entities and the regulatory personnel. The various actors in the upstream industry are also elaborated.

4.2 Country Profile

Ghana, an Anglophone West African country is located between latitudes 4^{o} 44'N and 11^{o} 15'N and longitudes 3^{o} 15'W and 1^{o} 12'E. The country is surrounded by three Francophone countries – Togo to the East, Burkina Faso to the north, Ivory Coast to the west, and to the south is the Gulf of Guinea (See Figure 4.1). The country's landmass covers an area of approximately 238,539km^2 and is interspersed with several natural resources. Of the total landmass, which is composed of several rock forms, sedimentary rocks are predominant, and these usually signify the presence of hydrocarbons (Kesse 1986). Ghana has a coastline that stretches 550km (Armah & Amlalo 1998), and this area is primarily characterized by low-sandy shores, grasslands, scrubs and rivers. The coastal area represents about 6.5 percent of the total landmass of Ghana, yet hosts about a quarter of the country's population, as well as three-quarters of its industries (NES 2011). Most of the coastal communities in Ghana have significant cultural and historical sites, multiple floodplains and several wide tropical beaches.

Figure 4.1: Map of Ghana

Source: http://easytrackghana.com/travel-information-ghana_maps.php - Accessed February 27, 2017

The demography of Ghana is composed of many different ethnic groups with a diverse assortment of tribes, each with its unique traditions and cultural principles. Due to the availability and access to socio-economic opportunities and amenities however, the population is largely concentrated within the lower half of the country, particularly, within the Ashanti and Greater Accra regions. Ghana is a Christian-dominant nation, with Islam

as the second largest religious group, followed by traditional practices. Other smaller religious assemblies such as Judaism and Buddhism have emerged, and a small fraction of the population are atheists.

Politically, Ghana is recognized as the first country within Sub-Saharan Africa (SSA) to attain independence from colonial rule, and transitioned steadily into a democracy (Panford 2017). Prior to 1992, which saw the introduction of the republican multi-party and constitutional democratic systems, the country alternated between constitutional and military rules. Democratic rule in Ghana is administered by three distinct arms of government – the Executive, Legislative and the Judiciary. Executive power is conferred on the Presidency, with which the president can make constitutionally permissible decisions. Legislative powers are vested with the Parliament that is made up of 275 constituency representatives; who are elected into office every four years through general or by-elections. The Judiciary consists of law courts that facilitate the rule of law in Ghana, and justices and judges who interpret legal provisions outlined in the constitution while they also supervise the practice of democracy. Though Ghana is a democratic state, it also allows traditional rulers to exercise their customary legitimacies within their respective regions of jurisdiction. These rulers comprise kings, chiefs, queen mothers and kingmakers.

Ghana is a lower-middle income State, whose economy is mainly driven by natural resources – agriculture and forestry (e.g. timber and cocoa); precious metals (e.g. gold and bauxite); and more recently, hydrocarbons (e.g. oil and gas). For a long time, agriculture has been the predominant economic driver of the nation (Nankani 2009). Prior to 2007, the cocoa industry generated significant revenue for the government and provided employment to about 60 percent of the nation's agronomic labour force (Ntiamoah & Afrane 2008; Appiah 2004). In terms of cocoa production, Ghana is ranked second in the world, after Ivory Coast (Ntiamoah & Afrane 2008). The country also has a vibrant mining industry that is made up of both legal and illegal miners, locally known as *Galamseyers*[15] (Hilson & Yakovleva 2007; Hilson & Potter 2003). At the moment, Ghana is one of the largest global producers of gold, with its exports accounting for over 38 percent of national commodities

[15] A galamseyer is a local Ghanaian term used to describe individuals that engage in illegal small-scale gold mining activities, locally termed Galamsey, in Ghana.

(Garvin *et al.* 2009). Despite the endowment of rich natural resources in the country, availability and affordability of reliable energy is a critical challenge that disrupts economic development. The lingering power crises in Ghana has been a major impediment to the nation's economic progress (Sowa *et al.* 2018).

4.3 Ghana's Petroleum Industry

4.3.1 History

Oil exploration and production (E&P) in Ghana can be traced as far back as 1896 (Kesse 1986), with petroleum resources found both on- and offshore. The onshore fields are located on the Keta, Tano and Voltaian Basins, while the offshore fields are concentrated within the continental shelf (Kesse 1986). The first ever oil discovery in Ghana was made by the West Africa Oil and Fuel Company (WAOFCO), within the onshore Tano basin at Half Assini in the Western Region, between 1896 and 1903 (Sutherland 2008; Asafu-Adjaye 2012; Kesse 1986). In the years that followed, several international companies showed interest in the country: Companies including Societé Française de Petrole (SFP) (1909 – 1913), the African and Eastern Trade Corporation (AETC) (1923 – 1925) and the Gulf Oil Company (1956 – 1957). By the time Ghana attained her independence in 1957, about twenty-one wells had been drilled – some of which contained hydrocarbons in shallow horizons. During this period, the discovery of oil continued to attract foreign interests to Ghana. Nevertheless, the failure of some companies to make substantial discoveries drove them to withdraw their services and leave the country (IOGIRC 2017). Onshore oil E&P thus, became irregular and less productive. As a result, attention and efforts were shifted from onshore to offshore explorations, and this shift attracted more foreign companies into the country. In 1970, the first-ever offshore well was drilled within the Saltpond offshore field by Signal Amoco; and for the first time, oil was discovered in the offshore zone of Ghana. Following this historic discovery, the interests of foreign companies surged. Further discoveries were made within the Tano-Cape Three Points Block and the Saltpond Basin. By virtue of these discoveries, Ghana was referred to as the 'seep coast' (Clarke 2010).

As at 2017, there were in excess of a dozen oil discoveries; including the Mahogany-1, Hyduea-1, Ebony-1, Odum-1, Tweneboa-1, Dahoma-1, Owo-1, Teak-1, Mahogany Deep-

2, Sankofa-1A, Sankofa East-1X, Gye Nyame-1, Dzata-1 and the Hess Ghana Discoveries (IOGIRC 2017; GNPC 2016a). Overall, Ghana has three operating oil fields, namely the Jubilee Field, the Tweneboa-Enyenra-Ntomme (TEN) Fields and the Sankofa-Gye Nyame (Sankofa Field) Fields (Skaten 2018). Within each of these fields, production is carried out by a 'Floating, Production, Storage and Offloading' (FPSO)[16] vessels. These comprise the FPSO Kwame Nkrumah (named in honour of Ghana's first president) operating at the Jubilee Fields; the FPSO Prof. John Evans Atta Mills, operating at the Tweneboa-Enyenra-Ntomme (TEN) fields; and the FPSO John Agyekum Kufuor, operating at the Sankofa field.

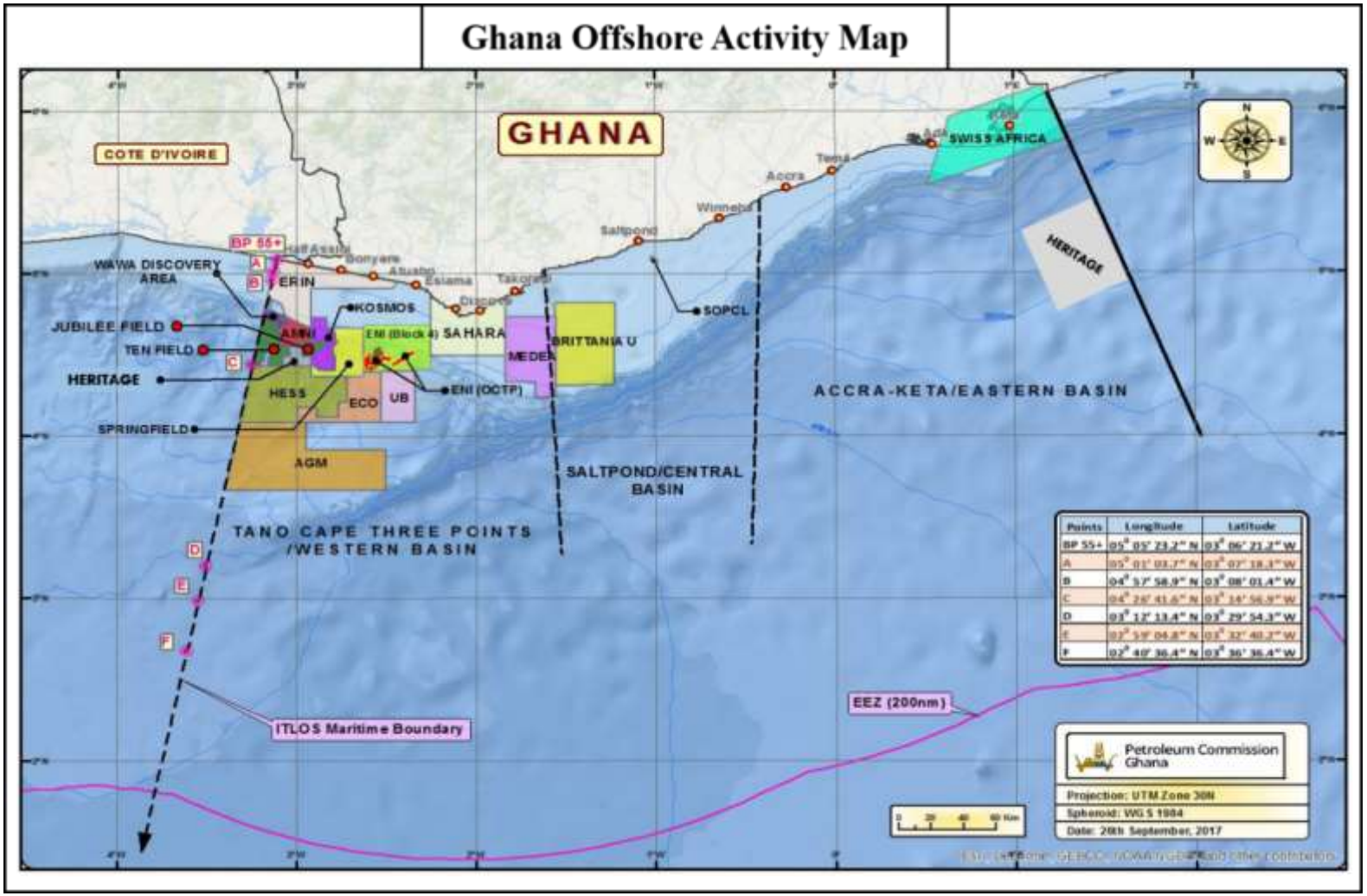
Ghana's oil is a 'sweet', light Crude, with little sulphur content and an API gravity of 36.5º (Sunu-Attah 2009). The total oil reserve is estimated at 4.5 billion barrels. In comparison with other prominent oil-producing countries (i.e. 10 billion barrels in Angola and 37.2 billion barrels in Nigeria), it seems this figure is minuscule. Yet, considering the population size (i.e. almost 30 million) and the country's GDP it is nonetheless quite significant (Gyimah-Boadi & Prempeh 2012).

Of the estimated total hydrocarbon reserve, the Jubilee Field is projected to have between 800 million and 1.5 billion barrels of oil, and between 800 million and 1.2 trillion cubic feet of associated gas (Panford 2014). The International Monetary Fund (IMF) estimates that the combination of both oil and associated gas obtained from the Jubilee Field alone will fetch Ghana a total of about US$20 billion between 2012 and 2030 (Andrews 2013). Also, assessments by oil and gas experts indicate that Ghana could soon be a major player in the West African oil and gas industry, provided the requisite daily productions are met and sustained over the long term (Panford 2014).

Figure 4.2 illustrates the contract areas of the upstream petroleum companies presently operating in Ghana.

[16] The Floating Production Storage and Offloading (FPSO) vessel is a floating marine vessel used for the production, processing and storage of hydrocarbons at sea.

Figure 4.2: Map Showing the Offshore Activities within Ghana's Territorial Waters



Source: Petroleum Commission 2017

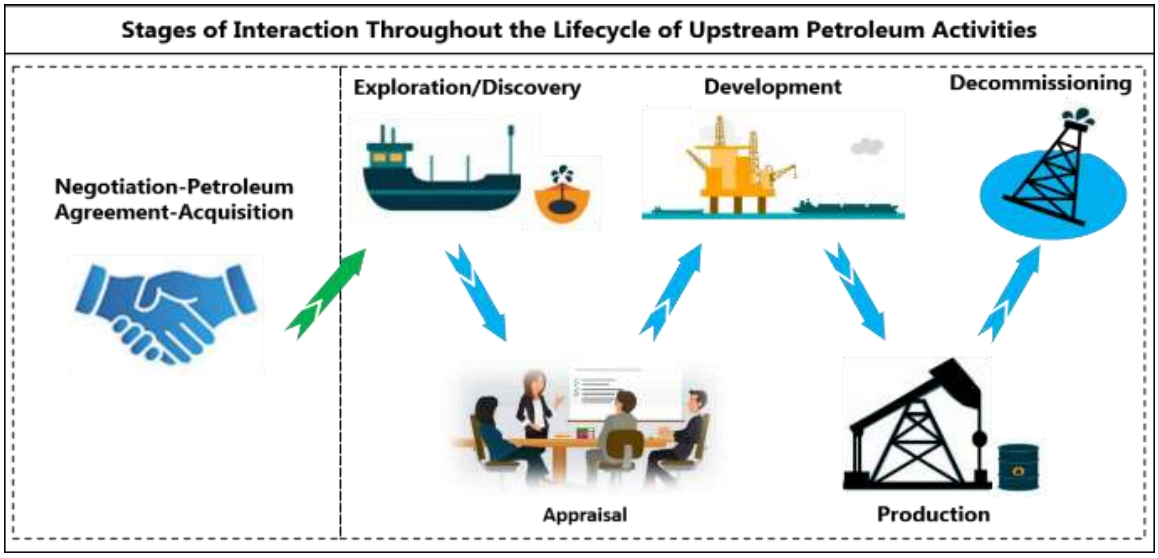
Due to the surge in E&P activities, the government of Ghana took the initiative to harmonize hydrocarbon activities. To this end, legal and statutory frameworks were established in the early 1980s. This move was, in part, to set up institutional capacities to supervise petroleum operations in the country, and also to regulate such operations so as to safeguard the country's natural environment and population from the adverse effects of those operations. The GNPC Law, 1983 (i.e. the Provisional National Defence Council, [PNDC] Law 64) and the Petroleum (E&P) Law, 1984 (i.e. the PNDC Law 84) were consequently enacted. The PNDC Law 64 established the Ghana National Petroleum Corporation (GNPC) as a statutory entity entrusted with commercial petroleum E&P operations in the country. The Corporation commenced operations in 1985.

4.3.2 Stages in the Life-cycle of Petroleum Activities in Ghana

Within Ghana's upstream petroleum industry, there are five stages within the life cycle of operations wherein government regulatory agencies and petroleum companies converge and interact with one another, both directly and indirectly. These stages comprise (1) Exploration and Discovery; (2) Appraisal; (3) Development; (4) Production; and (5) Decommissioning. Prior to every petroleum operation, however, petroleum companies need to acquire their oil blocks. The processes they go through, have, for the purposes of this present study, been summarized as 'Negotiations-Petroleum Agreement-Acquisition'.

These stages facilitate the appreciation of where and how, as well as the impacts relating to the interactions among regulatory agencies and actors in the regulated industry. Given that this study focuses exclusively on the upstream sector, mid- and downstream activities such as oil processing, refining, transportation, marketing and distribution, though key, are outside the scope of this study, hence not explored. Figure 4.3 illustrates these stages.

Figure 4.3: Stages within the Lifecycle of Upstream Petroleum Activities Wherein Regulators and Petroleum Companies Meet and Interact



Author's Construct

4.3.2.1 Negotiation-Petroleum Agreement-Acquisition

This stage characterizes the activities petroleum companies and government, via Ministries and government agencies, go through in order to acquire (but in the case of the latter, award) the rights to oil blocks for petroleum activities. Despite the presence of the GNPC in Ghana's hydrocarbon industry, the dearth of indigenous technical expertise coupled with the lack of adequate resources to venture exclusively into hydrocarbon activities have formed the fundamental basis upon which decisions have been made to award oil blocks to foreign petroleum companies, that are legally required to partner with GNPC, to undertake petroleum activities in the country (Silvana 2009).

As per the ACT 919 of 2016 (i.e. the Petroleum E&P Law) and the Petroleum (E&P) General Regulations (LI 2359), Ghana employs both direct negotiations and auctions in the award of oil blocks for petroleum operations. A Petroleum Agreement Negotiation Committee (PANC), mainly made up of representatives of the MoEP, the GNPC, the Attorney-General's Department, the Internal Revenue Service (now Ghana Revenue Authority [GRA]), and since its establishment, the Petroleum Commission (PC), is set up to negotiate the terms of Petroleum Agreements (PAs). The PANC, upon completion of the negotiations, submits its report to the sector Minister, who reviews it and forwards it to Cabinet for further review. The report is finally presented to Parliament for possible debate

and ratification, in accordance with Article 268(1) of Ghana's Constitution (1992). The final PAs usually outline the rights and obligations of the petroleum companies (WCTP Petroleum Agreement 2004). Petroleum companies, from this point, may then apply for the relevant permits and proceed to commence their actual petroleum operations when their permits have been duly approved and issued to them (LI 2359).

4.3.2.2 Exploration and Discovery

Exploration marks the preliminary stage in the actual search for hydrocarbon resources. During this stage, a series of operations are conducted to gather enough data and information needed to identify areas with hydrocarbon deposits. These operations comprise seismic and geochemical surveys; numeric modelling and geophysical prospecting of the seabed, among others (Li *et al.* 2016; Khan *et al.* 2013; El-Ghamri & Mostafa 2004; Waples 1994; Meshref *et al.* 1988). Following these operations, petroleum companies then undertake exploratory drillings which sometimes culminates in a discovery.

Prior to the exploration activities, petroleum companies need to obtain reconnaissance and exploration licenses from the Petroleum Commission (PC) (LI 2359; ACT 919). In addition to these licenses, petroleum companies are required by law (e.g. Section 73(2) of Act 919; ERM 2014a; EAR 1999; LI 1652), to submit a detailed Environmental Impact Assessment (EIA) report to the EPA in order to obtain an environmental permit for their exploration activities. This report usually outlines the actual and potential impacts of the exploration activities and the measures in place to avert and/or minimize them. Upon receiving the EIA report, the EPA convenes a meeting to review the report. If satisfied with the details of the report, the permit is approved and issued to the petroleum company.

4.3.2.3 Appraisal

When exploratory drillings result in hydrocarbon discoveries, petroleum companies are required to notify the government of Ghana, via the sector minister (usually represented by the PC), and GNPC in writing thirty days after the discovery (WCTP Petroleum Agreement 2004). They are further required to indicate, within one hundred days after the discovery, whether or not the discovery merits appraisals (WCTP Petroleum Agreement 2004). The petroleum companies submit an Appraisal Programme to the sector Minister, via the

Petroleum Commission, and are given two (2) years from the date of discovery to finish with the appraisal (i.e. upon approval of their Appraisal Program) (WCTP Petroleum Agreement 2004).

Hydrocarbon appraisal is critical because it helps the petroleum companies to establish whether the hydrocarbon resource (i.e. the volume, composition, etc.) are economically and commercially viable (Morten *et al.* 2012; Rahimpour-Bonab 2007). To arrive at such conclusions, the petroleum companies drill appraisal wells and conduct a series of tests to appreciate the characteristics of the reservoir, and also to optimize the various scenarios essential for the development of the field (Morten *et al.* 2012; Behrenbruch 1993). Furthermore, in conjunction with the governing regulatory mechanisms, together with the global market indicators, the petroleum companies determine the rate of production and other relevant trade indices during this stage.

4.3.2.4 Development

This stage in the lifecycle of the petroleum project is triggered when the findings of the appraisal indicate an economically recoverable field. The development of the field mainly comprises the construction and regular maintenance of the necessary production infrastructure needed to extract the hydrocarbon resources (Litvak *et al*. 2007; Neff *et al.* 1987). The development of the petroleum field is vastly capital intensive; often costing hundreds of millions of dollars, and spanning multiple years (Behrenbruch 1993).

Prior to the construction of the infrastructure, the petroleum companies are required to submit a Plan of Development (PoD) to the Petroleum Commission (WCTP Petroleum Agreement 2004; and ACT 919). This PoD usually outlines the actual infrastructure to be constructed: the timelines; costs; sources of funding; the number of wells to be drilled; the extraction and separation techniques; and the mechanisms in place to avert and/or curtail any environmental damage (Zhao *et al*. 2010; Yongde & Xueqiang 2008; WCTP Petroleum Agreement 2004; Behrenbruch 1993). When considered satisfactory, the PoD is approved by the PC, usually on behalf of the sector Minister, before development may commence.

4.3.2.5 Production

The Production stage entails the actual extraction of hydrocarbons from the reservoir. The offshore fields in Ghana are operated by FPSOs, therefore the extracted crude is stored in these large marine vessels until they are offloaded to the Anchorage Area for liftings. Presently, Ghana is producing oil from three fields – the Jubilee Field; the Tweneboa-Enyenra-Ntomme (TEN) field and the Sankofa field (Skaten 2018). As is the case with most of the Petroleum Agreements, it is at this stage that petroleum companies pay royalties to the Government of Ghana (e.g. WCTP Petroleum Agreement 2004).

4.3.2.6 Decommissioning

Within the jurisprudence of Ghanaian law, petroleum companies have the exclusive duty to decommission their hydrocarbon fields at the end of their petroleum projects (WCTP Petroleum Agreement 2004), and to reinstate the areas of operations to their pre-lease conditions (Section 48 of HSE Regulation 2017; Day & Gusmitta 2016; WCTP Petroleum Agreement 2004). Decommissioning, in principle, marks the final stage in the lifecycle of every petroleum project. Usually, during this stage, the wells that were drilled in the seabed are plugged and the production infrastructure, together with the pipeline risers are disconnected (Day & Gusmitta 2016; Zawawi *et al.* 2012). The disconnected materials are either safely stored, recycled, treated (i.e. in the case of toxic materials), or safely disposed of in appropriate sites (Day & Gusmitta 2016; Zawawi *et al*. 2012). Subsequent to these activities, a decommissioning reconnaissance survey is conducted, not only to ensure that the marine environment and the seabed are returned to their pre-lease statuses but also to ensure that the decommissioning process leaves no debris which may present both environmental and physical harm (ERM 2014a). Since decommissioning activities can lead to significant environmental impacts (Nåmdal 2010; Ekins *et al*. 2006), they are usually undertaken with extreme caution, so as to avert any environmental impact. To ensure this, prior to the decommissioning process petroleum companies are required to prepare a decommissioning plan (WCTP Petroleum Agreement 2004), which is evaluated and approved by the PC before the process may commence. Prior to the approval of the decommissioning plan, the petroleum companies need to submit to the EPA, a detailed EIA report, after which an environmental permit for the decommissioning activities will be issued, provided the EIA report is satisfactory (EAR 1999). During each of these stages the

relevant regulatory agencies are required to conduct periodic audits to make sure that the petroleum companies comply with the applicable regulatory mechanisms (ACT 919), as well as the conditions stipulated in their respective permits.

4.3.3 Significance and Implications of Hydrocarbon Resources to Ghana

Over the years, Ghana has made various attempts to find oil, but it was not until 2007, as mentioned earlier, that high-value deposits of hydrocarbons in commercial quantities were discovered. Since this discovery, hydrocarbon resources have become part of the nation's rich natural resources alongside gold, cocoa and timber. The actual significance of the Jubilee Field discovery, for that matter hydrocarbon resources to Ghana, can be inferred from the introductory remarks of Chuck Neubauer's Washington Times report (Neubauer 2010), when he noted;

> In 2007, in the deep waters off the coast of Ghana, a small US-based oil exploration company named Kosmos Energy hit the mother lode – a vast reservoir of oil now known as the Jubilee Field. The extraordinary find was among West Africa's largest, promising to make a fortune for Ghana and Kosmos, and flaming the possibility of turning the famous Gold Coast into a multimillion barrel spigot of black gold.

Like the attainment of independence, the announcement of the Jubilee discovery was met with exceptional celebrations (Addei *et al.* 2010). The excitement and jubilation about the discovery seemed duly reasonable, considering the promise it held for the nation. Without a doubt oil resources are of great economic value, and their presence in any country has the propensity to foster massive development. Former Presidents, John Agyekum Kuffour and the late Professor John Evan Atta Mills, vowed to the Ghanaian people that during their respective terms in office, they would ensure that the oil resources would benefit all Ghanaians, and that, in no way will the resource transform into a 'curse'. In 2010, Ghana started producing oil, and since then the industry has impacted the nation both positively and negatively.

The opportunities accompanying the discovery appear to have impacted the lives of many Ghanaians, and this can be seen from the country's economic position. Obeng-Odoom (2014), citing Ghana's Ministry of Finance and Economic Planning (2012), notes that the

provisional growth in GDP almost doubled when Ghana started producing oil from the Jubilee Field: The GDP grew from 7.5 percent (i.e. pre Jubilee discovery) to 14.4 percent (i.e. post Jubilee discovery) (Andrews 2013). It was also disclosed by the Ghanaian government that about 3500 oil and gas related jobs were created in the years following the Jubilee Field discovery. Investigations by Darkwah (2013), and Ablo (2012), however, show that this figure is far below expectations. That notwithstanding, as of 2014, the (then) Petroleum Ministry revealed that the oil and gas industry had employed 7200 personnel of which 5400 were Ghanaians (GhanaBusinessNews 2016).

The Jubilee discovery has also led to numerous infrastructural developments. Major cities, especially those within Ghana's Western region (e.g. Sekondi-Takoradi) have either had or been earmarked for massive infrastructural development to meet the needs of both local and foreign nationals. There have been new constructions amidst the renovation of old facilities and social amenities – shopping malls, roads and railways to mention but a few (GhanaBusinessNews 2016). Educational services, such as the Kikam Technical Institute that provide oil and gas education to Ghanaian nationals, have been on the rise since the Jubilee discovery. Also, some existing tertiary institutions like the Takoradi Technical Institute and the Regional Maritime University have revised their curricula to include oil and gas modules, and this seems to have attracted a lot of interest from people who aspire to work in Ghana's fledgeling oil and gas industry.

The impact of the nation's oil and gas industry on the hospitality industry has been massive, with deep impacts on the acquisition of lands and houses, especially within the Western Region. Works of Yalley & Ofori-Darko (2012) and Edem (2011), indicate that the price of land and houses has sky-rocketed since the oil discovery. Individuals and groups who engage in land and house rental businesses seem to have profited and keep profiting from this effect. For instance, in Takoradi, Panford (2014), noted the exorbitant prices of landed properties. He recorded that a single family home was priced at approximately US$ 1.1 million, while the monthly rent for modern two or three bedroom apartments was in the region of US$ 3,000 and US$ 4,000.

Even though most of the beneficial impacts spurred by the oil and gas industry may not be readily assessed, most of the known benefits are very unevenly distributed. Only a fraction of residents are able to identify and access most of the opportunities provided by the industry. Among the disadvantaged people who are often less endowed, not only do they lack access to the opportunities provided by the industry, they usually receive the heaviest of the numerous adverse impacts generated by the industry. These adverse impacts have produced several challenges that persistently affect the lives of many Ghanaians, particularly, those living in close proximity to the oil fields.

Like most rural residents, the main occupations of the local people around Ghana's oil fields are fishing and farming. As a result, the establishment of the 5 nautical miles (5nmi) radius 'Areas to be Avoided' around the oil fields has heavily impacted the source of livelihood of local fishers (ERM 2014a). Moreover, the light that emanates from the offshore platform usually attract the fish in the vicinity of the oil platform (GhanaBusinessNews 2016; Ackah-Baidoo 2013). Fishers, thus, have to travel further into the Atlantic Ocean in order to catch a satisfactory amount of fish, both for sale and consumption. This takes a significant toll on their meagre incomes as they spend almost all of it on buying fuel to power their canoes. There have also been instances of conflicts at sea between fishers, as they compete for maritime spaces for their fishing expeditions. Additional reports from the mainstream media have also revealed that several fishers have met their untimely deaths as a result of accidents with oil and gas transporting vessels (GhanaBusinessNews 2016).

Away from the marine environment, the oil and gas industry has also generated significant impacts on land. Without compensation, many farmers have lost their lands to the government through forceful and sometimes deceptive acquisitions for on-land oil and gas related facilities (e. g. the Atuabo Gas Plant in Nzema) (Larbi 2008). Additionally, restrictions have been imposed on areas that surround these facilities, and this inconveniences many farmers. In addition to the loss of livelihoods, mainly due to the loss of their cultivable lands, local residents are also vulnerable to losing their indigenous cultures and heritage, through the forced detachment from their lands. This is particularly evident in mining communities in Ghana (Hilson 2002). The combination of these

eventualities has already created some socio-economic problems in those regions (Panford 2014).

Closely linked to the Jubilee discovery is the issue of increased migration into the Western Region and its accompanying social problems (ERM 2014a). This resultant 'mad rush' into the region was characterized by the progressive surge in rental prices and the increased sale of houses and lands. Hagan (2014, p. 54), confirmed this situation as a quote from one of her interviewees testifies:

> Landlords are increasing their rent prices. Since 2007 I can say that every year my rent goes up. The landlords forget that we are not part of the foreigners but they are still taking advantage of these foreigners coming in and increasing the rent. This is not fair to us. First, we lose our jobs then our rent too goes up. All because of one oil.

This effect has consequently created higher costs of living in the region (ERM 2014a), forcing many of the original residents to either stay in the region and pay the exorbitant rents or move into less desirable areas of the region, which are also gradually becoming expensive. Crime rates and prostitution activities in the Western Region have also been on the increase as a result of the oil find (GhanaBusinessNews 2016).

The nexus between the exploitation of hydrocarbon resources and environmental pollution has been well documented (Pegg & Zabbey 2013; Merlin 2005; Ornitz & Champ 2002; Gin *et al*. 2001; Mackay & McAuliffe 1989; Michel *et al.* 1978). Oil and gas operations, often, produce impacts that threaten the endowed country's environmental sanctuary. Most of these impacts are irreversible, with long term effects on ecosystems, food quality, and businesses that rely on the natural environment – farming, fishing and tourism. Consequently, these impacts affect the country's socio-economic, political and cultural securities (Armah *et al.* 2010; Aroh *et al*. 2010). The rich biodiversity of the Western Region of Ghana (Page 2013), is thus threatened by the impacts of oil and gas operations. Sensitive natural features within the region, such as hydrological bodies, tidal floodplains, vegetation and coastal lands run the risk of pollution from oil and gas operations (Sowa 2019). Congruent with simulation results from Tullow Oil, the principal areas that are likely

to be affected by oil pollution are mainly the coastal communities located west of the Cape Three Points (Sowa 2019). These are mainly towns within the Nzema East Municipal and the Ahanta West District (Sowa 2019; Tullow Ghana Ltd. 2010). The towns located in these districts are impoverished and under-resourced. The inhabitants largely rely on fishing and farming for sustenance. Environmental impacts due to oil and gas operations will, potentially therefore, engender adverse impacts on these inhabitants and their fragile sources of livelihoods.

Previous studies have shown that in seriously affected places, particularly in farming areas, the soil is rendered less fertile due to the destruction of essential plant-sustaining nutrients (Odu & Offodum 1977). The extent of soil damage is however contingent upon the amount of pollution. Farmers in such areas will gradually lose their sources of livelihood. This has been the experience in Ogoniland in Nigeria's Rivers State (Onyeike *et al.* 2002; Idowu 1999). Likewise, empirical studies have shown that vegetation within a certain proximity of gas flare points sustains significant impacts that substantially affect the growth and yield of crops (Dung *et al.* 2008).

Furthermore, the potential pollution of the marine environment can also have negative implications for populations that depend on it for their daily livelihoods. Marine species harvested during the upwelling[17] periods may be impacted. Fish, their eggs and larvae, as well as juvenile fish that reside in the Ehnuli and Amansure lagoons, and those within shallow waters are vulnerable to marine pollution (Tullow Ghana Ltd. 2010). Due to the toxicity of the crude oil components, these marine species are likely to be poisoned and killed should there be an oil spill. In addition, those marine species that react to pollution by emigrating will cause a decline in their species. As a result, fishers will have less catch, poisoned catch or both. Since 2009, over thirty whales have washed up on to the shores of some coastal communities in Ghana (GhanaBusinessNews 2016), and these have been

[17] The term upwelling refers to the oceanographic phenomenon which describes the motion of dense, cooler, and typically nutrient-rich water from the ocean depths towards the surface, displacing the usually warmer, nutrient-depleted water on the ocean surface. This phenomenon is characteristic of Ghana's coast, particularly, the west coast. Upwelling within Ghana's coastal waters is facilitated by the Guinea Current (i.e. the predominant ocean current in the region), which flows towards the eastern direction nearly along latitude 3^0N. In Ghana, there are two upwelling seasons (i.e. major and minor upwelling seasons) which mark a surge in marine biological activities (See Roy, 1995; Bakun, 1978; Ingham, 1970).

attributed to hydrocarbon activities. These incidences, coupled with the fear of seafood contamination will decrease the patronage of seafood products, and traders of such products are likely to incur massive losses (Manu 2011). Progression of this issue will inevitably cause unemployment, and worsen the poverty level in the area (Ojowu *et al.* 2007).

Oil and gas impacts are also known to create serious health and safety related problems for humans and other living species (Ekins 2011; Wu 2012), especially those whose sustenance and survival depend on the safety of the natural environment (Frazzoli *et al.* 2010; Aroh *et al*. 2010). For instance, residents of Anokye in Ghana, as well as those in close proximity to the Jubilee Field have been reported to complain about the extreme temperatures generated by gas flaring activities (GhanaBusinessNews 2016). The ensuing impacts of such operations have also resulted in numerous skin and respiratory complications.

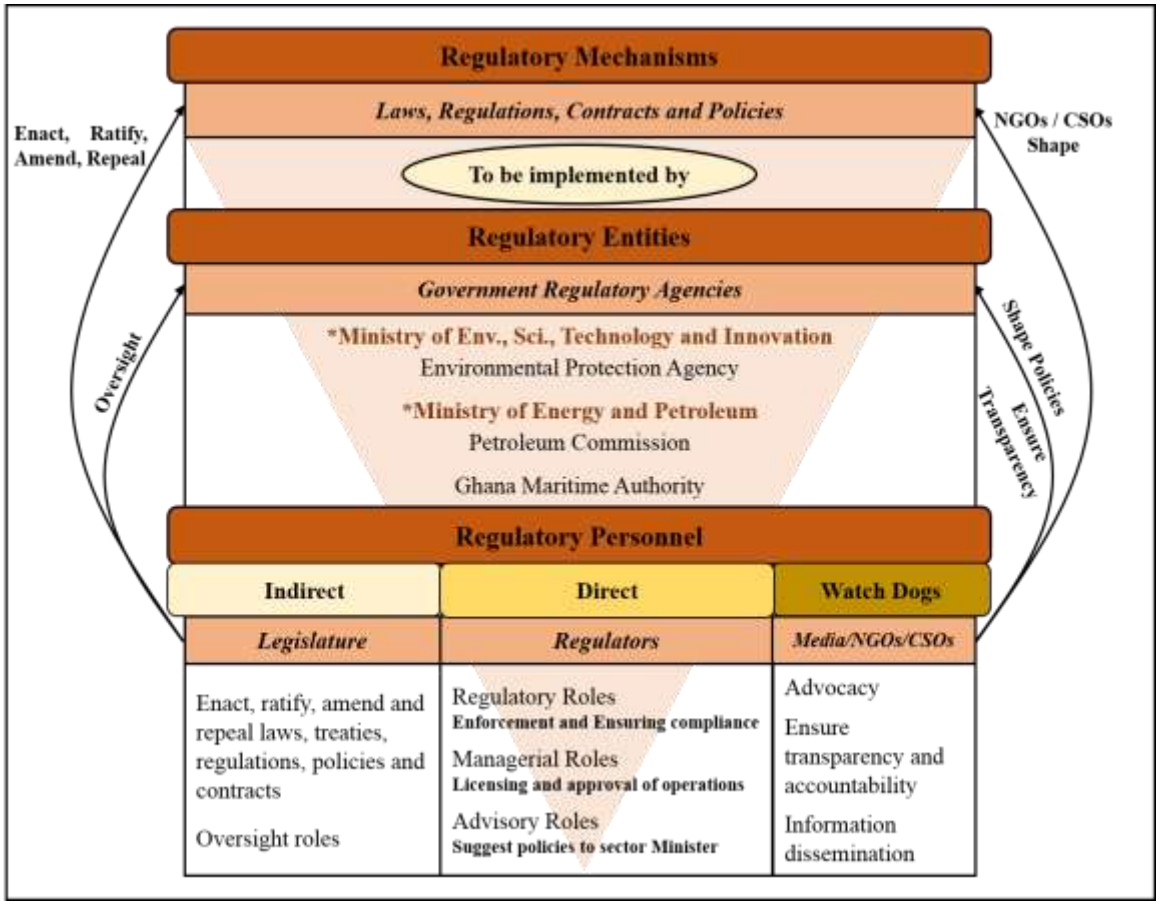
Additionally, beaches within the districts that serve as habitats for migratory and resident birds face the threat of pollution as a result of oil beaching. Beaches that serve as recreational centres may be heavily affected by episodes of oil spills. The tourism sector that depends on such beaches for revenue could be deeply affected (Obeng-Odoom 2014a). Initiating emergency response actions may be challenging, largely due to the rural nature and difficulties in accessing these 'highly likely to be affected towns'. This challenge could create delays to clean up operations which may further worsen the pollution problem.

In 2016, oil exploration in the Volta Basin was approved by the Ghanaian Parliament (Myjoyonline 2016a). However, largely due to the lessons learned from neighbouring Nigeria, as well as the Kosmos waste discharge, residents of the Keta Municipality have been sceptical and have protested the approval; describing it as "evil" (Myjoyonline 2018a). One protester lamented that "…this evil contract is not in the interest of the community" (Myjoyonline 2018a). This is because the majority of the residents depend on fishing, and the introduction of the petroleum operations will negatively impact their livelihoods. According to one news report, Mr Koshi Kwawu Kumi, the Executive Director (ED) of the Centre for Natural Resources and Environmental Management, also noted that "oil exploration in the fragile ecosystem will not in any way benefit the citizens of Anlo land." (Myjoyonline 2018a)

4.4 Environmental Regulatory System Governing Ghana's Upstream Petroleum Industry

As elaborated in Chapter 2 (Figure 2.1), a typical regulatory system entails regulatory mechanisms, regulatory entities and regulatory personnel. This section elaborates the environmental regulatory system governing Ghana's upstream petroleum industry, as shown in Figure 4.4.

Figure 4.4: The Environmental Regulatory System Governing Ghana's Upstream Petroleum Industry



Note – The Ministries of Energy and Petroleum (MoEP), and Environment, Science, Technology and innovation (MESTI) are parent Ministries that oversee the subordinate agencies under their respective jurisdiction.

Author's Construct

4.4.1 The Regulatory Mechanisms in Ghana's Upstream Petroleum Industry

The regulatory system employed in Ghana's upstream petroleum industry, to a large extent, determines how operations, challenges and dynamics in the industry impact the country's political, economic, environmental and socio-cultural keystones. The regulatory system further outlines the opportunities necessary for the effective functioning of the industry, as it prescribes the responsibilities expected of all the players in the industry across the entire petroleum value chain (Al-Kasim *et al.* 2008). The literature notes that within a regulatory system, the type of legal mechanisms is crucial (Braithwaite 2006; Botero *et al.* 2004), to the effectiveness of the regulatory system. Accordingly, in the Republic of Ghana, the fundamental laws are enshrined in the 1992 Constitution – the year marking the commencement of Ghana's democratic rule. Ghana's Constitution is a crossbreed of Britain and the United States' Parliamentary and Presidential systems of government, respectively – as it adopts applicable precepts from both. Article 11 (1) of the constitution, explicitly states that;

> the laws of Ghana shall comprise (a) [the] Constitution; (b) Enactments made by or under the authority of the Parliament established by [the] Constitution; (c) Any Orders, Rules and Regulations made by any person or authority under a power conferred by [the] Constitution; (d) The existing law; and (e) The common law (Constitution 1992)

By this provision, Ghanaian laws comprise the various laws outlined in the 1992 constitution; legislation, including rules and regulations designed by executive agencies, enacted by parliament; existing laws (laws which were in force before the adoption of the constitution); and common laws (laws resulting from judicial precedents and not statutes). While not being detailed, the constitution outlines the essential principles, values, requirements and procedures about how the nation and its affairs should be managed. Legislation is then designed to address different aspects of the law, and this is done via a collection of Legislative Instruments (LIs) (Aryeetey 2004). Among other functions, these LIs set out institutional frameworks, establish government (regulatory) agencies and confer onto them legal mandates to execute the duties specified for them within the remits of the generic laws outlined in the Constitution. For instance, on environmental protection, the Constitution (1992), in Article 36 (9) states that;

> The State shall take appropriate measures needed to protect and safeguard the national environment for posterity; and shall seek cooperation with other states and bodies for purposes of protecting the wider international environment for mankind.

This provision is operationalized in part by the enactment of the EPA Act (Act 490) by Parliament, and the consequent establishment of the Environmental Protection Agency. The LIs however, are also limited in detail and thus, the government agencies they set up (in this case the EPA) are empowered to design regulations that contain the needed details to operationalize the laws within the constitution. These regulations, which set out procedural arrangements, operational codes of conduct, minimum requirements and other essential details that are necessary for the implementation of the laws outlined in the constitution, are more specific than the generic laws in the constitution. Upon completion, draft regulations are 'laid before Parliament, published in the Gazette on the day it is laid before Parliament, and [brought] into force at the expiration of twenty-one sitting days after being so laid unless Parliament, before the expiration of the twenty-one days, annuls the [Regulation] by the votes of not less than two thirds of all the members of Parliament' (Constitution 1992).

In relation to the actual regulatory mechanisms governing Ghana's petroleum industry, a number of laws, legislative instruments and regulations have been passed by Ghana's Parliament to elicit behaviours needed to protect the country's natural environment. Whereas some of these provisions outline legal requirements, others offer legal support and enforceability of some key provisions. Table 4.1 presents some of the main legal provisions with environmental protection components used in the upstream sector of Ghana's petroleum industry (Domfeh 1999). Complementing these, the Ghana Standards Authority (GSA) (previously called the Ghana Standards Board [GSB]) has also adopted a few ISO standards which are used to govern the petroleum industry. The Authority, at the time of writing this thesis, was in the process of finalizing the adoption and deployment of other applicable ISO standards. Table 4.2 illustrates a sample of these standards. It is worth noting that Ghana is a signatory to a couple of international conventions concerning the protection of the natural environment (Kloff & Wicks 2005). A few of these conventions are outlined in Table 4.3.

Table 4.1 Some Direct and Indirect Regulatory Mechanisms Governing Petroleum Activities in Ghana.

Legal Provision	Description
Constitution 1992, Article 12 (1)	Uphold and respect fundamental human rights
Constitution 1992, Article 36 (9)	Protect and safeguard the national and international environments for posterity and all mankind
Constitution 1992, Article 36 (10)	Protect the health, safety and welfare of all workers and facilitate capacity building
(AFRCD 47) 1979	Economic Plants Protection Act
(NRCD 224) 1973	Ghana Tourist Control Authority Act
(PNDCL 84) 1984	Petroleum (Exploration and production) Law
(PNDCL 84)	Minerals and Mining Law
(Act 43) 1961	Wild Animals Preservation Act
(Act 235) 1964	The Oil in Navigable Waters Act
(Act 64) 1983	Ghana National Petroleum Corporation Act
(Act 462) 1993	Local Government Act
(Act 483) 1994	Lands Commission Act
(Act 522) 1996	Water Resources Commission Act
(Act 583) 2000	Forest Plantation Development Fund Act
(Act 651) 2003	Labour Act
(Act 815) 2011	Petroleum Revenues Management Act
(Act 821) 2011	Petroleum Commission Act
(Act 919) 2016	Petroleum (Exploration and Production) law
(Acts 61and 692)	Volta River Development Act, 1961 and Amendment Act, 2005
(LI 221) 1957	Oil and Mining Regulations
(LI 256) 1963	Mineral (Oil and Gas) Regulations
(LI 257) 1963	Mineral (Offshore) Regulations
(LI 1652) 1999	Environmental Assessment Regulations
(LI 2204) 2013	Petroleum (Local Content and Local Participation) Regulations
(LI 2257) 2017	Petroleum (Exploration and Production) (Data Management) Regulations
(LI 2258) 2017	Petroleum (Exploration and Production) Health, Safety and Environment Regulations
(LI 2359) 2018	Petroleum (Exploration and Production) General Regulations
	National Water Policy, June 2007
	Model Petroleum Agreement

Source: Petroleum Commission 2017b; Domfeh 1999

Table 4.2: ISO Standards (Adopted or Yet-To-Be-Adopted) by the Ghana Standards Authority (GSA).

ISO Number	Description	Status
ISO 17078-2	Petroleum and natural gas industries -- Drilling and production equipment -- Part 2: Flow-control devices for side-pocket mandrels	Adopted
ISO 13628-3	Petroleum and natural gas industries -- Design and operation of subsea production systems -- Part 3: Through flowline (TFL) systems	Adopted
ISO 4512	Petroleum and liquid petroleum products -- Equipment for measurement of liquid levels in storage tanks -- Manual methods	Adopted
ISO 22201:2009	Lifts (elevators)- Design and Development of Programmable Electronic Systems in Safety-Related Applications for Lifts (PESSRAL)	To be adopted
ISO 14006:2011	Environmental management system-Guidelines for incorporating eco-design	To be adopted
ISO 13628-4:1999	Petroleum and natural gas industries — Design and operation of subsea production systems — Part 4: Subsea wellhead and tree equipment.	To be adopted

Source: Ghana Standards Authority 2017

Table 4.3: Some International Conventions to which Ghana is a Signatory

International Conventions	Year
International Convention on Oil Pollution Preparedness, Response and Cooperation	1990
United Nations Convention on the Laws of the Sea	1982
The International Convention for the Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region – the Abidjan Convention	1981
The International Convention for the Prevention of Pollution from Ships (MARPOL Convention 73/78)	1973 / 1978
International Convention on the Establishment of an International Fund for Compensation of Oil Pollution Damage	1971
International Convention on Civil Liability for Oil Pollution Damage	1969
International Convention for the Prevention of Pollution of the Sea by Oil	1962

Source: Kloff & Wicks 2005

4.4.2 The Regulatory Entities – Government Regulatory Agencies

The government regulatory agencies of interest to this present study are those agencies responsible for the formulation and enforcement of (specific) regulations and policies directed at the petroleum industry. These are the Ministry of Energy and Petroleum

(MoEP); Ministry of Environment, Science, Technology and Innovation (MESTI), Petroleum Commission (PC); Environmental Protection Agency (EPA) and the Ghana Maritime Authority (GMA). Each of these entities will be discussed below as they pertain to the upstream petroleum industry in Ghana.

Ministry of Energy and Petroleum (MoEP)

Ghana has strived to achieve equitable economic growth and accelerated poverty reduction, and energy has played a vital role in this endeavour. In order to attain energy independence, as well as expedite and sustain the nation's developmental agenda, the Ministry of Energy and Petroleum was created. This Ministry is charged with the duty of developing and executing strategic energy policies in Ghana. It also controls the monitoring, coordination and appraisal of energy plans, projects and policies in the country. Even though MoEP performs several functions, this study focuses on its mandate over Ghana's upstream petroleum industry. Within the petroleum sector, MoEP is mandated to approve and disapprove the issuance of licenses to oil and gas companies who intend to explore and extract crude oil from Ghana. Additionally, upon the issuance of licenses to operate, the Ministry further coordinates exploration and production (E&P) operations, including the management of accrued revenue. MoEP works closely with other Ministries and government agencies to handle specific areas of the industry. MoEP performs its functions mainly by overseeing and harmonizing the activities of government agencies that have been established to achieve specific objectives related to the energy sector.

Ministry of Environment, Science, Technology and Innovation (MESTI)

In 1993, under the fourth republic of Ghana's democratic rule, the Ministry of Environment and Science was created as one of government's machinery to safeguard the environment and promote sustainable development, founded on 'scientific principles'. The Ministry was, however, dissolved in 2006 and reconstructed in January 2009, as the Ministry of Environment, Science and Technology (MEST). In 2013, a new Innovation portfolio was added to the Ministry and was accordingly renamed as the Ministry of Environment, Science, Technology and Innovation (MESTI). The principal aim of MESTI is to "promote sustainable development by deepening and strengthening market-driven research and development (R&D) for sound environmental governance, science, technology and

innovation through intensive awareness creation, collaboration and partnership." (MESTI 2015)

Petroleum Commission (PC)

The Petroleum Commission was established by an Act of Parliament (Act 821) in July 2011 (PC-Act 2011), with a mission to "promote, regulate and manage the efficient conduct of upstream petroleum operations and all allied activities and the utilization of petroleum resources on a sustainable basis for the overall benefit of the citizens of Ghana" (Petroleum Commission 2017a). The functions of the Commission are outlined in Section 3 of the *Petroleum Commission Act* (Act 821). The obligation is to obtain optimum returns from Ghana's hydrocarbon resources; shield Ghanaians from adverse impacts; and include as many Ghanaians (and indigenous companies) in the country's petroleum industry. It is therefore not surprising that Section 3 (a and f) of the PC Act (PC-Act 2011), require the Commission to promote sustainable and cost-effective petroleum operations in Ghana, with the participation of local content.

As part of its duties, the PC is to ensure that operating petroleum companies comply with Health, Safety and Environmental (HSE) regulations; fiscal metering policies; petroleum infrastructure utilisation; and general regulations and policies concerning oil and gas operations in Ghana. The Commission is also required to monitor petroleum operations and conduct compulsory inspections and appraisal of related activities. PC is also authorized to perform administrative roles. This includes the issuance of licenses for E&P activities; evaluation and approval of appraisal programs; acquisition, storage and management of the country's petroleum repository; analyses, preparation and (periodic) dissemination of petroleum information and forecasts. The PC is further required to advise the government through the sector Minister on any issue that affects the nation's petroleum activities. The Commission can advise the government on the best moves to make and the directions to take with respect to cost-effective and environmentally friendly oil and gas operations in the country.

The Petroleum Commission is headed by a Board, whose members are appointed by the President of the Republic of Ghana under Article 70 of Ghana's constitution. The first-ever

Board of the Commission was appointed by Ghana's former President, the late Prof. John Evans Atta Mills on November 24, 2011 (Twumasi-Anokye 2013). The Board is composed of a Chairperson; a Chief Executive Officer (CEO); an EPA representative (whose rank is at least, Director); a representative of the Institution of Geoscientists (usually nominated by the Institute); and three other people (with at least one woman). Besides the CEO of the Commission, each member of the Board has a maximum of three years to serve on the Board. Upon expiration of the three-year term, members can be re-appointed for another three-year term, after which they become ineligible to be part of the Board. The President has the authority to dismiss a Board member or dissolve the entire Board if there is substantial evidence that warrants that action.

Environmental Protection Agency (EPA)

Ghana may be regarded as one of the first Sub-Saharan African (SSA) countries to establish an environmental monitoring institution. In 1974, under the auspices of the Ministry of Finance and Economic Planning (MFEP), the Environmental Protection Council (EPC) was established. The establishment of this environmental monitoring body is believed to be motivated by the United Nations Conference on the Human Environment (UNCHE) held in Stockholm – Sweden in 1975 (Boon 1998). Prior to the creation of the Council, there were several environmental safety regulations which were being enforced by different public bodies. Regarded as Ghana's first ever environmental monitoring institution, the EPC was formed to coordinate and direct the environmental regulatory activities of these public bodies, since their regulatory mandates were scattered. The EPC was also established to advise the government on relevant environmental matters as they may impact the nation's developmental agenda.

Being mainly an advisory body, the Council had no legal authority to enforce environmental regulations (Hens & Boon 1999). As a result, in 1994 the *Environmental Protection Agency Act* (Act 490) was enacted (EPA-Act 1994), under which the EPA was officially established on 30th December 1994 (EPA 2017), and conferred with exclusive regulatory and enforcement mandates (Hens & Boon 1999). This move was in part due to the government's recognition of the environment as an indispensable asset essential for national development.

Presently, the EPA is the principal public agency in Ghana in charge of protecting the country's natural environment. As part of its constitutional directive, the EPA is supposed to respond to the identified adverse environmental externalities of the operations of companies; devise or certify companies' strategies that are aimed at pre-empting or mitigating pollutions of the natural environment and natural resources; and also ensure compliance from regulated companies by monitoring their operations. The Agency, headed by a 13-member Board that is appointed by the President (EPA 2017), has offices in every district in the country (Marful-Sau 2010). The Board is composed of a chair; an executive director (ED); a representative of the Council for Scientific and Industrial Research (CSIR) – whose rank is, at a minimum, a Principal Research Officer; a representative of the GSA, – whose rank is, at a minimum, a Principal Scientific Officer; a representative each from the Ministries responsible for the Environment, Local Government, Finance, Health and Education (whose ranks are, at a minimum, a Director); a representative of the Association of Ghana Industries (AGI); three people with expertise in finance or commerce (with at least one woman). The daily management of the Agency nonetheless, is supervised by an Executive Director (i.e. an ED) and seven divisional heads (i.e. Directors).

As the name implies, the functions of the EPA require it to promote and ensure the safety and security of the natural environment of Ghana. This comprises the terrestrial, atmospheric and marine environments. Thus, the Agency advises government, through appointed sector Ministers, on the preparation and sometimes approval of strategic environmental programs that will enhance the protection and sustenance of the natural environment. They recommend different policies depending on the sources of environmental stressors and the sectors involved.

Ghana Maritime Authority (GMA)

The Ghana Maritime Authority (GMA) is responsible for regulating maritime activities and ensuring the safety and wellbeing of Ghana's marine environment. The GMA was formed in 2002 under the *Ghana Maritime Authority Act* (Act 630) (GMA-Act 2002). The Authority is headed by a Board – the GMA Board – which is made up of the Chairperson; the Director-General (DG) of the Authority; a representative each from the Ministry of Roads and Transport, Fisheries Commission, Ghana Navy, Volta River Authority, EPA the

Ghana Ports and Harbours Authority; and a member each selected by members of the Ghanaian Registered Ship Owners and Ghana Institute of Freight Forwarders (GIFF). The GMA is charged to monitor, regulate and coordinate all maritime activities that are likely to impact Ghana's marine environment. In executing its constitutional mandate, the GMA works to identify and avert marine source pollutions; and swiftly reacts to incidents that occur within Ghana's marine environment.

4.4.3 Regulatory Personnel in Ghana's Upstream Petroleum Industry

In Ghana's upstream petroleum industry, as elaborated in Figure 4.4, the regulatory personnel are made up of both direct and indirect regulatory personnel. While Article 109 (1) of Ghana's Constitution (1992), explicitly states that 'Parliament *may* by law regulate professional, trade and business organisations', the directness and proximity to regulatory functions (i.e. ratify, promulgate, amend and/or repeal existing regulatory mechanisms when deemed necessary) makes Parliament (i.e. the legislature) an indirect regulatory entity. The legislature is also empowered under Article 103 (1) of the Constitution to conduct oversight functions, *vis-à-vis* the establishment of special Parliamentary Committees that supervise the activities of state entities. The Constitution further requires that each Member of Parliament shall be a member of at least one of the standing committees (Article 103 (4), Constitution 1992); and that each committee shall have the powers, rights and privileges of the High Court or a Justice of the High Court at a trial (Article 103 (6), Constitution 1992).

To exemplify this, when it comes to energy and mining, the Parliamentary Select Committee on Mines and Energy is the committee empowered to perform such oversight functions. The Committee meets periodically with the leadership of the respective government agencies and deliberates on work schedules, performances and other relevant issues, as they impact the entities' general functions. In instances where there are issues to be investigated, committees are set up to investigate; come out with findings and make recommendations. Upon the termination of the investigation, and perhaps the case, the committee is dissolved.

The direct regulatory personnel, on the other hand, are the actual regulators employed into specific government regulatory agencies. In many instances wherein there are no regulations to guide the operationalization of relevant laws, the regulators take the legislation's mandate, and in consultation with relevant stakeholders and experts, create the details and guidelines necessary for the implementation of those laws. The regulations, when drafted, pass through a series of bureaucratic processes before finally being enacted by the legislature. Regulators are also empowered to issue permits to regulated companies that satisfy certain minimum requirements. The permits they issue go beyond the governing regulations, and further outline the specifics of the requirements.

4.5 Actors in Ghana's Upstream Petroleum Industry

Besides the government regulatory agencies (and their regulators), the main actors in Ghana's upstream petroleum industry comprise mainly of the operating upstream petroleum companies. There are also private firms that provide the petroleum companies with relevant services such as waste management services. Moreover, the fourth estate and non-governmental and civil society organizations (i.e. NGOs and CSOs) also participate in Ghana's upstream petroleum industry by engaging in advocacy programs and creating public awareness on petroleum operations and environmental safety.

4.5.1 Upstream Petroleum Companies

For the purpose of this study, the operating upstream petroleum companies, that were registered by the Petroleum Commission as at 2015, include the GNPC, Kosmos Energy (Ghana), Tullow Oil (Ghana), Eni (Ghana), Erin Energy Corporation, Eco Atlantic Oil and Gas Limited, Sahara Group, Hess Corporation, Springfield Group, Swiss African Oil Company Limited, Amni International Petroleum Development Company Limited, Saltpond Offshore Producing Limited, UB Resources Limited, Medea Development Limited, AGM Petroleum and Heritage Oil Limited (Petroleum Commission 2018).

The Government of Ghana has awarded ExxonMobil the Deepwater Cape Three Points block to engage in hydrocarbon operations. Also, in February 2018, Aker Energy, a Norwegian oil company, acquired Hess's stake in the Deepwater Tano Cape Three Points block in a USD 100 million deal (Fitch Solutions 2019). Having completed all the necessary

acquisition and licensing procedures, Aker discovered the Pecan-4A Field and is expected to commence production sometime in late 2021 or early 2022 (Joybusiness 2019b; Fitch Solutions 2019). Given the timing of Exxon and Aker's arrival into Ghana's upstream industry, they are not considered as part of this study. Furthermore, even though there are service companies that operate within the upstream sector they are not directly considered in this study. Table 4.4 depicts the upstream petroleum companies in Ghana.

Table 4.4: Petroleum Companies in Ghana's Upstream Petroleum Sector

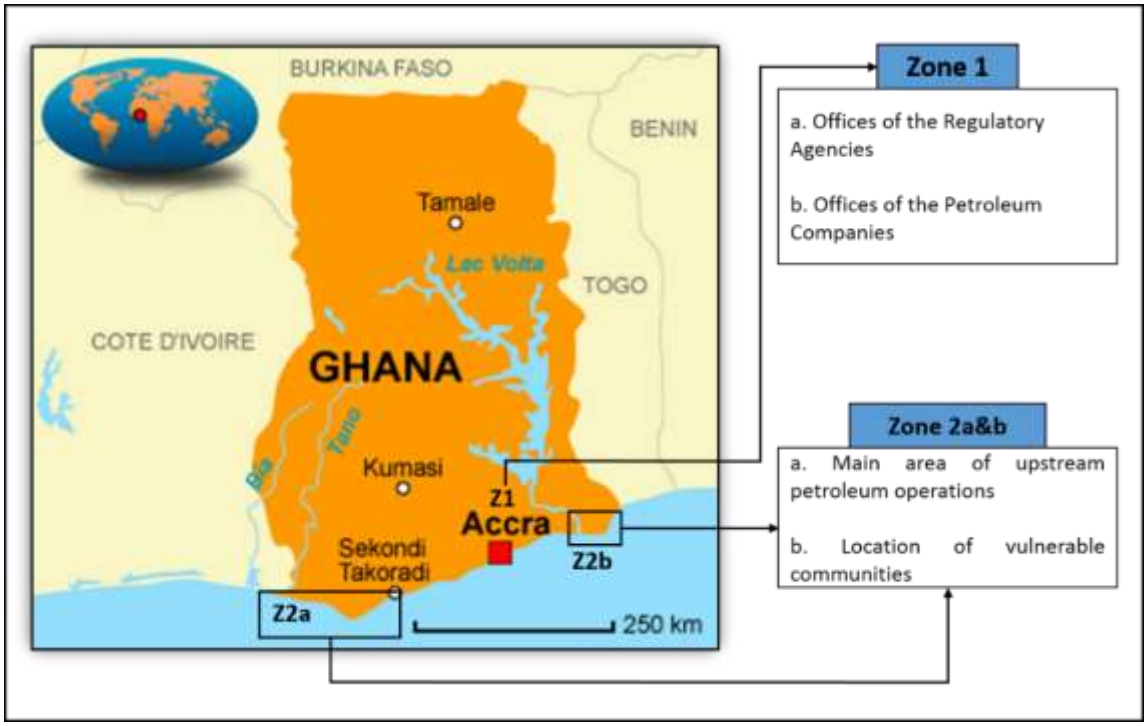
Company	HQ	Contract Area	Size (sqkm)	Effective Date (dd/mm/yyyy)	Operation (A, E, D, P)
GNPC	Ghana	Partner to each upstream petroleum company operating in Ghana		Several	A-P
Kosmos	U. S. A.	West C3P	Jubilee – 48 MTA – 416	13/07/2004	A-D-P
Tullow	London	DWT	Jubilee – 61 TEN – 450 Wawa – 106	19/07/2006	A-D-P
ENI	Italy	Offshore C3P	693	15/03/2008	A-P
		C3P Block 4	1127	2016	E
Erin	U. S. A.	ESW-Tano	1508	22/01/2015	A
Eco Atlantic	Canada	DW C3P - West	944	22/02/2014	E
Sahara	Nigeria	SW-C3P	1500	14/07/2014	E
HESS	U. S. A.	DWT-C3P	2010	19/07/2006	A
Springfield	Ghana	WCTP-2	673	2016	E
Swiss African	Switzerland	On/Off-shore Keta Block	3000	2016	E
Amni	Nigeria	Central Tano	278	27/03/2014	E
Saltpond OPL	Ghana	Saltpond field	12	30/07/2004	P (Minor)
UB	Iraq	Offshore C3P South	755	18/07/2014	E
Medea	Switzerland	East C3P	1565	12/04/2013	E
AGM	Gibraltar	South DWT	3482	12/04/2013	E
Heritage	Saint Helier, Jersey	East Keta	2239	17/07/2014	E
		Offshore South West Tano	175		

Notes – A, E, D and P, as used in the 'Operations' column denote Appraisal, Exploration, Development and Production, respectively; C, D, E, S, T and W, as used in the 'Location of Contract Area' column denote Cape, Deep, Expanded, Shallow, Tano and Water, respectively; MTA and TEN denote Mahogany-Teak-Akasa and Tweneboa-Enyenra-Ntomme, respectively.

Author's Construct. Adapted from Fitch Solutions 2019; Petroleum Commission 2018

Figure 4.5 depicts the location of the offices of the government regulatory agencies and those of the petroleum companies.

Figure 4.5: Location of Oil Blocks, as well as Offices of Regulatory Agencies and Petroleum Companies in Ghana.



Author's Construct

4.5.2 Non-Governmental and Civil Society Organizations (NGOs and CSOs)

Under the direction of the National Union of Environmental Nongovernmental Organizations (NUENGO), NGOs who are concerned with the safety and protection of the natural environment are permitted to take part in the implementation of environmental regulations within their respective areas of interest (Vormawor & Awuku-Apaw 1996). These NGOs assume the role of the 'third eye' by ensuring accountability from the regulators, and ensure that they discharge their corresponding constitutional mandates vested in their respective regulatory agencies. They also promote (environmental) awareness among the general public, whose reactions may result in positive regulatory outcomes and thus, the realization of environmental objectives (Holley & Gunningham 2006). The NGOs are also known to arrange demonstrations and protests in attempts to pressure the government, regulators and petroleum companies within the regulated community (Marful-Sau 2010; Gunningham 2009a), to address the concerns of the general

public. In this way these entities contribute to the public discourse and shape environmental policies that form a part of the entire regulatory system. Initially, many local residents trusted government regulatory agencies to play the interventionist role and act as a third party between them and companies. In contemporary times, however, it appears NGOs and CSOs have taken up this role.

Most NGOs are in close partnerships with the fourth estate, which facilitate information dissemination to the general public. Through this means, NGOs are able to augment their advocacy. Further, there have been numerous instances where investigative journalists have unearthed and announced several issues of public concern. Among them include revelations of corruption in Ghana's Judiciary, Customs Department and Football Association, among others. Overall, these organizations are perceived to act on behalf of and in the interest of the general Ghanaian public to bring and retain transparency and accountability in the nation's petroleum industry, as far as the safety and protection of Ghana's natural environment are concerned. Notable examples include the Imani Centre for Policy and Education (Imani); the Africa Centre for Energy Policy (ACEP); Friends of the Earth; Friends of Nation (FoN) and the Integrated Social Development Centre (ISODEC), as well as countless media houses. By virtue of their roles and impacts, most of these organizations are frequently consulted during decision-making processes in the regulatory system.

4.6 Conclusion

This chapter provided an institutional analysis of the Republic of Ghana, and also described the county's upstream petroleum industry. The various stages within the life-cycle of petroleum projects in Ghana were also outlined in this chapter, together with the significance and implications of hydrocarbon resources to Ghana. The chapter further mapped out and presented the environmental regulatory system governing the country's upstream petroleum industry, as well as the various actors within the upstream industry. This overview sets the context for the following exploration into the environmental responsibility and the associated complexities within Ghana's upstream petroleum industry. The next chapter, thus, presents the findings emanating from a comprehensive assessment of the environmental regulatory system governing Ghana's upstream petroleum industry.

CHAPTER FIVE: COMPREHENSIVE ASSESSMENT OF THE ENVIRONMENTAL REGULATORY SYSTEM GOVERNING GHANA'S UPSTREAM PETROLEUM INDUSTRY

5.1 Introduction

This chapter presents the findings of the assessment of the environmental regulatory system governing Ghana's upstream petroleum industry. The study found that while regulatory mechanisms were largely characterized by enactment delays and inherent ambiguities, regulatory agencies were mainly typified by resource constraints, ineffective enforcement and political interference. The study also found that even though NGOs and the fourth estate were necessary to enhance the effectiveness of regulatory functions, they sometimes misinformed the public due to the lack of knowledge about the actual dynamics that ensue in Ghana's upstream petroleum industry.

For this analysis, data included documentary information made available on the official websites of the regulatory entities; technical reports; peer-reviewed articles and legal documents. Findings from these sources were complemented by corresponding information obtained from semi-structured interviews with key actors in the industry.

Key Findings

- Delays in the enactment of legal provisions, together with inherent ambiguities and limited scope of coverage concerning relevant legal provisions are major concerns among stakeholders in Ghana, as they present challenges in the efforts to protect the natural environment.
- The overlapping mandates of the regulatory agencies presents significant issues to the performance of regulatory functions in Ghana.
- As the regulatory agencies are ill-equipped, they are often inefficient in enforcing the regulatory mechanisms that govern Ghana's upstream petroleum industry.
- While some actors maintained that political interference in the regulatory system impedes regulatory functions, others argued that this sort of interference is necessary in Ghana's upstream petroleum industry.
- The fourth estate and some NGOs often showed a lack of proper understanding of petroleum operations in Ghana and their associated environmental externalities.

5.2 Analysis of the Regulatory Mechanisms

Analysis of the regulatory mechanisms governing upstream petroleum operations in Ghana revealed two outstanding issues. (i) There are delays associated with the enactment of relevant regulatory mechanisms; and (ii) ambiguities are inherent in the contents of the regulatory mechanisms. Both of these issues have significant implications for regulatory functions. The final theme that emerged from the analysis of the environmental regulatory system relates to the limited scope of coverage of some key regulatory provisions.

5.2.1 Delays Associated with the Enactment of Regulatory Mechanisms

The findings of this analysis showed that the enactment of certain regulatory provisions which are necessary in ensuring environmental safety in Ghana's upstream petroleum industry were delayed, and this has serious implications for the regulatory processes in the industry. Specific regulatory provisions such as the *Petroleum E&P Law (i.e. Act 919)*, *Health, Safety and Environmental Regulations for Petroleum E&P (i.e. the LI 2258)*, and the *Right to Information (RTI) Law* were all delayed in their enactment.

From the analysis, even though the E&P of (small-scale) hydrocarbons in Ghana dates as far back as 1896 (Kesse 1986), there were no laws exclusive to the petroleum industry, except for general mining laws. What is striking about these general mining laws is that none provided applicable sanctions to be levelled at petroleum companies that were found to have engaged in environmental malpractice. Complementing this, the 'old' laws could not have been used by the EPA to avert oil spills (Panford 2017).

With an excess of 160 wells drilled in Ghana's sedimentary basins as of 2013 (IOGIRC 2017), it was necessary to have instituted, in a timely manner, adequate structures to effectively regulate and manage the petroleum industry. Yet, it was not until nearly a decade after the Jubilee discovery that an exclusive petroleum law was passed – the *Petroleum (Exploration and Production) law*, 2016 (*ACT 919*). This law, among other functions, seeks to regulate petroleum operations, and also ensure proper management and accountability in the industry as enshrined in Sections 2 and 4 of *ACT 919*.

Given the significance of this key regulatory mechanism and its implications for the adequate regulation of petroleum activities, one would expect that it would have been enacted much earlier. This is because although *Act 919* currently governs upstream petroleum activities in Ghana, the existence of stabilization clauses[18] in the Petroleum Agreements between Ghana and some petroleum companies means those companies are not subject to some of the provisions outlined in *Act 919*. Specifically, the existence of stabilization clauses in the Deep-Water-Tano (DWT) and the West Cape Three Points (WCTP) Petroleum Agreements means that it is the *PNDC law (i.e. the Petroleum E&P Law) of 1984* that governs Kosmos' petroleum operations in Ghana (Kosmos Energy Ltd 2016, p. 40). Consequently, even though Section 14(1) of *Act 919* stipulates that, 'a Petroleum Agreement shall be for a period of not more than twenty-five years', Section 12 of the *PNDCL 84*, provides a period of thirty (30) years (ACT 919; WCTP Petroleum Agreement 2004). The clause, specifically, states that "A Petroleum Agreement entered into under this Law *shall* be valid for a total period not exceeding thirty years." (Section 12, PNDCL 84, p. 5)

Complementing this, further analysis revealed that Parliament enacted a *Petroleum Revenue Management Act* (*Act 815*) in 2011; barely a year after Ghana produced its first oil in 2010. The enactment of *Act 815* raises questions as to why an updated regulatory infrastructure (specifically the HSE regulations), one that was needed to ensure the protection of Ghana's natural environment, did not receive similar attention. In spite of this concern, *Act 815*, which provides the legal framework for the management of oil revenues accrued from Ghana's upstream petroleum sector, was subsequently amended to *Act 893* in 2015 (PIAC 2017). At this point, the contemporary set of HSE regulations needed to regulate the industry was still non-existent. It was not until November 2017 that a comprehensive set of HSE Regulations on Petroleum (E&P) (i.e. the LI 2258), was passed into law (HSE Regulations 2017). The *LI 2258* is fundamentally meant to provide the minimum requirements that will prevent the adverse effects of petroleum activities on health, safety and the environment (i.e. Section 1 of the HSE Regulations 2017). This

[18] Stabilisation clauses are, fundamentally, contractual provisions usually enshrined into long-term investments or concession contracts between nation states and international investors. Stabilizations clauses are primarily incorporated into contracts so as to insulate the project and investments from adverse variations made to the legal regime.

instrument further stipulates rules that seek to facilitate the compliance efforts of petroleum companies operating in Ghana. For instance, Section 90 (a) of *LI 2258* states that;

> A contractor, sub-contractor, licensee, the Corporation or any other person engaged in a petroleum activity *shall* ensure that a petroleum facility is designed in a manner that prevents harmful effect on a person and the environment resulting from the use of a chemical (HSE Regulations 2017)

The *LI 2258* also provides specific requirements that petroleum companies need to meet when undertaking specific tasks, such as Process Safety systems (Section 49); Gas Release Systems (50); and Emergency Cases (Sections 54 and 65).

The delays in enacting the *LI 2258* was identified as a major concern among various stakeholders. One interviewee lamented;

> …it's a very big problem (i.e. the delay in enacting relevant laws). We've been drilling oil for how many years? For more than three decades and we do not have a regulation on environmental issues in the oil and gas sector (Participant 1, Agency AA, 2017)

Analysis of data also indicated that prior to the passage of *ACT 919* and the *LI 2258*, it was the *Environmental Assessment Regulations* (*LI 1652*) of 1999 and the *EPA ACT* (*ACT 490*) of 1994, that governed the efforts to ensure environmental safety within the domain of petroleum operations. The main concern with this issue was that these Acts were limited in their capacity to impose sanctions on companies that flouted environmental laws. Expressing this sentiment, one interviewee argued;

> …Before we (i.e. Ghana) passed the Act 919, we were using the PNDC law 84, as well as the EPA Act to regulate the sector. But these laws didn't give any legal backing to penalize companies when they pollute [the environment]. That's what happened with Kosmos…when they dumped their waste and they were asked to pay, they contested that the laws didn't allow that kind of penalty. And they were right. We [Ghana] should have anticipated this a long time ago and made legal provisions for things like this. (Participant 2, Agency FF, 2017)

Further analysis revealed one of the key factors that may have contributed to the delays in the design, enactment and deployment of these key regulatory mechanisms. Up until 2011, the GNPC was both the exclusive national oil company *and* the official government agency responsible for regulating the upstream petroleum industry (Panford 2014). GNPC was thus, acting as a *regulator,* as well as a *national oil company*. These conflicting roles played by GNPC suggest a rationale for why there has been a delay in the design and enactment of the *Act 919* and *LI 2258*. This notion is confirmed from the analysis of the majority of interview reports. Some representative remarks by participants in this study are noted as follows;

> …at a time in the industry GNPC was playing a dual role…an operator securing the interest of government and a regulator securing the interest of government as well (Participant 1, Agency DD, 2017)

> …you (i.e. GNPC) have two functions that contradict each other, so clearly that will prevent any initiative to do anything at all (referring to the design and enactment of regulatory mechanisms), and even if anything is done…it is done haphazardly (Participant 1, Agency AA, 2017).

Eventually, this conflict of interest was addressed via the establishment of the PC in 2011, which through an Act of Parliament, relieved the GNPC of its regulatory roles in 2012. In spite of the assumption of the regulatory role by the PC and its contribution to the design and subsequent enactment of *Act 919* in 2016, *LI 2258* in 2017 and *LI 2204 (i.e. the Petroleum (Local Content and Local Participation) Regulations* in 2013, the enactments of *Act 919 and LI 2258,* in particular, were delayed.

Another important issue that emerged from the analysis relates to the protracted delays in enacting a law that facilitates access to information in Ghana. Although access to information ensures accountability and transparency, in Ghana's regulatory domain, access to information has always been a challenge; and this deprives the general public the opportunity to readily scrutinize the activities of the regulatory agencies. It was not until March 26, 2019, since its initial drafting in 1999 (and subsequent reviews in 2003, 2005 and 2007), that the RTI bill was passed into law by Parliament. The *RTI law*, which will be operational in 2020, operationalizes Article 21 (1-f) of Ghana's Constitution (CRTI Ghana

2017), which stipulates that "…all persons *shall* have the right to information, subject to such qualifications and laws as are necessary in a democratic society." (Constitution 1992)

When it becomes fully operational, the *RTI law* will make it mandatory for public agencies, as well as private entities that perform public functions (e.g. regulatory agencies), to make information available upon request. Specifically, the preamble of the Bill stipulates that the object of the *RTI Act* is to;

> …provide for the implementation of the constitutional right to information (i.e. Article 21, Subclause 1-f) held by a public body, subject to the exemptions that are necessary and consistent with the protection of the public interest in a democratic society, to foster a culture of transparency and accountability in public affairs and to provide for related matters (RTI Bill, 2018)

Prior to the passage of the bill into law, however, there was little to no obligation for public agencies to release information unless they were required by a court order to do so. With the enactment of the *RTI law*, information dissemination is likely to be assured. The mass media, NGOs and CSOs, as well as the general public, will be able to access information within government agencies, and more importantly, the regulatory agencies in charge of the upstream petroleum industry. These measures will enhance and promote accountability and transparency in those agencies as they relate to the protection of the natural environment.

5.2.2 There are Ambiguities Inherent in the Contents of Regulatory Provisions

Another outstanding theme within the analysis relates to the inherent linguistic ambiguities in the contents of the regulatory mechanisms. Most prominent is the fact that there is a lack of precision in the language used in the regulatory mechanisms and the limited scope of coverage of some relevant regulatory mechanisms.

5.2.2.1 Lack of Precision in the Language Used in Some Key Regulatory Mechanisms

The analysis demonstrates that specificity is a critical element in regulatory provisions as it impacts the successful execution of regulatory roles. Specificity, as used in this context implies the accuracy and precision of the language used in regulatory provisions. When the

language used in regulatory provisions is clear and precise it averts mischaracterization and promotes consistency in the regulatory domain. For instance, envisaging the plausibility and threats of conflicts of interest in publicly exposed persons, and its repercussion on the entire country, Article 286 of Ghana's Constitution (1992), is clear in its directive that all heads of Ministries, government departments (including regulatory agencies) and equivalent offices in the civil service *shall* declare their assets and liabilities upon commencement and expiration of their services. Section 9 (1) of the *Ghana Maritime Authority Act* (Act 630), operationalizes Article 286 and goes further to state that, "a member of the [GMA] Board who has an interest directly or indirectly in a contract or in any other transaction proposed to be entered into with the Authority, *shall* disclose that interest to the Board and is disqualified from participating in the deliberations of the Board in respect of the contract or transaction." (GMA-Act 2002). Similarly, Section 7 of the *Petroleum Commission Act* contains an identical provision that seeks to avert issues of conflicts of interest (PC-Act 2011). For instance, Section 7 of *Act 821* (i.e. the Petroleum Commission Act) stipulates that;

> A member of the [PC] Board who has an interest in a matter for consideration by the Board *shall* (1, a) disclose the nature of that interest and the disclosure *shall* form part of the record of the consideration of the matter, and (1, b) not participate in the deliberations of the Board in respect of that matter. (2) A member ceases to be a member of the Board, if that member has an interest in a matter before the Board and (2, a) fails to disclose that interest, or (2, b) participates in the deliberations of the Board in respect of the matter. (3) A member of the Board *shall* declare all the properties and assets owned or liabilities owed by that member in accordance with Article 286 of the Constitution. (Section 7, PC-Act 2011)

In spite of the precision in the language of these regulatory provisions, analysis reveals that the way in which some keywords are used creates ambiguities in the text of many legal provisions. Emergent from the analysis, such ambiguities present myriad challenges that impede the performance of regulatory functions. For example, the use of words such as 'shall' and 'may' in the various *Acts* have several implications for regulatory functions. While 'shall' in legal linguistics connotes an obligation, the word 'may', conveys discretion and suggests a rather permissive connotation which usually diminishes the exactitude of legal provisions. For instance, Section 41(1) of *Act 919* is emphatic with the use of 'shall'

in the provision directing petroleum companies to furnish the Minister with a decommissioning plan, which needs approval prior to the commencement of decommissioning activities. The provision states that;

> A licensee or contractor who operates a petroleum facility *shall* submit a decommissioning plan to the Minister and the Minister *shall* seek the advice of the [Petroleum] Commission… (Section 41(1) of Act 919*)*

In contrast, Section 12 (1) of *Act 490* (i.e. the EPA Act) is quite vague with the use of 'may', in its directive, as to 'when' or 'if' the EPA is obliged to require EIA reports from companies. Specifically, Section 12 (1) of *Act 490* states that;

> The Agency (i.e. EPA) *may* by notice in writing require a person responsible for an undertaking which in the opinion of the Board has, or is likely to have, adverse effect on the environment to submit within the period specified in the notice an environmental impact assessment (Section 12 (1) EPA-Act 1994)

With respect to petroleum operations, does this provision mean that an EIA is always essential and that the Agency is at liberty to *issue written notices to that effect,* or does it imply that *in the opinion of the Agency,* via its Board, potentially polluting activities that are not perceived could be allowed to commence without an EIA? Indeed, such ambiguous regulatory provisions are subject to various forms of interpretations which leads some regulators to actually misinterpret them. Analysis further suggest that due to the misinterpretation of regulatory mechanisms resulting from these ambiguities, some regulators often unduly outstretch their regulatory mandates into the jurisdictions of other regulatory entities. Testimonies from the interviews conducted for this study confirm these observations. For instance, two interviewees revealed that;

> …sometimes the regulators misinterpret the laws. I don't blame them. Some of the laws themselves are not clear and because most of them [regulators] have no law background, it's understandable. But this is dangerous too, because they [regulators] interpret the laws to suit what they intend to do (Participant 1, Agency FF)

> …I think it's the [mis]interpretation of [their] mandates. I'm not a legal person but I work with the law so I understand what it means. Petroleum Commission

> per their mandate is supposed to be a resource manager. How the resources are managed and [the] safety of the operations. Now, it seems they misunderstand their mandate…They want to take everybody's mandate and do. (Participant 1, Agency BB, 2017)

In enforcing these rather ambiguous regulatory mechanisms, regulators use their discretion. While it is plausible that a modicum of discretion may be inescapable and often, necessary in the exercise of regulatory roles (Pires 2011; Maynard-Moody & Musheno 2003; Martinez *et al.* 1993), particularly in a high-risk and technically complex industry such as Ghana's upstream petroleum industry, it may lead to abuses and endemic misapplication of agency power (Mitchell 1999; Ma 1990), corruption (Kang 2005), and a disproportionate treatment of companies within the regulated community (Carrington 2005).

Foreseeing these threats, Article 296 of Ghana's Constitution has made provisions that seek to manage the exercise of discretion. Article 296 (a) stipulates that;

> Where in this Constitution or in any other law discretionary power is vested in any person or authority (a) that discretionary power *shall* be deemed to imply a duty to be *fair* and *candid* (Constitution 1992)

This notwithstanding, *ACT 919* confers onto the Sector Minister (i.e. the Minister of Energy and Petroleum) extensive unfettered and unregulated discretionary powers. Implicit in Article 296 Clause (A) is the expectation that those who exercise the discretionary powers would be 'candid' and 'fair'. This is, however, not always guaranteed, as an overbearing Sector Minister, or personnel in leadership positions, in the absence of adequate remedial checks and balances, may abuse such extensive discretionary powers. Some participants in this study confirmed this claim:

> …one of the things that we were advised by our consultants is to take out any kind of discretion [from upcoming Acts]…because you don't know who'll be in charge (Participant 1, Agency HH, 2017)

Additionally, while elaborating on the danger of the exercise of discretionary powers, one participant in this study mentioned the issue of the former Chairperson of the Electoral

Commission of Ghana, Mrs Charlotte Osei, who reportedly abused her discretionary powers. The interviewee stated that;

> …you've heard about [Mrs] Charlotte Osei, right? How can you (referring to Mrs Charlotte Osei) ignore procurement laws and single-handedly make important procurement decisions? She obviously abused her [discretionary] powers. She needs to make decisions with her commissioners and follow due procurement processes. Why didn't she do that? The President needs to consider the petition[19] before him and act accordingly (Participant 2, Agency FF, 2017)

Moreover, additional examples relating to the differing specificities of terms used in regulatory mechanisms can be found in Section 14 (1c) of the *Petroleum Commission Act* (Act 821) and Section 16 (c) of the *Ghana Maritime Authority Act* (Act 630). While the *PC Act* mentions 'donations' and grants as part of the sources of funding for the PC (PC-Act 2011), the other Acts (*EPA* and *GMA Acts*) do not. To put this in proper perspective, Section 16 (c) of *Act 630* (i.e. the *Ghana Maritime Authority Act*), mentions 'loans and grants' without the inclusion of 'donations'. The failure of the Act (i.e. *Act 821*) to clearly define the actual, and perhaps, acceptable source(s) of 'donations', subjects this particular provision in the *Act* to different interpretations; and thus exposes opportunities for the fostering of corrupt practices. Obviously, it is for a reason 'donations' were omitted from the *Act 630* when it was enacted in 2002. However, the *Act 821,* which was only enacted in 2011 has this provision. For relevance, Section 14 (1) of the *Petroleum Commission Act* (Act 821) states that;

> The funds of the Commission include (a) moneys provided by Parliament; (b) moneys that accrue to the Commission in the performance of its functions;
> (c) *donations* and grants to the Commission for its activities under this Act; and
> (d) any other moneys that are approved by the Minister responsible for Finance (PC-Act 2011)

[19] In July 2017 the President of Ghana was petitioned by personnel of the Electoral Commission (Ghana), demanding that the Chairperson of the Electoral Commission (Mrs Charlotte Osei) be sacked for abuse of office and corruption. The President forwarded the petition to the Chief Justice, who then set up a Committee to investigate the allegations brought against Mrs Osei. Following the investigation, the Committee recommended that Mrs Osei be sacked. On 28th June 2018, the President, acting on the recommendations of the Committee sacked Mrs Osei from office of Chairperson of the Electoral Commission. https://www.myjoyonline.com/politics/2018/June-28th/breaking-news.php

This is a legislative loophole that offers the opportunity for personnel in opportune positions within the regulatory agency to exploit the Act, yet enable them to justify their actions under this same provision. This finding highlights the potential for misuse of the legislation due to the lack of precision in the language used in legal provisions. There exists the possibility of revising it so as to avert any sort of ambiguity and minimize the exercise of discretion in the interpretation of the regulatory mechanisms and their subsequent implementation.

5.2.2.2 Limited Scope of Coverage of Key Regulatory Provisions

The limited scope of coverage of some of the key regulatory provisions emerged as another significant theme in the analysis of the environmental system. While it is desirable that regulatory mechanisms are designed to cover the various identified issues that could occur in the industry, often the contents of some of the regulatory mechanisms that govern Ghana's upstream petroleum industry do not fully cover the range of possible issues that are likely to occur. Information gathered from interviewees suggest that certain pertinent areas or aspects of the upstream petroleum industry may have not been well considered in the available regulatory mechanisms. As a result, not many provisions have been outlined to regulate and/or manage issues that may emanate from those areas. One interviewee noted that:

> …One thing we noticed, however, is that the regulations – I mean the [Act] 919 and even the PNDC law 84, they are very detailed about decommissioning and also about drilling. So you could see that our laws do not envisage serious environmental pollution in between drilling and decommissioning (Participant 1, Agency AA, 2017).

It is also instructive to note that some of the international conventions on marine pollution that Ghana is a signatory to are primarily only applicable to pollutions pertaining to marine tankers (Galbraith, 2010), and not those involving oil platforms. This suggests, as stipulated by Article 194 of the *United Nations Convention on the Laws of the Sea* (UNCLOS), the need to adopt realistic domestic "measures to prevent, reduce and control pollution of the marine environment…from installations and devices used in exploration or exploitation of the natural resources…" (UNCLOS 1982, p. 101). Prima facie, the enactment of *Act 919*

appears to have addressed this concern. Nevertheless, the limitation of its scope of coverage in addressing potential threats to the marine environment, that are likely to emanate from activities within all the stages in the life-cycle of the petroleum operation, as pointed out by Participant 1 from Agency AA (2017), leaves some room for possible amendments.

The regulatory mechanisms within the environmental regulatory system (in spite of their shortcomings) are meant to be enforced by the established regulatory agencies. Analysis of these agencies, however revealed some key challenges, and these are elaborated as below.

5.3 Analysis of the Regulatory Agencies and Personnel in the Environmental Regulatory System Governing Ghana's Upstream Petroleum Industry

The analysis in this particular section revealed four key themes that impact the environmental regulatory functions of the regulatory agencies within Ghana's upstream petroleum industry. Firstly, the findings show that some of the regulatory mandates of the regulatory agencies often overlap, and this presents some implications for the performance and outcomes of their regulatory functions as the agencies are sometimes unwilling to collaborate in the performance of their regulatory duties. Also prominent in the analysis is the indication that some of the regulatory agencies are ill-equipped for the performance or their regulatory functions. Subsequently, they are often inefficient in enforcing the regulatory mechanisms that govern Ghana's upstream petroleum industry. The third observation from the analysis relates to the presence of political interference in the regulatory system, a factor that attracted divergent views. Some actors argued that political interference impedes the regulatory functions in Ghana's upstream petroleum industry, while others maintained that it is helpful and necessary. The final theme demonstrated that some media houses and NGOs, often, lacked proper understanding about petroleum operations in Ghana and their associated environmental externalities, and therefore, end up misinforming the public. While the fourth estate and NGOs are not directly part of the environmental regulatory system, this analysis was necessary to understand how their activities (could) affect regulatory functions. These findings are elaborated in detail as follows.

5.3.1 Overlapping Mandates and the Lack of Collaboration among Regulatory Agencies and the Implications for Regulatory Functions and Outcomes

The analysis showed that each government regulatory agency performed three key functions – regulatory, management and advisory functions, as shown in Table 5.1.

Table 5.1: Core Functions of Regulatory Agencies within the Environmental Regulatory System Governing Ghana's Upstream Petroleum Industry

Description		**EPA**	**GMA**	**PC**
Legal foundation		EPA Act 490	GMA Act 630	PC Act 821
Authority		Environment protection	Maritime protection	Oil resource manager
Establishment year		1994	2002	2011
Governing body		Board	Board	Board
Board members' tenure		3 years	4 years	3 years
Head		ED	DG	CEO
Regulatory Roles (Audits – Monitoring and Inspection)				
Ensure Compliance		√ Environment	√ M. A.	√ E&P
Atmosphere	Flaring / Gas emissions	√	-	√
Terrestrial	Spills Discharges Releases	√	-	√ Onshore
Aquatic / Marine		√	√	√
Management Roles				
Fees and Charges (Applications and services)		√	√ M. A.	√ E&P
Assessment of reports		√ EIA / EMP	√ M. A.	√ E&P / EMP
Certification and approval of operations		√	√ M. A.	√ E&P
Licensing and Permits		√ Env. Permit	√ SWP	√ E&P
Promotion of best practices		√	√ M. A.	√ E&P
Advisory Roles (Technical advisor)				
Suggest policies		√	√	√

Note – For Table 5.1 above, CEO = Chief Executive Officer; DG = Director General; ED = Executive Director; EIA = Environmental Impact Assessment; EMP = Environmental Management Plan; M.A. = Maritime Activities; SWP = Sea Worthy Permits.

Author's Construct. Adapted from PC Act 2011; GMA Act 2002; EPA Act 1994

With respect to the regulatory roles, for instance, the EPA's jurisdiction encompasses all the three spheres of the environment – air, terrestrial and aquatic. They are thus, mandated to regulate the activities of companies which are likely to impact the natural environment (EPA-Act 1994); in this case petroleum activities. The PC, on the other hand, is mandated to regulate the *utilization of petroleum resources* (PC-Act 2011), while the GMA is mandated to regulate activities that ensue *within the maritime industry* (GMA-Act 2002).

In the performance of these functions, it is quite normal that some may overlap, and very often they do. This is particularly evident in the marine environment where all the three regulatory agencies seek to ensure the protection and safety of the marine environment. One of the participants of this study confirmed this in an interview by pointing out that;

> … [as for] overlapping of roles, I will not deny it, it is there… (Participant 1, Agency CC, 2017).

Given that regulatory functions will usually overlap, one will expect that the involved regulatory agencies will collaborate with one another while executing the specific overlapping function(s). Indeed, analytical exploration of the *Acts*, through which these regulatory agencies were established, reveals a language purporting to convey a spirit of collaboration among the agencies in the performance of their regulatory duties. Examples of these regulatory provisions are illustrated in Table 5.2.

As shown in Table 5.2, Sections 2 (b) and (c) of the *EPA Act*; 2 (2i) of the *GMA Act* and 3 (1) of the *PC Act*, either state explicitly or imply collaboration with other entities – both private and public, in relevant fields of operation (PC Act 2011; GMA Act 2002; EPA Act 1994). For instance, the PC, in ensuring compliance with HSE requirements will need to cooperate with the EPA. As such, Section 21 (1) of the *PC Act* calls for the full cooperation of public agencies, including those in the petroleum regulatory system, in the execution of the Commission's duties (PC-A 2011). Indeed, the inclusion of the EPA as a representative on the Boards of the PC and, even, the GMA reinforces this collaborative idea. Interestingly, however, analysis reveals that the regulatory agencies are not always willing to collaborate with one another in the performance of their regulatory functions.

Table 5.2: Examples of Regulatory Functions that Express Collaboration.

Regulatory Agency	Legal Provision	Mandate
Environmental Protection Agency (EPA-Act 1994)	Section 2, subsection (b)	Coordinate the activities of bodies concerned with the technical or practical aspects of the environment and serve as a channel of communication between those bodies and the Ministry.
	Section 2, subsection (c)	Coordinate the activities of the relevant bodies for the purposes of controlling the generation, treatment, storage, transportation and disposal of industrial waste.
	Section 2, subsection (h)	Prescribe standards and guidelines relating to the pollution of air, water, land and any other forms of environmental pollution including the discharge of waste and the control of toxic substances.
Ghana Maritime Authority (GMA-Act 2002)	Section 2, subsection (2,i)	Ensure, in collaboration with any other public agencies and institutions determined by the Board of the Authority, the prevention of marine source pollution, protection of the marine environment and response to marine environment incidents.
	Section 2, sub section (2,s)	To perform functions incidental to the functions provided under this section.
Petroleum Commission (PC-Act 2011)	Section 3, subsection (d,i)	Ensure compliance with health, safety and environmental standards in petroleum activities in accordance with applicable laws, regulations and agreements.

Author's Construct. Adapted from PC Act 2011; GMA Act 2002; EPA Act 1994.

5.3.1.1 Regulatory Agencies' Unwillingness to Collaborate

While it may be desirable to depend on a pluralist action (i.e. collaboration between and among the agencies) in the pursuit of environmental objectives, it emerged from the analysis that the regulatory agencies are not always willing to collaborate – either because they disregard the stipulation of their *Acts* or they misinterpret them, as alluded to in the previous section. Some interviewees, attributed this to the misconstruction of some provisions in the Acts, while others attributed it to the 'protection of turf'. The former suggests that, rather than adopting a collaborative approach, which the Acts may have sought to convey, some regulatory agencies dominate in every space the Act 'attributes to them'. Specifically, two interviewees made the following remarks;

> I think it's a misunderstanding of their mandate…They want to take everybody's mandate, and do. (Participant 1, Agency BB, 2017)

> …some have to do with some sort of turf war. You know of Petroleum Commission that has a department within its jurisdiction responsible for health and safety and environment...[but] environmental issues by definition have to be handled by EPA but unfortunately, they (i.e. the PC) have arrogated to themselves the power to do things within that domain without recourse to EPA, and that is sort of worrying…(Participant 1, Agency GG, 2017)

The expectation that the regulatory agencies will exercise a certain level of collaboration with one another is seldom met. This is despite the fact that some of the regulatory agencies (i.e. the EPA and the PC) are considered to lack the requisite expertise and resources to execute some specific tasks within the environment space. In corroboration with this claim, some interviewees noted that;

> …when this oil thing came, everybody wanted to be in there. So you talk about, for instance, oil pollution and the environment, but does EPA have the know-how to even cross to the seaside? No! No, EPA doesn't (Participant 2, Agency CC, 2017)

> …[the EPA] lacks [the] capacity to monitor some of these things (i.e. issues requiring regulatory oversight)… (Participant 1, Agency BB, 2017)

> Petroleum Commission is a new baby, and they are trying to swallow things that cannot get into their mouth because the point is the expertise is not there. (Participant 1, Agency CC, 2017)

While collaboration is necessary to consolidate the efforts of the various regulatory agencies in the pursuit of their regulatory targets, it also emerged from the analysis that occasionally, such collaborations are impeded, even when efforts are made to collaborate. This is due to actions and inactions of some regulators which demoralizes or annoys other regulators. For instance, one interviewee recounted the following;

> There are certain bosses they're always at loggerheads with each other. My former boss was not on speaking terms with the Shipping Authority boss, not [on] talking terms with GPHA (i.e. Ghana Ports and Harbor Authority) boss. Not

> in good terms with the EPA boss. So you think something will go on? No! he's always combatting them – turf war – So if even I have colleagues who will understand what I want to do, my work cannot be enhanced because you must have authorization for whatever you want to do from your end. (Participant 1, Agency CC, 2017).

This interviewee also revealed that;

> …when Eni was about to come online they had a meeting and that was the first time I went to their meeting. I met a Petroleum Commission representative there – a lady. I think they are too loud. And I'm also thinking they are not well versed in what they are doing. Because the woman was not even happy that Eni was doing that meeting to mitigate certain lapses that they realized in relation to canoes getting closer to their ships. She was of the view that Eni should have channelled that through the Commission so that her CEO would have spearheaded that and I thought it was rubbish. Do you understand what I'm saying? Eni, as an international entity, has [the] sole responsibility of protecting their business. Their business being the rig, so they can take any initiative as and when they deem necessary. And apart from that, the initiative they were taking was based solely on safety and security of which Petroleum Commission has no mandate (Participant 1, Agency CC, 2017)

Collaborative efforts in an organized manner are likely to have positive impacts on regulatory functions. Certainly, the shortcomings of one agency are likely to be neutralized by another. However, in instances where regulatory agencies with a common agenda either fail to, or are unwilling to collaborate with one another their regulatory outcomes are, often, sub-optimal. This notion was shared by one of the participants of this study who attributed the discharge of petroleum waste by Kosmos Energy on the lack of collaboration among the regulatory agencies. The interviewee stated that;

> …it (i.e. collaboration) enhances it (i.e. the regulatory function) and the opposite is also true. If all the regulatory agencies were working together, I doubt Kosmos will be able to do what they did (i.e. discharge of petroleum waste into the ocean)… (Participant 1, Agency FF, 2017)

5.3.2 Lack of Resources Necessary for the Performance of Regulatory Functions

An equally significant recurring theme that emerged in the analysis is the fact that the regulatory agencies lacked sufficient and adequate resources to facilitate the execution of the typical procedurally lengthy, technically tedious and operationally expensive regulatory functions within Ghana's upstream petroleum industry. For instance, in terms of funding, one interviewee noted that, '…as a case in all developing countries, most government agencies like ours [Ghana] are underfunded' (Participant 1, Agency DD, 2017). To elaborate this further, besides the GMA, both the EPA and PC are partially funded by the government. As indicated earlier, Section 14 of the *PC Act* clearly states the sources of funding of the Commission. These are funds provided by Parliament, internally generated funds (IGF) that accrue from their regulatory functions, 'donations' and monies approved by the Minister of Finance (PC-Act 2011). Information from the interviews, however, suggests that the government does not always allocate monies to the regulatory agencies, thus, making the performance of their regulatory functions challenging. In a typical instance, one interviewee revealed that;

> …the Petroleum Commission was not allocated any budget in 2012…[and because of that] it was unable to audit registered petroleum companies that were operating within the country (Participant V, 2017)

Other interviewees also made comments that emphasized the resource constraints that characterize the regulatory agencies. For example one interviewee stated that;

> …in Ghana enforcement of regulations has always been a challenge. Before the rise of oil and gas in Ghana EPA had challenges regulating companies that were polluting the environment. Now with the addition of a much-complicated industry, you think regulatory issues will change? Our regulators don't have what it takes to regulate effectively…the money, logistics, experts and even the manpower. Till we get those things, regulatory issues in Ghana will remain the same… (Participant T, 2017)

Directly connected to these financial constraints is the lack of logistical resources that confront the regulatory agencies. The majority of the interviewees mentioned that regulators, especially those from the EPA, who embark on audits, did so by flying into the

petroleum sites on aircrafts owned by petroleum companies. Among the testimonies, one interviewee stated that;

> Presently, EPA staff who go for monitoring and inspections are flown onto the FPSO by the oil companies. To hire helicopters to transport EPA staff to the drilling units is beyond EPA's budget. There is also some suspicion that these same companies pay the per diems of the EPA staff and it's quite possible that the EPA superiors are aware of these issues (Participant Q, 2017).

Other interviewees also added that;

> …Eni has a chopper that goes offshore, Tullow also has a chopper that goes to both Jubilee and TEN. So we join them as any other crew. They provide that service: it's their obligation. They're bound to provide us with logistics to monitor them (Participant 1, Agency BB, 2017)

> We used to go by helicopter to the FPSO…So far we have been relying on the operators – Tullow (Participant 2, Agency CC, 2017)

> There [are] fixed-wing flights from Accra to Takoradi by the oil companies. There are other airline operators that you can also use. But from Takoradi to offshore is mostly by the oil companies. You have no means than to use that (Participant 1, Agency DD, 2017)

On a related matter, another interviewee indicated that;

> [GMA is] trying to buy ships and do what [they've] been mandated to do. [They] sit down…[they] say [they] are checking pollution. What pollution are you checking if you have no boat? Go to the anchorages you'll see things on the water front. But if you do not have that physical presence there, what are you going to do? This is meaningless if you don't have that enforcement (Participant 1, Agency CC, 2017)

This sort of arrangement, as expressed by one of the interviewees, poses several severe consequences on the efficiency of the regulatory personnel. The interviewee stated the following;

> …I have to rely on Tullow to send me there, and if I go and carry out an inspection, let's say three-four hours inspection and I finish I'm not able to come back. My colleagues, they're not able to come back because they'll (i.e. the petroleum companies) not go through extra cost to send me back. So maybe I'll have to stay there may be three-four days whiles they [the offtake tankers] go and couple up and finish their operation – the lifting operation and when they are bringing their people ashore then I join them to come back. That's a huge inconvenience because it means for one inspection I have to be away for four days from my desk because I don't have the means (Participant 2, Agency CC, 2017)

Also, given the complexity and high-risk nature of the petroleum industry, it is vastly imperative to have adequate and sufficient expertise to oversee the dynamic complexity inherent in the industry. Technical knowledge is therefore very critical yet even though the hydrocarbon resources are mainly found within the Western Region, little has been done in that region to establish sufficient institutions with competent and adequate regulatory personnel to regulate various aspects of the industry. In instances where they exist, they are usually short-staffed and extremely underfunded. One of the respondents indicated that;

> …one of the challenges is also that the state institutions were not adequately prepared for the oil and gas industry…[in terms of the] technical expertise required to effectively regulate the industry. Petroleum Commission [should have started] with people who are experts, but it's not like that, it's a new industry. How many Ghanaians are experts in this industry? Very few, and those who are, [are] probably not even in Ghana or may not want to come to Ghana to do this [work in the regulatory agencies] (Participant 1, Agency HH, 2017)

Another interviewee also stated that;

> The Oil and Gas unit at the EPA is ill-equipped and the unit is now building the capacity of the workforce…more challenges are likely to emerge when the onshore Voltaian basin starts (Participant Q, 2017)

It also emerged in the analysis that even if the relevant regulatory agencies had the financial resources, at the moment they 'lacked adequate expertise to evaluate, assess and interpret technical data/report/issues' (Participant Q, 2017), and would, therefore, have to outsource

independent experts to do most of the technical jobs. While speaking to this issue, another interviewee indicated that;

> …you need to know what they [the petroleum companies] do to find out the loopholes. So if they want to hide something, they'll still hide it from you if you don't have the knowledge in the industry. But as a regulator, you should know what they're doing. If you have that knowledge, it's easy to know what they are doing… (Participant 1, Agency BB, 2017)

The interviewee went further to note that remuneration at some government regulatory agencies was low. This may be one of the reasons why some of the regulatory agencies lack the needed expertise because they cannot afford them. The interviewee noted that;

> …our salary is not good and you're asking me to do extra work going offshore. More work with the same pay. I think people will not be happy trying to do that risky job. They'll prefer being on land than going offshore (Participant 1, Agency BB, 2017)

Additionally, regulatory agencies – particularly, the EPA and PC – rely heavily on reports submitted by petroleum companies in the regulated community. It is these reports that they act upon, and they have no parallel systems enabling them to conduct their own independent checks. This is a problem as it might lead to situations where the regulatory system could be compromised. The majority of interviewees mentioned this issue. As one interviewee stated;

> …we have for a long time relied on foreign companies to tell us even the amount of resource we have, and how much they're even taking out…We always have to rely on data from these companies. We don't have any parallel system to check the validity of whatever data they give us…So we're relying on their goodness or their morality which is very murky. Because how do you even test the truth if you don't have any means to? (Participant 1, Agency AA, 2017)

In addition to this issue, it emerged that information sharing among the regulators was not always easy. Indeed one interviewee went so far as to suggest that '…there's a problem with data sharing among even think tanks in Ghana…' (Participant 1, Agency AA, 2017)

Ultimately, these findings reveal that the lack of adequate resources needed to facilitate effective regulatory functions, has existed as a major problem in Ghana for many years. Information from the interviews also confirms the observation that most of the regulatory agencies in Ghana are less efficient due to such resource constraints. As one interviewee suggests;

> … The issue of regulators and lack of resources is not a new phenomenon in Ghana. It has existed for a long time…state institutions are not adequately resourced and this explains their performance (indicating poor performance) (Participant 1, Agency HH, 2017).

In agreement, another interviewee in stated that;

> Over all these years…Shipping Division started way back in the fifties, sixties – colonial days… [and] metamorphosized into Maritime Authority. It's been in existence for ten years there about. Nothing has happened…you've been in existence for ten years… [and] you don't even have one boat for your enforcement… (Participant 1, Agency CC, 2017)

5.3.3 Inefficient Enforcement of Regulatory Mechanisms

While the unavailability and/or inaccessibility to financial, logistical and experienced human resources (as described previously) collectively, impede the regulatory processes – especially the enforcement of regulatory mechanisms, there are other factors that epitomize these enforcement inefficiencies. For instance, it emerged from the analysis that some regulators who go on audits and inspections are unaware of the details of some of the petroleum agreements. Consequently, they end up oblivious to the terms – as pertains to the rights, obligations and applicable penalties. This usually occurs since petroleum agreements and contracts are signed by the executive members. Analysis of interviews further suggest that the regulatory outcomes of some of these frontline regulators[20] are sometimes suboptimal since they are, also often, unaware about the details of key contractual documents. This, coupled with the dearth of legally binding punitive actions

[20] Frontline regulators are the personnel of the regulatory agencies that go to the petroleum facilities to physically inspect and audit petroleum-related activities of the petroleum companies, so as to ensure that the operations, materials, machinery and technologies, among others, are actually in compliance with the provisions of the governing regulatory mechanisms.

impedes regulatory efforts by regulators; particularly when it comes to the application of penalties on non-compliant petroleum companies. Testimonies from some interviewees partly supports this claim. The following remarks capture the perspectives of the interviewees;

> …normally [the frontline regulators] are not privy to Petroleum Agreements. It's done at the Ministerial level and those are legal matters that we were not too much involved in… (Participant 1, Agency BB, 2017).

> When you go to the state agencies, it's the big guys that sign the contracts. It's normal. The people who go and do the inspections may not even know what some of the relevant contracts entail. This is a problem that manifests itself through the outcome of the inspections. Because they don't know what they're even looking for (Participant 1, Agency FF, 2017)

Even though regulatory agencies have the mandate to impose punitive fees and charges, suspend and/or cancel permits (Act 919), there are some cases that may warrant greater punitive actions. However, regulators are limited as to how far their mandates can go. The best regulators do in such instances is to gather sufficient evidence against defaulting companies and lead the way to make sure that relevant punitive actions are duly applied. In many cases, regulators, acting under, and in the name of their respective regulatory agencies and via their Sector Ministries, sue regulated firms in law courts. It is then up to the courts to make their rulings with respect to the available evidence.

A classic example is a case concerning a suit filed against Kosmos Energy. In 2011, the petroleum company was reported to have discharged about 699 barrels of toxic mud in the marine environment. This act by Kosmos was in direct breach of Article 17(3) of the *Petroleum Agreement* they signed, which directs them to;

> …provide an effective and safe system for disposal of water and waste oil, oil base mud and cuttings in accordance with accepted international petroleum industry practice in the same or similar circumstances, and shall provide for the safe completion or abandonment of all boreholes and wells (Ghana Parliament 2004, p. 61).

The then, Ministry of Environment, Science and Technology by implementing recommendations outlined by a Ministerial Committee established to investigate the issue, fined Kosmos Energy US$35 million. Kosmos contested the legal basis of the fine, claiming it was an unlawful punitive action because there was no law in Ghana that had set such a fine (Osei-Hwere 2015; AllAfrica.com 2011). Such a defence mounted by Kosmos points to some of the shortcomings in the regulatory system. This weakness in the regulatory system was highlighted by one interviewee, who noted;

> …the laws and provisions as we have them now are not watertight…in the sense that you want to make sure that if an operator falls foul to the regulations and they're brought to book, you are going to get a conviction…they're not that watertight so we're working towards reviewing the regulatory mechanisms and legal provisions to make sure that in the event that an operator falls foul to the law, we can get a conviction and then be able to sustain the environment… (Participant 1, Agency GG, 2017)

Kosmos ended up paying the fine, as one of the regulators, during an interview session, confirmed – 'eventually, they [Kosmos] paid' (Participant 1, Agency BB, 2017).

In this case, while it may seem like an effective enforcement of the regulatory mechanisms by the regulatory agencies (i.e. since Kosmos paid the fine), it also demonstrates the fact that inefficiencies with enforcement modes existed that allowed Kosmos to engage in such environmental malpractice in the first place. To support this claim, the analysis revealed that, indeed, there are regulatory inefficiencies that characterize the regulatory agencies, and that the absence of any major environmental devastation caused by the petroleum industry is sheer luck rather than the strict enforcement of the regulatory mechanisms. This particular assertion was expressed by one interviewee, who stated that;

> …we've [Ghana] been lucky there has never been a major spill for us to worry about. It just happens [to be so], I will not say it's [a] strict enforcement of laws... (Participant 1, Agency BB, 2017)

Another interesting finding arising from the analysis relates to the posture of regulatory agencies when addressing issues of their 'perceived inefficiency'. Most regulatory agencies on having their regulatory inefficiencies pointed out to them, in turn also pointed out the

regulatory inefficiencies of other regulatory agencies. They did this by juxtaposing their shortcomings in an attempt to either justify their inefficiencies or appear 'better' than others. For example, when talking about some of the 'shortcomings' of the EPA, one interviewee made a cross-reference to the management of Ghana's Ports and Harbors. Purporting to draw a connection between the dearth of enforcement at Ghana's ports and the influx of banned goods in the country, the interviewee noted that;

> …[used] fridges [are] banned. Used fridges [are] part of e-waste. How [do they] get into the country? (Participant 1, Agency II, 2017).

Such referral techniques, designed to distract attention from their own practice, are quite prevalent in the Ghanaian regulatory space, and this usually happens when regulators call out the inefficiencies of erstwhile regulators who were in office during a particular government administration. Analysis of the interview data collected for this study demonstrates that with some actors in the industry, every procedure used by the regulators is, usually, an avenue to employ lengthy and unnecessary protocol as a diversionary tactic. It emerged that some personalities in leadership positions of the regulatory agencies employ semantics as a means to delay, truncate or divert attention from important issues of public concern. For instance, one interviewee stated that;

> …when you hear things like 'we're following due process', 'we're investigating the matter' and 'we don't want to rush anything', just know that nothing will come of it (Participants S, 2017)

Another interviewee also noted that;

> …when the Kosmos thing [the discharge of waste] happened, nobody knew. Me, I heard it in the news. You speak with the Petroleum Commission and they tell you that they're investigating. Till today, I don't know what their findings are…and everyone has forgotten. (Participants 2, Agency FF, 2017)

5.3.4 Political Interference and Its Implication for Regulatory Functions

Analysis also showed that the presence and active influence of political interference in the regulatory system are key themes characteristic of the environmental regulatory system

governing upstream petroleum operations in Ghana. Unlike other sectors of the economy, analysis shows that the organized nature of Ghana's upstream petroleum industry has attracted strong pressure from government and political figures within the regulatory domain. The pervasive presence of politics in the management and regulation of natural resources highlights how the management of hydrocarbon resources may be adversarial to development. Unlike in Norway where political and administrative tasks are separated, in Ghana, analysis revealed that the two functions are very often intertwined: Government officials and Ministers of Parliament (particularly those that form the majority) – even with limited technical abilities – move beyond the policy domain to appropriate the roles of the regulatory agencies. This occurrence diminishes the autonomy of the regulatory agencies, gradually leading to a multiplicity of regulatory challenges. This is especially the case for the effective functioning of the EPA. As one interviewee argued;

> I think the EPA should be autonomous. [At present, they're] semi-autonomous. Although [they're] allowed to sign permits and decisions are taken by them they're still subject to political interference. So [they] need to be [fully] autonomous; completely out of government's control (Participant 1, Agency AA, 2017)

This comment highlights the ways in which some government regulatory agencies in Ghana, such as the EPA (if not all of them), are neither apolitical nor politically nonaligned. Comments from the interviews further suggest that such political interferences are the government's way of maintaining political control of the regulatory agencies. One interviewee indicates that;

> We all know that the government cannot afford to lose control of the state agencies. They [the government] have to make sure they have good control over them [the State agencies]. That's why they [the government] always put their people there [i.e. the State agencies] whenever they're elected into office. That's just the way it is – political control [of the state agencies] is the order of the day (Participant U, 2017)

Findings from the analysis also reveal how in Ghana, the President is mandated by Articles 70 (1) and 195 (1) of the Constitution (1992), to appoint members of Boards and people into leadership positions of government agencies. As has been the norm in Ghana,

whenever there is a change in government, leadership positions are also changed; and this trend has far-reaching implications. The analysis found that since its establishment in 2011, the PC has had four (4) CEOs. The maiden CEO, Dr Kwabena Donkor, who was appointed by the National Democratic Congress (NDC), resigned in January 2013 and became a Member of Parliament on the ticket of the NDC; and subsequently became the Minister of Power. The NDC replaced Dr Donkor at PC with Nii Adjei Akpo, as the interim CEO till the latter part of 2013 when Theophilus Ahwireng was appointed as CEO. The New Patriotic Party (NPP) toppled the NDC in the 2016 presidential election; and as was expected, Theophilus Ahwireng was replaced by Egbert Faibille Jnr. as the CEO of the PC. This trend does not only diminish the independence of regulatory agencies, but further indicates that it also short-circuits the continuity of well-planned activities in the regulatory agencies. One of the interviewees commented that;

> Ghana's problem right now is that we have a system where when the government changes, some key people in some key positions change. I'll give you an example, the Petroleum Commission, Theophilus Ahwireng, he is a great guy. Very knowledgeable, highly skilled – everybody knew his capacity, ok. I don't know the personal capacity of the new guy that is in [current CEO]. Theophilus was great and if he had continued in his office I'm sure [there'll be] a lot of consistency…[and] a lot of things would move really fast (Participant 1, Agency AA, 2017)

Despite such demonstrable examples of political interference, which show a clear lack of political neutrality, other interviewees maintained that political appointments are necessary so as to facilitate development and progress in the country. One interviewee, who is a member of the ruling NPP, when referring to the suitability of the current CEO of the Petroleum Commission, Egbert Faibille Jnr., expressed this sentiment by stating that;

> …forget about politics. If you're the President and you have a vision won't you put your people in a position to attain that vision? It happens everywhere. People are just talking. Can't you see that the appointments are working? Look at their credentials…these are professionals. Don't let anyone deceive you (Participant R, 2017)

The interviewee further indicated that regulatory processes are vastly embedded in law, and it is thus, incumbent upon the appointing authority to appoint a regulator with exceptional legal expertise and know-how in the petroleum industry, who will thrive in the legal and technically complex domain of the industry – hence, the decision to go for Mr Faibille Jnr. The participant further noted that;

> His [i.e. Egbert Faibille Jnr.] political affiliation may be coincidental, but what really matters is he is the best person for the job (Participant R, 2017)

Moving further, in Ghana, the pervasiveness of partisan appointments by the President is extended by the appointment of Board members to key government institutions. Political 'faithfuls' are usually appointed as Board members, and in some cases Board chairs. For instance, the GNPC's governing board is chaired by the chairperson of the ruling NPP. Even though the establishing Acts of State institutions make provisions for individuals from specific agencies to be on Boards, the President still reserves the right to appoint other members onto the Boards. Typically, the President's appointments are a way of exhibiting gratitude for the political contributions of the appointees rather than their technical expertise. Even though the establishment of Boards helps to manage and restrain opportunistic conducts by leadership of regulatory agencies, the appointment of political figures, who are members of the ruling party, as Board members or chairpersons, compromises the actual purpose of the Board. This is particularly prominent when these members lack the requisite expertise or know how to function within the Board. For example, a 2013 World Bank report cited by the local media, suggests that the energy crisis in Ghana, between 2010 and 2016, was in part due to the incompetence of the members of the Public Utility Regulatory Commission's (PURC) Board (Myjoyonline 2013). The report consequently recommended a reconstruction of the Board with experts as commissioners (Myjoyonline 2013).

Further on this issue, some interviewees raised concerns about competence – regarding the appointment of some individuals into leadership positions in government agencies. One interviewee asserted that;

> In several cases, many directors lack the technical expertise of the units they head even though they hold the relevant qualifications (Participant Q, 2017).

This statement aligns with well documented cases in the mainstream media in Ghana, where some individuals, upon anticipation of appointments or promotions, 'buy' or use other fraudulent means to obtain higher academic credentials (Myjoyonline 2015). Some are even known to 'fake' their credentials, as alleged in local news reports concerning the case of the Social Security and National Insurance Trust's (SSNIT) ITC Manager, 'Dr' Caleb Afaglo (Myjoyonline 2017a, 2017b). Excerpts of the news report reads;

> In an unprecedented move, the newly constituted Board [of SSNIT] decided to publish these resolutions, which also included the decision to sack the former General Manager of the SSNIT Management Information Systems, Caleb Afaglo, who was found to have secured the top job with fake degrees (Myjoyonline 2018d)

Moreover, another interviewee from one of the key regulatory agencies revealed that most political appointments are based on party affiliations and cronyism, rather than on individuals with the relevant technical expertise. The interviewee reflected;

> …it's not that we haven't got good people, the whole thing is politics. They'll not put the right people at the right places. They put wrong people…they put [their] cronies…it's politics… (Participant 1, Agency CC, 2017)

As Ghana's petroleum industry is relatively new, there exists a strong belief among the majority of the interviewees that regulatory oversights/responsibility have been deliberately weakened so as to promote the industry. One of the interviewees made this connection, suggesting that in instances where breaches and/or non-compliant behaviours were detected, high ranking officials and political figures stepped in to neutralize the situation. Specifically, the interviewee noted that;

> …those days, with the previous boss [in one of the regulatory agencies], when you detain a vessel, [one] phone call alone will rubbish everything that you've done…so you won't even do it. Because there's no point in doing that. [One regulator] detained a ship in Tema [Port], a phone call [from the regulator's] boss (*making gestures to suggest some sort of completion)*. [The regulator] had an

> altercation with him (i.e. the boss) because [he] was very annoyed (Participant 1, Agency CC, 2017)

Political interference is a common phenomenon in State entities in Ghana. A typical and quite recent instance is the political interference in the Ghana Revenue Authority (GRA). In this case, the interference of Government in the Authority's functions was reported to be impeding their efficiency, with respect to the collection of taxes. A staff member of the GRA made the following remark.

> They (i.e. the Government) are creating enmity between us (i.e. staff of GRA)…there are some people who came through political appointment who have their children as clearing agents and they use exemptions to clear goods [at the ports]. Is that not a conflict of interest? (Myjoyonline 2019a)

5.3.5 The Contribution of the Fourth Estate and NGOs

Findings from the analysis also reveal the influential role played by the fourth estate and NGOs. Firstly, analysis shows that regulators feel the need for these entities as they are perceived to enhance the functions of the regulatory agencies. As this indicative quote from one interview participant shows;

> …the regulator being the Petroleum Commission is just a single entity. I don't know if they have branches in other parts of the country but to the best of my knowledge, no. There's so much going on in Takoradi…there's so much going on everywhere that the Petroleum Commission may lose sight of because of the workload they have. So it is the role of the third eye to keep the Petroleum Commission informed about happenings in the sector… (Participant 1, Agency AA, 2017)

Another interviewee also expressed this very idea about NGOs, stating that;

> [NGOs] also serve [regulatory] purposes by giving information on some happenings in communities where projects are affecting the communities. Sometimes they give information as and when they get it (Participant 1, Agency BB, 2017)

The analysis further revealed that not only are some NGOs and media houses unable to accurately interpret data/information, but they also lack a proper understanding of the dynamics relating to petroleum activities and environmental protection in Ghana. Subsequently, and unsurprisingly, they end up misinforming the public. When talking about NGOs and their contributions to the outcomes of regulatory functions, almost all the interviewees, including those from an NGO, passionately voiced their dissatisfaction. As one interviewee eloquently noted;

> …they [NGOs] don't take time to even seek for information and most of them I think are loudmouths…they talk too much. They don't ask questions, they don't seek [information], they're quick to go out without double checking or anything. Sometimes they cook up stories. How would you justify the case being made by some of these NGOs that placing of an FPSO in the sea is the reason for high tides at the coastal areas? Some of them don't even know that there is [the] Petroleum Commission. They don't know the difference between the Petroleum Commission and Ghana Petroleum Authority (the GPA regulates downstream petroleum operations) (Participant 2, Agency HH, 2017)

Regarding the media, another interviewee noted that;

> …sometimes the media as I said, maybe they need to learn [about] the industry a bit more. Sometimes they might say certain things that might not be true, and it's not true because they don't really have the understanding of the industry. (Participant 1, Agency BB, 2017)

Analysis further suggests that the lack of adequate knowledge that characterizes some elements in the fourth estate and some NGOs was/is detrimental to the education and sensitization of the general public. So much so that regulators are put in positions where they have to dispel the misinformation by some media outlets and NGOs. One interviewee indicated that;

> …like journalists… these NGOs [too] don't do research and they just go on [misinforming the public]. To be honest with you it rather creates problems for us (i.e. the regulators) because now we (i.e. the regulators) have to go and do damage repair (Participant 1, Agency HH, 2017)

Lending credence to the identified weaknesses in the environmental regulatory system, the majority of interviewees agree that a combination of robust regulatory mechanisms and their effective implementation by competent regulators, who are adequately resourced, is vital in the protection of Ghana's natural environment. Two indicative comments that capture this sentiment are as follows.

> There is a reason why laws and regulations are made – to regulate the [oil] industry. But beyond that you need the men who have the courage to enforce the laws. You can see how *galamsey* has destroyed our lands and water bodies. This is because EPA and the rest slept on the job. They were not enforcing the laws…they were not proactive and illegal miners hijacked the system. That shouldn't be the case in the oil sector. I know it's the same EPA that is in charge of giving the [petroleum] companies their environmental permits. I hope for this sector they will be proactive. In fact government needs to give them all that they (i.e. EPA and regulatory agencies) require so they'll have no excuse in the future when there are problems (Participant 2, Agency EE, 2017)

> Generally, the laws in the petroleum industry are quite good. But laws alone will not curb irresponsible behaviours. The regulators need to enforce them. We need to be serious as a country and have our priorities right. We need people of integrity to implement the laws. People who are not politically exposed, people who will act like the constitution directs – without fear or favour, affection or ill will. Those are the kind of people we need in our State agencies (Participant Q, 2017)

5.4 Conclusion

This chapter has presented the findings of the analysis of the constraints within the regulatory system that is used to foster environmental protection in Ghana's upstream petroleum industry. The findings reveal that there is a lack of resources and a number of weaknesses in the legal mandates of the regulatory agencies; all of which are leading factors impeding regulatory efforts. What is important to note, however, is that Ghana's petroleum industry is considered a young industry, despite its vast history. The age of the industry implies that in as much as the government may have tried, there are still numerous structures to be put in place to enhance the attainment of environmental objectives. These structures ought to be amenable to the Ghanaian petroleum industry setting. This, coupled with the alleged incompetence exhibited by some regulators makes the environmental

regulatory system vulnerable to potential failures. Even though interview reports suggests that continuous attempts are being made at improving the regulatory system, the identified shortcomings – resource constraints, delays and ambiguous regulatory mechanisms, the dearth of enforcement, political interference and ineffective NGOs and media – may collectively engender regulatory failures in the medium to long term.

This analysis is relevant to the three present oil fields being regulated in Ghana. Typically, the resources, capacity, scope and scale of regulatory oversight required to regulate these three oil fields will differ tremendously should the oil fields increase in number. As a result, it is imperative for the environmental regulatory system to be regularly reviewed and updated to stay on par with the growth of the industry. Furthermore, the regulatory agencies need to be adequately resourced in accordance with the pace of the industry and fluidity of technology, otherwise, the identified challenges will be significantly exacerbated.

The next chapter presents findings that explore how and why the petroleum companies in Ghana's upstream industry undertake corporate environmental responsibility.

CHAPTER SIX: CORPORATE ENVIRONMENTAL RESPONSIBILITY: COMMUNICATION, PRACTICE AND PERCEPTIONS

6.1 Introduction

This chapter presents the results relating to how and why petroleum companies in Ghana's upstream industry undertake corporate environmental responsibilities, together with the perceptions about the fulfilment of their CER. The chapter is divided into three main sections. In the first section, the results of how the petroleum companies employ environmental communication to express the fulfilment of their CER in Ghana are presented. This section is complemented by a presentation of the perceptions of some actors about the contents of their environmental communication. Following this section, some of the actual ways the petroleum companies undertake their CER in Ghana, together with the accompanying perceptions about their performance are outlined. In the final section, the key factors that drive the petroleum companies to undertake their CER in Ghana are provided.

It is important to note that all the petroleum companies in Ghana's upstream industry are within different stages of their petroleum operations. While companies such as Tullow and Eni are within their production stage, others, such as Springfield, are within the initial stages of their exploration activities. As a result, the availability and type of information relating to their petroleum operations and the fulfilment of their environmental responsibilities differ. In some cases, there was limited accessibility to data and in other instances, the available data was uneven. This notwithstanding, the data available allowed analysis of how and why petroleum companies in Ghana's upstream industry undertake their CER. Unless otherwise stated, this chapter is neither meant to explicitly validate nor compare the environmental outcomes of these companies.

As outlined in the methods chapter, this assessment is based on extensive document and content analysis, and includes environmental and environmentally related statements made publicly available on the official websites of the petroleum companies, as well as EIA and technical reports. Peer-reviewed articles on petroleum operations in Ghana also informed

the analysis. The analysis from these sources was also validated by the semi-structured interviews with key actors in Ghana's upstream petroleum industry.

Key Findings

- Petroleum companies in Ghana use environmental communication as their key means of expressing their environmental awareness and commitments to the safety of the natural environment.
- There is widespread doubt about the contents of petroleum companies' environmental communication among some Ghanaians.
- There exists some negative perceptions about the actual fulfilment of environmental responsibilities by petroleum companies in Ghana.
- Although some petroleum companies undertake CER in order to protect and project their corporate reputation, they are also driven to do so in Ghana by;
    - The imposition of relevant regulatory systems,
    - The availability of essential petroleum infrastructure, and
    - The outspoken nature of Ghana's society.

6.2 Analysis of How Petroleum Companies Undertake CER in Ghana

The analysis shows that, the petroleum companies in Ghana's upstream industry, in fulfilling their environmental responsibilities, engage in massive environmental communication, as well as, the 'actual performance' of environmental objectives. Environmental communication, as mentioned earlier, basically describes the articulation/broadcast of key messages and narratives and/or demonstration of certain deportments that reflect petroleum companies' environmental disposition, awareness, intentions, commitments, policies and outcomes. Environmental performance, on the other hand, describes the actual implementation of companies' environmental obligations, some of which may be in fulfilment of legal directives. While the environmental communication from the petroleum companies suggests that they are committed to fulfilling their environmental responsibilities, there is widespread doubt about the contents of their communication among some Ghanaian residents.

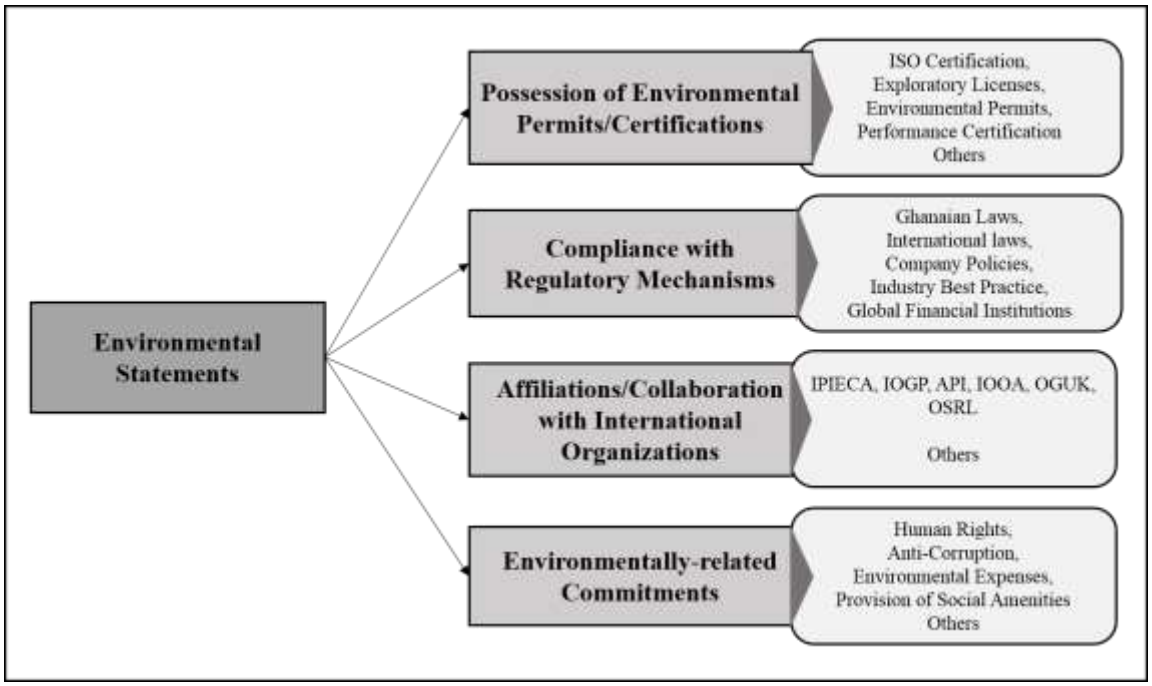
The ensuing section presents the findings that show how petroleum companies use environmental communication as their key mechanism by which they assert they fulfil their

CER in Ghana, together with the documentation of the perceptions of other actors about their environmental communication.

6.2.1 Environmental Communication

Analysis shows that petroleum companies use their environmental statements to highlight four key messages/narratives that seek to inform and convince stakeholders that they are being environmentally responsible in Ghana. Figure 6.1 illustrates these messages.

Figure 6.1: Schematic Showing the Key Elements that Petroleum Companies in Ghana Emphasize in their Environmental Communication



Author's Construct

Analysis of their environmental statements found that the petroleum companies in Ghana, like others worldwide, emphasize their commitments to and respect for the natural environment. They further state their positions on key environmentally-related commitments, such as, respecting human rights. While these environmental statements present a certain account of petroleum companies' environmental behaviours, the diction and semantics used in such statements indicate whether they are only committed or are actually making practical efforts at fulfilling their CER in Ghana. Typically, while the semantics of some environmental statements prioritize petroleum companies' awareness and commitments towards environmental issues, others emphasize the actual efforts they

are making to ensure the safety of Ghana's natural environment. To exemplify this observation, in demonstrating their commitment towards the natural environment, Sahara states emphatically that "[they] are committed to reducing the impacts of [their] activities on the environment…" (Sahara Group 2015, p. 23). On the other hand, Heritage Oil Limited, by employing semantics that suggest actual efforts towards the realization of environmental outcomes, indicates that "[they] identify and assess potential environmental impacts at the planning stage of [their] operations" (Heritage Oil 2014b). Likewise, indications from Hess' 2017 Annual reports suggests that "[they] recognize that climate change is a global environmental concern", and as a result, "[they] assess, monitor and take measures to reduce [their] carbon footprint at existing and planned operations." (Hess 2017, p. 42) Table 6.1 presents additional environmental statements that typify this trend.

Table 6.1: Representative Summary of Petroleum Companies' Environmental Statements

Company	Environmental Statement
Amni	We strive to operate in a safe and environmentally conscious manner. (Amni 2018d)
Eni	…respecting people, the environment and the society as a whole lies at the heart of [their] operations in being sustainable' (Eni 2017, p. 5)
Erin	We are committed to the protection of the environment and believe we are in material compliance with the applicable laws and regulations (Erin Energy 2016a, p. 8).
GNPC	We prioritise health and safety and we protect the environment. We keep people, asset and the environment protected as a first step to achieving corporate goals (GNPC 2016)
Kosmos	Kosmos works hard to identify and then prevent or minimize any environmental impact from our operations (Kosmos Energy 2014, p. 9)
Springfield	We respect and care about the environment and take steps to operate in a sustainable manner that affects it positively (Springfield 2017b)
Tullow	Our goal is to create a working environment where we cause no harm to people, we minimise our environmental and negative social impacts, and we seek to optimize the shared benefits generated through our activities. To achieve this goal, among others, we will systematically identify and assess environmental, health, safety, security and social risks and manage them proactively throughout the project life cycle (Tullow Oil 2017b)

Source: Amni 2018d; Eni 2017; Springfield 2017b; Tullow Oil 2017b; Erin Energy 2016; GNPC 2016

Moreover, when reflecting on the human rights violations ascribed to Tullow when the petroleum company was alleged to have illegally disposed of harmful drilling waste in a wildlife park in Uganda (Imaka 2013), the company's CEO, Paul McDade, in 2017 signed a human rights policy statement, exhibiting the Company's position on human rights (Tullow Oil 2017c). The policy statement expressed Tullow Oil's commitment to respect human rights, as it noted that;

> Tullow is committed to respecting internationally recognized human rights, and seeks to implement the U.N. Guiding Principles on Business and Human Rights and the Voluntary Principles on Security and Human Rights. Everyone who works for, or on behalf of, Tullow is responsible for ensuring that this policy is implemented (Tullow Oil 2017b, p. 1)

Analysis also indicates that in some of the petroleum companies environmental statements emphasize that not only do they oppose corrupt practices, but they also have practicable measures in place to forestall their occurrence (Eni; Hess 2018b; Springfield 2017; Erin Energy 2016b, 2011; Tullow Oil 2015b; Heritage 2014). This particular revelation by the petroleum companies is necessitated by the need to defuse the connection between corruption and environmental disasters in the petroleum industry, as is evident in Nigeria. Petroleum companies attempt to address issues of bribery and corruption across their administrative and operational spectra by adopting policies that prohibit gift giving, briberies, conspiracies and conflicts of interests. Some of the indicative comments in relation to this specific message are as follows.

> [we] are resolutely opposed to bribery and corruption in whatever forms they [may] take and do not participate in, or finance, party politics (Heritage Oil Limited 2014).

> …[we] adhere strictly to all applicable anti-corruption laws as well as international best practices, and have provided guidelines on anti-corruption in [their] code of conduct for all employees, directors, suppliers and partners (Springfield 2017a).

> Tullow has zero tolerance of any form of corruption…We do not offer, promise or give, nor do we request, agree to receive or accept, any bribe of any description or value to reward the improper performance of someone's duties or

> for any other purpose. This applies to anyone who works for, or provides services, to Tullow (Tullow 2018, p.17)

In respect of these statements, one interviewee revealed that;

> Most of the oil companies sign up to these anti-corruption [laws] and they keep throwing it in our face that they are really strong about that (i.e. anti-corruption) (Participant 1, Agency HH, 2017)

Indeed Tullow, in their 'Code of Ethical Conduct' document, indicate that they are 'subject to many anti-bribery laws in the jurisdictions within which [they] work and, as a UK registered company, are required to comply with the *UK Bribery Act (2010)* (Tullow 2018, p.17).

With respect to compliance with regulatory mechanisms, Tables 4.1 to 4.3 in Chapter 4 above outline some of the predominant regulatory mechanisms that govern Ghana's upstream petroleum industry. Specifically, *Act 919* states that;

> A person conducting petroleum activities *shall* at all times;
> *(a)* maintain efficient emergency preparedness to prevent, control, handle and minimize accidents and emergencies which may lead to loss of life or personal injury, pollution or major damage to property including fire, oil spills, gas leakages, blow-outs, accidents or other emergency situations; and, *(b)* ensure that necessary measures are taken to prevent or reduce harmful effects, including the measures required to return the environment to the condition it was before the accident occurred (Section 75 ACT 919)

> A licensee, contractor, sub-contractor, the Corporation and any other person engaged in petroleum activities under this Act *shall* ensure that persons performing work directly or indirectly for them comply with the Regulations, directives and requirements issued under this Act (Section 49 (3) ACT 919)

In order to inform stakeholders about the efforts they are making to fulfil their environmental responsibilities, analysis found that the petroleum companies in Ghana proactively state their compliance with governing regulatory mechanisms both within Ghana and the global petroleum industry. For instance, Hess Corporation has indicated that

"[they] are committed to complying with all Greenhouse Gas (GHG) emissions mandates and the responsible management of GHG emissions at [their] facilities" (Hess 2017, p. 42). Also Eni, under its Code of Ethics, asserts that its hydrocarbon operations are carried out in compliance with relevant international standards; HSE regulations, as well as administrative practices and domestic laws and policies of Ghana (Eni 2014, p. 15).

Particularly, with respect to Section 49 (3) of *Act 919*, Eni indicates in its environmental statements that it conducts annual audits on all its sub-contractors, service providers and suppliers to ensure that each one of them adheres to relevant international, domestic (Ghana) and Eni's approved environmental standards and policies. To this effect Eni, has in the past decade, conducted about 172 SA8000 audits on its suppliers within fourteen sites including eight of its subsidiary suppliers in Ecuador, Vietnam, Algeria and Ghana (Eni 2018b). Social Accountability 8000 (i.e. SA8000), developed by Social Accountability International, is an auditable certification framework used by business entities to design, implement and maintain socially acceptable practices in the workplace.[21]

In a connected example, Tullow Oil, in its 2017 Annual Report and Accounts also show that they "have enacted mandatory policies and standards, [as part of their efforts] to guide operational responsibility and to which [they] hold all employees and contractors accountable" (Tullow Oil PLC 2017, p. 36). Furthermore, Sahara Group has also indicated that it has in place relevant standards with which it relates with and conducts oversight roles over their service providers and suppliers (Sahara Group 2018b).

Moreover, analysis demonstrates that the petroleum companies are very assertive at demonstrating that they possess relevant environmental permits, licenses and certifications, and thus, by association, imply their compliance with relevant regulatory mechanisms that these licenses and permits subject them to. For instance, at every stage within the life-cycle of petroleum operations, petroleum companies in Ghana are required by law to apply for and obtain the right permits before they commence activities within that stage. A typical example of this requirement is enshrined in Section 31 (1) of *Act 919* which states that;

[21] See Social Accountability International, About SA800 at http://saintl.org/our-programs/sa8000-standard-leading-social-certification/learn-about-sa8000/

> …a contractor *shall* not produce or inject petroleum if the contractor does not have an annual permit granted for that purpose by the [Petroleum] Commission (Act 919)

Prior to this, however, Regulation 1(1) of the *Environmental Assessment Regulations, 1999* (LI 1652) states that;

> No person *shall* commence any of the undertakings specified in Schedule 1 to these Regulations or any undertaking to which a matter in the Schedule relates, unless prior to the commencement, the undertaking has been registered by the Agency (i.e. the EPA) and an environmental permit has been issued by the Agency (i.e. the EPA) in respect of the undertaking (R 1(1), LI 1652)

The requirement for the registration and subsequent granting of environmental permits by the EPA for petroleum operations is for the petroleum companies to furnish the EPA with either a preliminary environmental report or an EIA, as required by Regulations 3 of *LI 1652*. According to Regulation 9(1) of *LI 1652*, the petroleum companies are required to include in their environmental reports the identified and potential adverse environmental externalities of the proposed activity and corresponding management plans to prevent/mitigate those externalities. The environmental permits when issued by the EPA are valid for eighteen months and subject to renewal, in alignment with the terms as directed by the EPA (Act 490). Prior to the issuance of an environmental permit, however, the EPA may notify relevant state agencies not to issue any permit, licence or approval to a petroleum company until the said company complies with the environmental standards (Section 12(2) Act 490). On this premise, therefore it is critical for the petroleum companies that they show they possess the relevant permits and licenses in their environmental statements, since the possession of such permits and licenses is in itself compliance with legal requirements.

This study, further, found that some of the petroleum companies indicate in their environmental statements the possession of relevant environmental certifications from international bodies, such as the ISO. For example, Tullow indicated that;

> During drilling, installation, hook-up and commissioning, environmental and social management will be implemented through the TEN Project ESMP and

> related documents. From the commencement of operations, the TGL EMS Management Framework (TGL-EHS-PRC-04-0052), certified to the ISO14001:2004 standard, will also be applied to the TEN Project (ERM 2014, p. 575)

Complementing this messaging, it emerged from the analysis that some petroleum companies often deliberately mention their affiliation, membership and/or collaboration with international organizations as a way of expressing their environmental commitments to stakeholders. To contextualize this, and highlight the messages, Table 6.2 sums up a range of the more prominent international organizations, whose objectives and obligations encourage environmental prudence from their member companies. It is important, from the perspective of maintaining corporate reputation, that petroleum companies are seen to be affiliated with these groups.

The promotion of international affiliation with these prominent organizations ensures that petroleum companies are seen by the general public to be environmentally aware and are making (*vis-à-vis*, their obligations) conscious efforts at pursuing environmental goals. For example, not only has Tullow Oil remarked that '[they] cooperate with, and contribute to the development of [the] industry by participating in relevant industry associations' (Tullow Oil 2015b, p. 23); but also, data from the EIA report on the TEN project suggests that Tullow adopts the practice standards provided by the IOGP and the International Petroleum Industry Environmental Conservation Association (IPIECA) (ERM 2014a). Specifically, the EIA report states that;

> In response to [oil spill] events TGL (i.e. Tullow Ghana Limited) has in place the fundamental components of preparedness and response, including an Oil Spill Contingency Plan (OSCP) which sets out the strategy and procedures that will be taken in the event of an oil spill…This approach is aligned with the International Petroleum Industry Environmental Conservation Association (IPIECA) guidance (ERM 2014a, p. 506-507).

Table 6.2: Example of Some Environmental Organizations, their Environmental Objectives and Members' Obligations

Organization	Objectives	Members' Common Obligations
International Petroleum Industry Environmental Conservation Association (IPIECA 2018b) • Kosmos, Tullow, Eni, Hess	Enable companies to improve their [environmental] performance and reduce their footprint by providing sound analysis, assessment tools, good practices, credible data sources and appropriate indicators. Develop and promote the use of sustainable management practices around flaring, greenhouse gas (GHG) emissions and energy efficiency. Develop a long term (2030) vision and implementation pathway for IPIECA on climate change. Evaluate the application of net benefit in the oil and gas industry for improving environmental performance.	The common obligations of members belonging to these associations include; Comply with environmental legislation and international best practices on environmental sustainability. Engage in environmentally safe practices. Ensure honest environmental record keeping and reporting. Ensure safe working environments for employees. Practice good corporate governance.
International Association of Oil and Gas Producers (IOGP 2019) • Kosmos, Tullow, Eni, Hess	To improve the collection, analysis and dissemination of data on HSE and security performance. To develop and disseminate best practice in HSE, security, engineering and operations continually improved by feedback from members, regulators and other stakeholders. To promote awareness and best practice in social responsibility and sustainability.	
The Oil Spill Response Limited (OSRL 2019) • Tullow, Eni, Hess	Promote a healthy work environment Ensure everybody's safety. Effectively manage our environmental footprint. Strive for continual improvement in quality.	

Author's Construct. Adapted from IOGP 2019; OSRL 2019; IPIECA 2018b

Taking all of these points together, analysis suggest that environmental communication is mainly used to convey a notion of environmental awareness on the part of the petroleum companies, and to instil trust and confidence among all stakeholders, about their commitments to their environmental responsibilities. For instance, information from Kosmos' 2014 Annual Report suggests that the use of environmental communication

"…builds trust and credibility, and will ultimately better equip [them] to have a positive and lasting impact everywhere [they] work" (Kosmos Energy 2014, p. 2).

In spite of this aim, and notwithstanding the purposes for which the petroleum companies employ the use of environmental communication, further analysis reveals that there is in fact, widespread doubt among some sections of the Ghanaian community about the contents of petroleum companies' environmental statements. This is elaborated below.

6.2.2 Perceptions about the Environmental Communication and Messaging by the Petroleum Companies in Ghana's Upstream Industry

One of the striking themes to emerge from the analysis of interview reports was the articulated scepticism in reaction to the messages conveyed in the contents of the petroleum companies' environmental statements. Some interviewees asserted their belief that despite the purposes for which environmental communications are made, they are not convinced that the petroleum companies actually mean them. For some of the interviewees environmental communication by the petroleum companies is just a formality to influence stakeholders' perceptions about their activities. They maintained that some petroleum companies usually go about their routine operations and only adopt the strategy of communicating their environmental policies, practices and achievements in order to adumbrate the actual issues that ensue in the course of their routine petroleum operations (i.e. greenwashing). In this way, they are able to shield their corporate images from a bad reputation. Specifically, some interviewees equated the performance of Ghanaian companies with those in Nigeria by noting that;

> …Shell has caused unimaginable damage in Nigeria. But take a look at their website and you'll see how they craft their words not to look like the bad guys. The people who manage these companies are smart. They know that admission of wrongdoing can destroy their business so they won't do that. Instead, they'll say they respect the people and they regard the environment… (Participant T, 2017)

> …this is all a PR stunt (i.e. Public Relations). We all know the impacts of oil. In fact we know how it has affected some countries (referring to Nigeria). It's

> difficult to believe what they say. I bet Nigerians were told these same things (Participant 1, Agency FF, 2017)

This assertion is consistent with the view held by many Ghanaians. For example, analysis of reports by local news outlets indicate that the majority of Ghanaians are not only worried about the environmental repercussions of petroleum activities in Ghana, but also doubt the contents of petroleum companies' environmental statements. In a typical example, in 2016, the Swiss African Oil Company Limited (SWAOCO) was given exploratory rights in the Keta Basin. The Keta basin is unique in the sense that the area(s) allocated for hydrocarbon E&P mainly support subsistent life of the locals. With a largely flat flood plain, the delta is interwoven with bushes, swamps and shallow to relatively deep marine zones. The environmental statements on the official website of SWAOCO indicate that;

> Cultural/environmental sensitivity and conservation will be paramount considerations during all field operations (Swiss African Pet n.d.)

> [SWAOCO's] objective also assures responsible protection of environments in which the Company operates with safety and security for all concerned (SWAOCO n.d.)

These statements, notwithstanding, the majority of residents at Keta say they are unwilling to allow exploratory activities because of concerns that their land could be devastated like the Niger Delta has been. While responding to the environmental statements put forward by SWAOCO, some of the residents expressed their distrust, stating that '…it is only a fuss. Some of us have seen it and heard it' (Myjoyonline 2018a)

The doubts expressed about the contents of the environmental communication and messaging by the petroleum companies is not surprising, especially when considered within the context that some of the petroleum companies have actually been found to deliberately convey misleading information to manipulate people's perceptions about important issues. For instance, Supran and Oreskes (2017), revealed that ExxonMobil, the new entrant into Ghana's upstream petroleum industry, provided misleading information about their awareness of climate change and the contribution of fossil fuel emission to the global menace. Exxon, apparently, did this in order to create uncertainties and doubt about the

contribution of fossil fuel emission to climate change. Supran and Oreskes (2017), remarked that "…the question is not whether ExxonMobil suppressed climate change research, but rather how they communicated about it…ExxonMobil contributed quietly to the science and loudly to raising doubts about it." (also see The New York Times, 2017)

It is evident, then, that while environmental communication (and messaging), as a tool, may reflect petroleum companies' environmental awareness and commitments to their CER, it does not, *in itself*, connote actual environmental performance and thus, does not fully epitomize CER. This assertion is reinforced by the ongoing scepticism expressed by many Ghanaians about the contents of petroleum companies' environmental communication. On this premise therefore, it is prudent to find out whether or not the petroleum companies, in alignment with their environmental communications, actually *fulfil* their environmental responsibilities in Ghana, since it is the systematic efforts and consistent implementation of environmental policies and strategies that form an integral part of a company that is environmentally responsible. In agreement, one of the interviewees stated that;

> …If you want to know if petroleum companies are complying with the laws, then you need to look beyond their reports and other information they make available. Because so long as they're producing those reports I doubt they'll reveal any mishaps if and when they happen. Do you know what that will do to their image? (Participant Q, 2017)

6.2.3 Performance of CER by Petroleum Companies in Ghana

This section presents the results of a qualitative analysis of the environmental performance (and not necessarily the environmental outcomes) of the petroleum companies in Ghana's upstream industry. Analysis found that prior to the fulfilment of CER, the petroleum companies put in place some rudimentary and auxiliary systems and structures to enhance the achievement, maintenance and/or improvement of their envisaged environmental objectives, while also facilitating their compliance with regulatory mechanisms (i.e. the Environmental Management Performance – EMPs). From this point, they implement strategies that seek to avert, mitigate and/or manage the adverse environmental externalities of their operations (i.e. the Environmental Operational Performance – EOPs).

For this section, the environmental performance of the petroleum companies was analysed against two broad themes – the EMP and the EOP. Within these themes, specific sets of indicators were identified and used as a basis to analyse how the petroleum companies perform their environmental responsibilities in Ghana. For the EMPs, for instance, it was established whether the petroleum companies;

- Have local offices;
- Possess relevant licenses and permits;
- Have environmental management systems (EMS) and policies; and,
- Train their personnel on environmental issues; among others.

For the EOPs, for instance, it was established whether the petroleum companies engage in activities to;

- Control their emissions;
- Manage their waste; and,
- Minimize the use of energy, among others.

These indicators are drawn from indicator sets that have been verified and accepted by several researchers who also present significant evidence about the environmental performance of companies within the polluting industry (Trumpp 2015; Rahman & Post 2011; Clarkson *et al* 2008; Guenther *et al.* 2007; Jose & Lee 2007; Cogan 2006; Matthews et al. 2004; Ilinitch *et al.* 1998).

For this analysis, over fifty publicly available documents that contained information about the environmental performance of the petroleum companies in Ghana were analysed. These documents, as outlined the methodology chapter (Section 3.4.3.1), comprise Environmental and Social Action Plans; CSR Reports; Environmental Management Plans; SEC Filings; among others. Additional information from semi-structured interviews with key actors in Ghana's upstream petroleum industry were also used in the analysis.
Table 6.3 shows a representative summary of the indicative themes relating to how these petroleum companies actually fulfil their CER.

Table 6.3: Summary of Corporate Environmental Performance by the Petroleum Companies in Ghana's Upstream Petroleum Industry

Indicators / Petroleum Companies		GNPC	Kosmos	Tullow	Eni	Erin	Eco Atlantic	Sahara	Hess	Springfield	Swiss African	Amni	Saltpond OPL	UB	Medea	AGM	Heritage
Environmental Management Performance (EMP)																	
Local offices in Ghana		√	√	√	√	-	-	-	√	√	√	-	√	-	-	√	-
Possession of Environmental Management Systems		√	√	√	√	-	-	-	√	√	√	-	√	-	-	-	-
Development/Procurement of Environmental Technology		-	√	√	√	-	-	-	√	-	-	-	-	-	-	-	-
Environmental Reporting		-	√	√	√	√	-	-	√	-	-	-	-	-	-	-	-
Safe Work Environment		√	√	√	√	-	-	√	√	√	√	-	-	-	-	-	-
Employee Safety		√	√	√	√	-	-	-	√	√	√	-	-	-	-	-	-
Capacity Building on Environmental Issues (i.e. Training)		√	√	√	√	-	-	√	√	-	-	-	-	-	-	-	-
Community Engagement on Environmental Safety		√	√	√	√	-	-	-	-	-	√	-	√	-	-	-	-
Bribery and Anti-Corruption Policy		-	√	√	√	√	√	√	√	√	√	√	-	-	-	-	√
Whistle-blowers' Protection		-	√	√	√	√	-	√	-	-	√	√	-	-	-	-	√
Human Rights Protection		√	√	√	√	√	-	√	√	√	-	-	-	-	-	-	√
CSR	Education	√	√	√	√	√	X	√	√	-	-	X	√	-	-	-	-
	Health Care	√	√	√	√	-	X	√	√	-	-	X	√	-	-	-	-
	Social Amenities	√	√	√	√	-	-	√	√	-	-	X	√	-	-	-	-
Environmental Operational Performance (EOP)																	
Controlled Emission (No Flaring)		-	-	√*	√	-	-	-	-	-	-	-	-	-	-	-	-
Waste Management	Eliminate/Manage Waste	√	√	√	√	-	-	-	√	-	-	-	-	-	-	-	-
	Spill Prevention	√	√	√	√	-	-	-	√	-	-	-	-	-	-	-	-
Migration to Sustainable Energy Sources		-	√	√	√	-	-	-	√	-	-	-	-	-	-	-	-

Note – '√' = activity was sighted and being performed; '√*' = activity was sighted but not regularly performed; 'X' = activity is not performed in Ghana; '–' = no information

Author's Construct

In Table 6.3, where there was no publicly available information about some of the petroleum companies (e.g. AGM, UB and Medea), this is represented by '–'. The obtained information suggest that some environmentally responsible activities are being performed by some petroleum companies, this is represented by '√'. In other cases however, the available information show that some of these activities, even though they were being performed in Ghana, were not done regularly, and this is represented by '√*'. Some petroleum companies, on the other hand, were not performing the identified environmentally responsible activities in Ghana, and this is represented by 'X'.

This Table 6.3 shows that although in excess of fifteen petroleum companies have licenses to operate in Ghana, only a few of them have publicly available data that captures their environmental performance. Petroleum companies such as Kosmos, Tullow and Eni have enough data from which their environmental performance could be analysed. However, for others, such as, AGM, UB and Medea, very little information was found in relation to their petroleum operations, and for that matter their environmental performance, in Ghana. This lack of information could be linked to the fact that most of these companies are within the initial stages of their exploration activities, as alluded to earlier. The absence of data about these companies' environmental performance, however, does not in any way imply that they do not perform their CER in Ghana.

6.2.3.1 Environmental Management Performance (EMP)

There is no gainsaying that for companies to undertake their EMPs, they need to have local offices in the countries within which they operate. In Ghana, out of the sixteen petroleum companies, nine of them were observed to have set up local offices in Ghana, and have equipped them with resources and personnel to handle environmental issues. Table 6.3 highlights the companies that have such offices in Ghana. For instance, Eni has created the Energy Solutions Department (ESD), whose core duty is to 'complement and integrate the traditional energy sources with the production of energy from renewable sources, through profitable projects on an industrial scale' (Eni 2016, p. 19). For Tullow, their environmental department, supervised by the Board subcommittee on HSE, is tasked to "monitor the performance and key risks that the Company faces in relation to occupational and process safety, security, health and environmental management…" (Tullow Oil 2017, p. 1).

Also, it emerged from the analysis that companies such as Tullow, Eni and Heritage, have Anti-Corruption Compliance Units, as shown in Table 6.3. According to these companies, the setting up of these units ensure that due diligence is maintained at all times in all the dealings of their companies and subsidiaries (Eni; Tullow Oil 2015b; Heritage 2014). To ensure the effectiveness of their anti-corruption measures, some of the petroleum companies have policies that encourage whistle-blowing, to expose misbehaviours and/or wrongdoings by personnel in the company that could affect the reputation and profitability of the company. For instance, Eni encourages people (both employees and non-employees) to make 'confidential and anonymous' claims and complaints ranging from environmental malpractices, non-compliance with legal provisions, breaches of internal codes of conduct, unauthorized use of Company resources, including confidential information, harassment and internal conflicts (ENI). Kosmos Energy, Erin Energy Corporation, Amni, Heritage, Swiss African and Sahara Group were all noted to have in place structures that facilitate whistleblowing (Sahara Group 2018a; Erin Energy 2016b; Kosmos Energy 2014).

Furthermore, as part of their environmental management performance (EMPs), analysis further indicates that the development and possession of environmental management systems (EMS) and plans is one of the indicative ways in which the petroleum companies in Ghana undertake their corporate environmental responsibilities.

Review of secondary data suggests that petroleum companies such as Eni and Tullow use ISO 14001, ISO 26000 and SA 8000 frameworks, in their environmental management systems (EMS) policies (Eni 2017a; Tullow 2010). Specifically, based on these frameworks, Tullow has developed an environmental management strategy document that outlines the strategies and systems needed to coordinate the Company's HSE-related issues. This is the EHS Management Plan (00002-TLW-ESPLN-0001) (ERM 2014, p. 575). Further analysis also reveals that for the TEN Project in particular, Tullow, has designed an environmental management framework which is certified to the ISO14001:2004 standard. This framework, which they refer to as the EMS Management Framework (TGL-EHS-PRC-04-0052), has been used in conjunction with other management systems during field development and drilling, as well as managing the environmental and social repercussion of their petroleum activities (ERM 2014, p. 575). Analysis of interviews with participants corroborated this secondary data (Eni 2017a; Tullow 2010), that suggests that petroleum companies, such as Tullow and Eni have designed and espoused specific

environmental management systems to address environmental issues in Ghana. Specifically, one interviewee stated that;

> …the thing is before you can start your operations in Ghana, you have to get the permit. But before you get the permit you have to show the impacts of your operations and the measures you'll put in place to control the impacts. So if you see, let's say, Tullow operating, it means they have the permits, and if they have the permit then it means they have the measures to manage things like their environmental impacts (Participant R, 2017)

Furthermore, Section 60 (4) of *Act 919* states that;

> A person (i.e. the Petroleum Companies) carrying out petroleum activities *shall* in consultation with the [Petroleum] Commission prepare and implement plans and programmes to train citizens in all aspects of petroleum activities (i.e. including environmental protection schemes) in accordance with the Regulations and the terms of the licence, petroleum agreement or petroleum sub-contract (Act 919)

In a related provision, *LI 2258* (i.e. the HSE Regulation 2017) in Section 8 (a) directs petroleum companies to "have a health and safety plan that is adapted to the scope of the petroleum activity." This plan ought to include details relating to "(4b) training and competence development; (4e) waste management; and (4f) emergency preparedness and response for the relevant petroleum activity." *LI 2258* further reiterates in Section 103 that petroleum companies *shall*;

> Ensure that necessary training and exercises are conducted, so that the personnel are always able to manage operational risks and handle accidents and emergency situations in an effective manner (Section 103, HSE Regulation 2017)

Analysis shows that, in compliance with this provision, Kosmos, for instance, conducts regular "training, exercises and drills with both internal and external stakeholders to continuously improve [their] readiness to respond" to environmental emergencies (Kosmos Energy 2016c). Meanwhile, Tullow has achieved a significant increase in the "representation of local talent in [its HSE] team through [its] internal development and National Vocational Qualification programme" (Tullow Ghana Ltd. 2014, p. 19). Interviews with participants corroborated these instances, and further show that government regulators

benefit significantly from the training programs organized by the petroleum companies. For instance, one interviewee remarked that;

> I know Tullow Oil organizes environmental oil spill training every year and EPA is part. EPA gets to send representatives to those programs as part of [the] training (Participant 1, Agency DD, 2017)

Analysis of interview reports suggest that the government regulators believe the environmental management performance (EMPs) of the petroleum companies are worthwhile. According to one participant, the regulators believe that the rudimentary systems, structures and measures put in place by the petroleum companies are capable of averting any serious environmental disasters. The interviewee noted that;

> …what they (i.e. the regulators) tell you is that, they don't see this kind of potential (i.e. environmental disaster)…even the potential of *serious* future environmental degradation. They don't see it (Participant 1, Agency EE, 2017)

Another outstanding theme that emerged from the analysis is the fact that there is provision of various incentives to local communities in Ghana to equip them in the management of environmental issues that may be created by Ghana's upstream petroleum industry. Of significant relevance is the provision of educational and healthcare systems, as well as the establishment of vital social amenities, such as potable drinking water. All of these undertakings resonate with the fourth standard of the International Finance Corporation (IFC) Performance Standards on Environmental and Social Sustainability (i.e. Community Health, Safety and Security) (IFC 2012). This is part of the eight Performance Standards that companies which are funded by the IFC need to meet throughout the duration of their IFC funding. The study found that some petroleum companies have these CSR initiatives in place, as shown in Table 6.3.

For example, analysis revealed that Saltpond Offshore Producing Company Limited (SOPCL), Sahara Group, Tullow and GNPC have all provided several educational accessories (e.g. textbooks and ICT resources); infrastructure (e.g. classroom blocks); funding (i.e. scholarships); school feeding programmes and counselling sessions (Sahara Group 2018a, 2015; GNPC 2016a; Tullow Oil 2015, 2014; SOPCL-CSR 2010). These efforts are put in place to facilitate teaching and learning activities for less privileged

students in host communities around petroleum operations. Ishmael Gyimah, one of the beneficiaries of such an initiative, the Jubilee Technical Training Centre (JTTC), which was established to provide Ghanaians 'pre-tertiary technical education' (Tullow Oil 2014), noted that;

> …having the opportunity to train and acquire internationally accredited skills will not only boost my career but also give me a chance to participate in Ghana's growing oil and gas sector (Tullow Ghana Ltd. 2014, p. 14)

Furthermore, SOPCL, Sahara Group, Tullow and GNPC have also focused on healthcare issues by establishing funds, donating medical equipment, organizing free medical screenings, refurbishing and erecting new healthcare facilities (i.e. in instances where there are none) (Sahara Group 2018a; GNPC 2016a; Tullow Oil 2014; SOPCL-CSR 2010). Additionally, Sahara Group has provided boreholes and public toilets within some local communities (Sahara Group 2018a), while Kosmos Energy, in conjunction with the Safe Water Network and the Community Water and Sanitation Agency has established a water project to provide local communities in the Western region with clean water (Kosmos Energy 2014). These projects have in part contributed to the decreased rate of Buruli ulcer and guinea worm infections in the area (Sahara Group 2015). Analysis of interview reports endorses this claim. One interviewee from one of the NGOs indicated that;

> …some of the companies are doing well. They go out there and provide all of these amenities. The people there (i.e. local residents) are happy with these amenities. I'm aware that Kosmos helped to construct boreholes some time ago, and this has reduced the rate of water-borne diseases recorded in the area (Participant U, 2017)

While most of the petroleum companies have indicated that they do these projects in the various countries they operate in, there is little or no information that shows that these projects are being implemented in Ghana. To illustrate this, even though Amni has outlined on its official website the construction and furnishing of a number of health, educational and infrastructural amenities (Amni 2018b), none of the available information sites these in Ghana. Also, even though Eco Atlantic's official website shows that the company has implemented some social commitments; with an active role in education, by providing

funds and resources to enhance learning, Like Amni, there was no indication that any of these development projects has happened in Ghana.

6.2.3.2 Environmental Operational Performance (EOP)

Based on the available data, the EOPs of petroleum companies can be analysed from their emissions control and the prevention/management of waste, as shown in Table 6.3. Obviously, these are done by the use of advanced technology and sustainable energy sources. The results in this subsection are, therefore, grouped in two broad themes – (i) the application of technology and (ii) waste management arrangements. These are elaborated as follows.

6.2.3.2.1 The Application of Advanced Technology to Achieve Environmental Objectives

The analysis shows that some petroleum companies in Ghana's upstream sector have commenced their respective processes of migration into more sustainable operational practices and energy sources. In regards to the use of energy, some petroleum companies have considered alternative sources of energy production systems: a move which aims at reducing the emission of CO_2 and other GHGs (Sowa *et al.* 2018). For instance, Eni, in pursuing its commitment to developing technologies for environmental monitoring, protection and remediation, has developed and tested ground-breaking procedures for its hydrocarbon operations. Among them is the employment of a subsea robotic technology, called the *Clean Sea*, which conducts automatic environmental monitoring on offshore petroleum platforms. The company also possesses a patented technology, called the *Rapid Cube*, which is designed to react to unexpected oil spills, resulting from well blow-outs (Eni 2016). The application of such technology for the purposes of pollution abatement and control contributes towards the fulfilment of Eni's environmental responsibilities. Using such advanced technology, as pointed out by one 'regulator' participant, "there has yet to be a spill or discharge by Eni" (Participant 2, Agency FF, 2017). Eni implements other environmental management strategies, and thus reports a three percent decrease in its greenhouse gas (GHGs) emissions (Eni 2017a), which is clearly connected to the use of advanced technology and sustainable energy sources. One participant supported this view indicating that the use of advanced technology by Eni "has led to some reductions in their emissions" (Participant Q, 2017).

Additionally, Kosmos Energy, during its petroleum activities, utilizes an assortment of advanced technology and operational processes, comprising Controlled Source Electromagnetic, Gravity Gradiometry and Magnetic Survey tools and techniques (Kosmos Energy 2016a). The significant decline in the generation of both hazardous and non-hazardous waste, as well as, an overall decrease in toxic air emissions (especially CO_2, Volatile Organic Compounds [VOCs] and GHGs) during the hydrocarbon operations of Kosmos, as shown in Table 6.4, suggests that Kosmos is being proactive in the performance of their environmental responsibilities: particularly, following the fine of US$ 35 million that was meted out to the Company for dumping waste in the ocean in 2011 (Badgley 2012; and Bentil 2010).

Table 6.4: Kosmos Energy Environmental Data on Drilling Rigs and Support Vessels (2012 – 2014).

	2012	**2013**	**2014**
Waste (tons)			
Hazardous	125.3	65.02	7.93
Non-Hazardous Waste	156	34.78	15.54
Total (tons)	**281.82**	**99.80**	**23.47**
Air Emissions (tons)			
Carbon Dioxide (CO_2)	40 607.9	2 384.04	1 572.27
Mono-Nitrogen Oxides (NO_x)	1 088.4	2.28	29.18
Sulphur Oxides (SO_x)	172.8 3.79	0.18	3.79
Methane (CH_4)	2.86	15.02	0.09
Volatile Organic Compounds (VOCs)	30.7	1.71	0.98
Greenhouse Gases (GHGs)	-	2 699.46	1 574.16

Source: Kosmos Energy 2014, p. 36

While a combination of other vital factors, such as scrutiny from environmental advocates and regulatory oversight may have contributed to the improved environmental behaviour of Kosmos, the contribution of the above-mentioned technologies is equally central in the decrease in emissions. This is implicit in the following interview comment.

> …you know what happened to Kosmos. After paying a heavy fine you'll sit up. No one will tell you to sit up. When you talk to the regulators they normally confirm that now most of the companies bring in big machines and equipment. Since we've not heard or seen any incident like before, I think may be the machines are paying off (Participant Q, 2017)

Moreover, indications from TEN's EIA report suggests that in order to decrease the emission of aromatic hydrocarbon compounds from Tri-Ethylene Glycol (TEG) dehydration reboiler units, Tullow has in place a Vapour Recovery Unit (VRU) that collects the emitted gases (ERM 2014a). In the process, there has been some reduction in emissions, even though not consistent. For example, Table 6.5 displays the environmental data that captures Tullow's emissions profile.

Table 6.5: Tullow Oil Environmental Data.

	2014	2015	2016	2017	2018
Waste (tons)					
Hazardous	45 882	50 487	8 903	1 137	11 165
Non-Hazardous Waste	29 917	21 893	49 651	38 270	52 861
Air Emissions (tons)					
Carbon Dioxide (CO_2)	685 204	656 932	653 813	1 306 254	998 141
Mono-Nitrogen Oxides (NO_x)	41.84	29.85	21.98	63.45	60.54
Methane (CH_4)	2 191	2 073	2 741	13 315	9 686
Total Hydrocarbon Flared	117 516	110 638	149 217	290 797	142 259
Oil and Chemical Spills	715.85	24.71	4.85	6.44	-
Total Water Usage (m^3)					
All Operational Sites	10 089 647	8 189 263	9 183 938	12 719 028	13 571 049
Recycled Water	11 250	5 451	4 722	2 308	554

Source: Tullow Oil 2018b, p. 178

Furthermore, drawing from the lessons from historic disasters such as BP's oil spill, which was caused by a blow-out, petroleum companies have become particularly astute in the choice of their engineering and technical architectures. Tullow and Eni, for instance, whose fields have been developed, have put in place secure blow-out preventers (BOPs) that match their respective well designs (ERM 2014a). This is a critically imperative engineering design since BOPs, as their names suggest and by their design, work to prevent uncontrolled oil spills in the event of a blow-out in ultra-deep seas (Grace 2017; Cai *et al.* 2012). This is in compliance with Sections 15, 31 and 75 of *LI 2258*, which direct petroleum companies to ensure their facilities are designed properly to guarantee safety at all times (HSE Regulations 2017). For relevance, Section 75 of *LI 2258* states that "A [petroleum company] *shall* ensure that a well control equipment is designed in a manner that is capable of activation to ensure barrier integrity and well control" (HSE Regulations 2017)

6.2.3.2.2 Management of Waste by the Petroleum Companies

Drill cuttings, drilling fluids, produced sand, produced water, sewage and ballast water are some of the most prominent discharges characteristic of petroleum operations; particularly,

exploratory and development drilling (Bakke *et al.* 2013; Neff *et al.* 1987). Due to the threats[22] these discharges pose to the natural environment (Seyedmohammadi 2017; Gbadebo *et al.* 2010), the EPA has prescribed limits on these discharges. Table 6.6 depicts a summary of the various waste produced in the upstream petroleum industry, together with how and where they are discharged.

Table 6.6: Summary of Generated Waste and Corresponding Discharge Points.

Type of Waste	Point of Discharge	Treatment and Discharge Method
Drill Cuttings	Discharged via a caisson at least 15m below sea surface	Discharged via a caisson at least 15m below sea surface with oil concentration by weight on dry cuttings treated with cuttings dryer.
Produced Water	Discharged into sea	Oil and grease discharge treated via oily water separator to less than 40 mg/l before being released to the sea.
Completion and Well Workover Fluids	Discharged into sea	Fluids and chemicals discharge Treated to less than 40mg/l Before being released to sea.
Cooling Water	Discharged into sea	Water cooled to less than 300C before being discharged.
Sewage	Discharged into sea	Treated via sewage treatment Equipment.
Food Waste	Discharged into sea	Macerate and discharge food scraps via macerator in compliance with MARPOL 73/78.
Bilge Water	Discharged into sea	Oil and grease discharge treated via oily water separator to less than 40 mg/l before being released to sea
Deck Drainage	Discharged into sea	Oil and grease discharge treated via drains to oily water separator to less than 40 mg/l before being discharged to sea.
Waste engine oil, lubricants, hydraulic oils and parts washing fluids	Transported ashore	Treated at an onshore waste treatment plant.
Oily rags and sediments	Transported ashore	Treated at an onshore waste treatment plant
General Waste (e.g. plastic and metals)	Transported ashore	Segregated at source and recycled at an onshore waste treatment plant

Source: GNPC 2014

[22] Produced waste-water, with high amounts of polycyclic aromatics hydrocarbons (PAH) pose significant danger to marine life. Likewise, sludge, which usually contains technologically enhanced naturally occurring radioactive material (TENORM) is often poisonous.

Referring to the Table 6.6, indicative figures from Tullow, which were corroborated by the EPA demonstrate that during operations, no produced sand has been discharged into the marine environment unless the residual oil contained in the produced sand is less than 1 percent by weight on dry sand (ERM 2014b).

Additionally, Tullow has indicated that it does not discharge completion and workover fluids into the marine environment if the inherent oil and grease exceed the daily and monthly average thresholds of 40 mgl^{-1} and 29 mgl^{-1}, respectively. While corroborating this particular assertion, one interviewee further revealed that Tullow Oil observes an even stricter monthly threshold of 20 mgl^{-1} instead of the stipulated 29 mgl^{-1}. Specifically, the interviewee stated that;

> ... [EPA] will tell you [to] comply with [an] effluent limit of 29ppm. You have to bring the technology or whatever to achieve the standard that [they] set. I know Tullow has an internal KPI (i.e. Key Performance Indicator) of 20 [ppm] so that they'll be sure they're always within the limit. So there [has] never been issues of [Tullow] exceeding these limits when it comes to discharges… (Participant 1, Agency BB, 2017)

Still on the issue of generated waste, it also emerged from the interviews that some of the petroleum companies, while undertaking CER, treat their generated waste – both petroleum and non-petroleum waste – to meet the EPA and MARPOL (i.e. the International Convention for the Prevention of Pollution from Ships) standards. For instance, one interviewee divulged that Eni and Tullow treat their produced sewage; ensuring that there are no floating solids and discolouration of the ambient marine environment. The interviewee further noted that;

> …twenty four seven they are preparing food and then there's a lot of waste. Once they finish and all that, they pass it through what we call a comminuter[23]. It breaks it down. It's allowed internationally. It passes through a mesh of twenty five centimetres… and it's discharged directly into the sea which is good for the fish (Participant 2, Agency CC, 2017)

[23] A comminuter is a mechanical device used to reduce objects to fine particles or to a powdery form.

Moreover, the EPA also upheld Tullow's claim that whereas drill cuttings are separated from the drilling fluid and treated to ensure that residue oil is less than three percent weighted average, they also use water-based drilling fluids (WBF) and non-aqueous drilling fluids (NADF) to drill their wells. Specifically, the NADFs facilitate high well drilling performance, which Section 80 of *LI 2258* (HSE Regulations), requires, and also pose marginal environmental threats (Caenn *et al.* 2011). Further indications from Tullow suggests that they restrict the use of mercury and cadmium in their operations, and ensure that these elements do not exceed $1mgkg^{-1}$ and $3mgkg^{-1}$, respectively (ERM 2014). Moreover, the EIA report on the Tweneboa-Enyenra-Ntomme (TEN) also suggests that not only does Tullow reduce waste, but also reuses resources and recycles some generated waste (ERM 2014).

Complementing these, analysis further demonstrates that some of the petroleum companies, including Tullow, Eni and Hess, employ the services of waste treatment facilities for the management and disposal of their generated waste. Actually, this is in compliance with Section 154 of LI 2258 which states that;

> A [petroleum company] shall, to the extent possible, avoid generating waste and ensure that waste generated in connection with petroleum activities is handled in an environmentally safe and hygienic manner (HSE Regulations 2017)

These companies demonstrate that they transport their petroleum waste to EPA-accredited waste treatment facilities – Zeal Environmental Technologies – for proper management and disposal. Reports from one of the managers in charge of operations at Zeal corroborated these claims; further noting that, even, prior to the treatment of their waste, some of the petroleum companies visit their treatment facility to ensure that the waste management and treatment procedures are in compliance with the governing regulations. Particularly, the interviewee noted that;

> As for checks, they (i.e. petroleum companies) check on us…before you even incinerate their waste, they have to be around (Participant 1, Agency II, 2017)

However, once again, in spite of the evidence, some of the interviewees perceived that the petroleum companies were not really fulfilling their CER in Ghana. Some further state that,

even if some of the petroleum companies 'seem' to be fulfilling their CER, they are not consistent with it. These perceptions are elaborated as follows.

6.2.4 Perception about the Fulfilment of CER by the Petroleum Companies in Ghana

Analysis of interview reports suggests there are some petroleum companies that do not always fulfil their environmental obligations, and make attempts to cover up and hide any evidence that will expose their environmental imprudence. In a typical example, one of the interviewees recounted an instance, wherein a petroleum company 'may have discharged' chemical waste into the marine environment. The interviewee stated that;

> …on one occasion I happened to have gone there (i.e. the petroleum installation) to carry out an inspection. So when I was leaving, this thing happened: some discolouration of the water or something. They (i.e. the petroleum companies) are supposed to report those incidents. They didn't tell. I was a witness to it, they didn't know…And they didn't report it officially to us until the thing came up. This thing is not good at all, I think two or three other occasions they've done that. They'll always prefer to conceal. Bad publicity is something that they don't want at all so if you give them the chance they'll not let you know anything at all (Participant 2, Agency CC, 2017)

In corroboration, another interviewee also noted that;

> '…there's been certain spillages from [the] Jubilee [Field], but those were hushed up... (Participant 1, Agency CC, 2017)

Deeper analysis of interview accounts, reviews of local news reports and documentary analysis further suggests that the known impacts of hydrocarbon operations in some oil-producing countries, coupled with historic environmental imprudence by some petroleum companies (operating in Ghana) both within and outside Ghana has led some respondents, and some Ghanaians in general, to distrust petroleum companies in Ghana, even if there was proof those companies were being environmentally responsible in Ghana.

For example, while referring to Kosmos' waste discharge in 2011, some respondents maintained that there are some petroleum companies that begin with the implementation of some environmental policies but appear not follow through to the end. These companies, they emphasise, 'put on shows' as everyone is watching but along the way when they make friends or there is less scrutiny over their operations, engage in practices that utterly

disregard environmental laws and contradict their own stated environmental commitments and policies. For instance, one interviewee remarked that;

> You see these people (i.e. the petroleum companies) they start by obeying the laws. They do the right things and when they understand the system very well and get friends in powerful places, they start to misbehave. Just look at what happened with Kosmos. When they started [operating] they were obeying the laws…they were responsible…we didn't hear anything but after 4, 5, 6 years they start dumping waste… (Participant S, 2017)

Analysis further suggests that the allegations that have been levelled at some petroleum companies for environmental malpractices in foreign countries have heightened the level of distrust among some respondents. To exemplify this assertion, the study found that Tullow Oil has been the recipient of several allegations pertaining to environmental mismanagement practices. For instance, the Company was accused of having dumped human waste at a village in Western Uganda, called Kakindo in July 2013; which was noted to have created severe health problems to local residents in Kakindo. The Company is also alleged to have illegally disposed of harmful drilling waste in a wildlife park and other areas inhabited by human populations (Imaka 2013). While referring to this, one respondent revealed that;

> We all watch the news and listen to radios. If these companies do what they like in other countries, how are we sure they won't do the same here. We heard what Tullow did in Uganda. We also saw what Kosmos did here (i.e. Ghana) a few years back. These people are all the same (Participant V, 2017)

Meanwhile, information from local news (e.g. The Guardian 2013), and NGO reports suggested that some local residents within the vicinity of petroleum activities hold the notion that the petroleum companies are not performing their environmentally responsibilities. Coastal residents within the Western Region connect the increased incidence of whale deaths and seaweed (i.e. Sargassum) to a perceived 'shirking' of environmental responsibilities by the petroleum companies. A report prepared by Ghanaian NGO, Friends of the Nation (FoN), for example, reveals that local residents demand answers to the following questions.

> 'Are the deaths of the whales caused by a possible pollution of the water? Or is the water polluted to the extent that small fishes that represent nutrition in the food chain for marine mammals are dying? Are the whales being hit by vessels deep in the sea and die because of the collision? Are the whales disoriented due to noises caused by oil and gas exploitation activities and therefore swim to shallow waters where they die?' (FoN 2013)

Complementing this, Mr Kyei Kwadwo Yamoah, the programme co-ordinator of FoN also indicated that,

> '…we have reason to believe it (i.e. the death of whales) is related to oil. Almost all of these whales are dying in the part of Ghana where oil exploration takes place. It is well known that seismic exploration can result in the killing of whales' (cited in The Guardian 2013)

This scepticism persists despite the fact that some of the petroleum companies, especially Eni and Tullow Oil, have received awards, either wholly or partly, for their environmental performance. Eni, for instance, was awarded the Exploration Company of the Year for 2016, 2017 and 2018, by the Petroleum Economist (Petroleum Economist 2018). Beyond the engineering technicalities employed by Eni, the Company also demonstrated considerable environmentally responsible behaviours during the exploratory phase of their hydrocarbon operations.[24] Furthermore, local news reports reveal that in 2014, Tullow Oil was among the petroleum companies that was given an award at the Oliver Kinross Africa Oil and Gas Awards, in recognition of their Local Content, CSR and HSE performance in Africa (Ghana News 2014).

6.2.4.1 Origin of the Perceptions about Fulfilment of Environmental Responsibilities

Analysis shows that the origin of some stakeholders' negative perceptions about petroleum companies' practices relating to their environmental responsibility emanates from a misunderstanding or a lack of awareness of the regulatory provisions governing the upstream petroleum industry. In a typical instance, one of the respondents indicated that although there is a policy in Ghana that *prohibits* gas flaring, some petroleum companies still do flare gas, and in the process defy the 'No Flaring' policy in Ghana. The respondent stated emphatically that;

[24] In respect of limited data, it was not possible to establish whether all the petroleum companies had received any form of award or recognition for their environmental performance in Ghana.

> [Ghana has] a zero policy for gas flaring, but since 2014 the country has experience flaring from the Jubilee field which is a major environmental issue (Participant 1, Agency AA, 2017)

On the contrary, analysis of additional interview reports shows that the laws applicable to Ghana's upstream petroleum industry do not entirely prohibit flaring and venting of gases. Some interviewees indicated that;

> … the law gives room for you to flare when it's very critical…when it's going to endanger lives or equipment (Participant 1, Agency DD, 2017)

> …there is nothing like 'No Flaring Policy' in Ghana. People tend to misunderstand the law……if you (i.e. the petroleum companies) have upsets or abnormal conditions during operations, you cannot say you will not flare otherwise you'll lose your facility. Tullow will always report an upset [to EPA] if there's a problem with the compressor that injects gas. If there's a problem [and] the compressor cannot inject gas, what can you do? When the plant develops a problem, the pressure builds up and you need to release it…so [Act 919] is saying that under abnormal conditions or upsets, you are allowed to flare a certain percentage of gas (Participant 1, Agency BB, 2017)

Analysis of the regulatory provision on gas flaring (i.e. Section 33 of *Act* 919), revealed that;

> (1) A person *shall* not flare or vent petroleum, *unless* that person is authorised under subsection (2) or (3).
> (2) The (Petroleum) Commission *shall* after consultation with the Environmental Protection Agency authorise a person to flare or vent petroleum where (a) it is necessary in the interests of normal operational safety of the petroleum activities; (b) it is necessary in order to comply with a requirement imposed under an Act; or (c) it is warranted by exceptional circumstances (e.g. absence of gas receiving/treatment facilities).
> (3) In case of an emergency, and where there is insufficient time to request an authorisation from the Commission, a contractor may flare or vent petroleum without the approval of the Commission under subsection (2), but *shall* ensure that the flaring or venting is done in accordance with prescribed procedure and kept at the lowest level possible.

While Section 33 of the *Act 919* imposes restrictions on venting and flaring of gases, the activity is not entirely prohibited in Ghana's upstream petroleum industry. Indeed, implicit

in Section 149 of *LI 2258* is the fact that gas flaring in Ghana is permitted under certain conditions (HSE Regulations 2017). Therefore, the assertion that there is a 'No Flaring Policy' in Ghana's upstream industry suggests either a misunderstanding or unawareness of some key regulatory provisions (e.g. Section 33 of *Act 919*) on the part of some of the interviewees.

Findings also suggest that some of the negative perceptions about petroleum companies' fulfilment of their environmental responsibilities emanate from frustrations and anger that the developmental needs of communities are not met. It emerged that although residents in local communities are concerned about the safety of their natural environment that is usually not their prime concern. Rather, their prime concern is whether the petroleum find will lead to economic development (i.e. the provision of essential social amenities and creation of jobs) in their communities. One interviewee revealed that;

> …the issues have been dealt with, especially the expectations of communities…and I must say they [are] not too concerned about environmental issues… they are more concerned about opportunities…[economic] opportunities. You might be interested in maybe they being concerned about [environmental impacts], but surprisingly they are rather interested in economic benefits (Participant 1, Agency BB, 2017)

Therefore, the perceptions by the local residents that the petroleum companies are not fulfilling their environmental obligations, usually, arise out of frustration that their developmental needs have not been (or are not being) met by the petroleum companies. This frustration gradually transforms into prejudice, where the local residents see a problem with everything associated with the petroleum industry. Rather than separating developmental issues from the fulfilment of environmental responsibilities by the petroleum companies, the findings suggest, local communities group them together and assert their belief that the petroleum companies are not fulfilling their CER. This observation can be inferred from the following remark.

> The companies do things in these communities. But the issue is that sometimes one community will see that the other community has something they don't. Some of them too feel the companies have to develop their communities. So when this does not happen they become upset and say all sort of things. (Participant R, 2017)

Complementing these, findings further suggest that the misinformation of local residents by NGOs, such as FoN, also contributes to the formation and reinforcement of deep-seated negative perceptions about the environmental performance of petroleum companies in Ghana. Typical comments that express this sentiment are listed as follows.

> …these NGOs (i.e. referring to FoN) they don't do research and they just go on [misinforming the public]…to be honest with you it rather creates problems for us (i.e. the regulators) because now we have to go and do damage repair (Participant 1, Agency HH, 2017)

> …how would you justify the case being made by some of these NGOs that placing of an FPSO in the sea is the reason for high tides at the coastal areas? How could this be? Which academics would say that placing one, two FPSOs in our waters is the reason why the Western Region is having floods? (Participant 2, Agency HH, 2017)

In spite of the negative perceptions by some stakeholders, for petroleum companies to fulfil their environmental responsibilities in Ghana, it is obvious that they will be driven by some factors to do so. The ensuing section outlines the key factors that drive the petroleum companies to fulfil their environmental responsibilities in Ghana.

6.3 Drivers Influencing the Fulfilment of CER in Ghana's Upstream Petroleum Industry

While the fulfilment of CER by petroleum companies is driven by myriad factors – most of which are generic to the global petroleum industry, the analysis revealed four specific drivers that affect how the petroleum companies in Ghana undertake their CER. Of prominent relevance to Ghana, analysis suggests petroleum companies in Ghana's upstream petroleum industry, are mainly impelled to undertake their CER because of Ghana's regulatory milieu and the pressure from the Ghanaian society. Also, analysis suggests that the (un)availability of essential petroleum infrastructure impacts the capacities of petroleum companies to fulfil their CER in Ghana. The need to protect and/or project corporate reputation also emerged as one of the factors that drives petroleum companies to fulfil their CER in Ghana. These are elaborated as follows.

6.3.1 Driver 1: Ghana's Regulatory Milieu

Ghana's regulatory milieu, as used in this context, broadly refers to the multiplicity of regulatory systems that govern the various sectors of the country. As per the analysis, the availability of the environmental regulatory system (notwithstanding its shortcomings), together with other key regulatory systems, emerged as one of the key factors that drives petroleum companies in Ghana to undertake their CER. While such regulatory systems impel the petroleum companies to take responsibilities for their hydrocarbon operations, they also ensure that the petroleum companies make conscious and practical efforts to employ and implement practices that are innocuous to the natural environment. To reinforce this assertion, statements from Kosmos' 2016 Annual Report support the notion that it is the regulatory milieu in Ghana that drives petroleum companies to fulfil their CER in the country. Indications from the report suggests that the imposition of various regulatory instruments in Ghana guides their hydrocarbon operations; especially, in relation to;

> …the emission and discharge of pollutants into the ground, air or water; the generation, storage, handling, use and transportation of regulated materials; and the health and safety of [their] employees (Kosmos Energy Ltd 2016, p. 38)

Also, speaking to this issue, one respondent revealed that;

> …It's the law. The companies pay attention our laws. Ask anybody, they'll tell you it's the law. Because you know if you flout the law we'll deal with you. Environmental protection is always a sensitive subject in the oil sector. So if you don't stick to the law and you're caught, we'll sanction you accordingly… (Participant R, 2017)

Analysis of interview reports further show that the regulatory milieu in Ghana contributes to the political stability in the country, which drives the petroleum companies to exude signs of a good and responsible corporate body. This way they are impelled to contribute towards the stability of the nation by adhering to applicable regulatory mechanisms, particularly those that pertain to the safety and protection of Ghana's natural environment. While commenting on this issue, one interviewee contrasted Ghana's case with neighbouring Nigeria by eloquently submitting that;

> …you look at the host nations' environment…Ghana is relatively sanitized… in terms of rule of law, and in terms of good governance. So if you enter a country,

> they (i.e. the petroleum companies) also study, they look around and if they see a chaotic situation they'll take advantage. They would, if there's a fertile environment that they'll do it…and so it's not the case that Chevron elsewhere will do the same thing Chevron did in [Nigeria]…(Participant 2, Agency HH, 2017)

Furthermore, the findings suggest that the types and number of regulatory mechanisms that target specific sectors of Ghana economy do not only signal the nation's statutory strength and reverence for the rule of law, but also contributes to the decisions by the petroleum companies to adopt environmentally friendly practices in their hydrocarbon operations. Besides the local regulatory systems available in the country, Ghana is also a signatory to some key international conventions, as depicted in Chapter 4, Table 4.3. On this note, Eni, has indicated that, "[they] carry out [their] activities in line with international agreements (to which Ghana is a signatory), and standards, and respect national regulations, policies and law…" (Eni 2018a). Reconciling this statement with Eni's efforts to fulfil their environmental responsibilities suggests that the availability of multiple regulatory mechanisms drives some petroleum companies to undertake their environmental responsibilities in Ghana.

Moreover, further analysis suggests that the US$ 35 million fine meted out on Kosmos Energy for discharging petroleum waste into the ocean serves as a deterrent to other petroleum companies. For instance, commentaries by Hess Corporation Limited indicate that the penalties attached to the noncompliance with environmental regulatory mechanisms drive them to undertake their CER (Hess 2017, p. 15). In corroboration, some interview reports indicated that;

> When oil and gas companies defy laws and or regulations, their licenses may be seized. They may also be made to pay hefty fines…there may be some legal provisions that specify what course of action is to be taken (Participant Q, 2017)

> Generally, by our laws…like the ACT 821 we reserve the power to reprimand and to sanction. We have held on [to] applications for work permit as a tool to enforce compliance [with] certain things. Some of the offenses have [also] been criminalized, especially with the health and safety law (Participant 2, Agency HH, 2017)

For relevance, some of the penalties attached to noncompliance are stipulated in Section 176 of *LI 2258*. These include administrative penalties, usually, not exceeding 50 thousand penalty units (i.e. GH¢12.00*50,000) for specific breaches under Section 176 of *LI* 2258, and imprisonment of not less than a year and not more than three years or both. There are also cases in which licenses and permits can be suspended or revoked. One interviewee suggested this with the following remark.

> …[EPA] can cancel [or revoke] your permit if you have not complied with the conditions that [they] have given you. [They] can cancel it and you'll (i.e. the petroleum companies) go out of business… (Participant 1, Agency BB, 2017)

6.3.2 Driver 2: (Un)availability of Essential Petroleum Infrastructure

It emerged from the analysis that the availability of essential infrastructure in Ghana is one of the key factors that determines whether or not and the extent to which the petroleum companies will go to undertake their CER. Essential infrastructure, such as gas receiving and treatment plants discourage the venting and flaring of gases which are environmentally unfriendly. Rather than flaring them, the associated gas that is recovered during the production phase can be captured and transported to gas receiving and treatment plants. To illustrate this, Tullow has indicated in its 2017 Annual Report that its business was disrupted due to "[Ghana government's] inability to deliver infrastructure (i.e. the Atuabo Gas Plant) on time for projects and provide security for critical infrastructure" (Tullow Oil PLC 2017b, p. 3). One interviewee, confirms this position, indicating that Tullow flared gas for some time because there was no gas receiving system to make use of the gas that accompanied the extracted oil. Some of the representative comments relating to this issue are captured in the following remarks.

> …when you're (i.e. the petroleum companies) entering into a country and they (i.e. the host country) lack some requisite facilities like gas processing plants, you're likely to flare gas if it is associated with the oil. [This is because gas processing plants] take time to develop (Participant 1, Agency AA, 2017)

> …a decision [had] to be taken…so that's how come [EPA] went for that scenario of injecting the gas hoping that the Ghana Gas infrastructure will be ready. Unfortunately, it wasn't ready in time and the reservoirs were saturated. [EPA] can't do anything about it. So the decision was taken and [EPA was] part of the meeting. It was a compromise between losing economic value as against [the]

> environment. One will always outweigh the other, definitely. So that's how come we started flaring over a year…I'm sure if [EPA] had gone the environment way, economists will say we have lost revenue… (Participant 1, Agency BB, 2017)
> …at the time that [Sabre] was producing, there was no gas facility to utilize all the gas…since [the] gas facility was not ready flaring was done for a certain number of days or number of months before the processing plant was done (Participant 1, Agency DD, 2017).

In instances where these infrastructural resources do exist, analysis showed that their adequacy and/or steady functioning also contributes to the petroleum companies' ability to undertake their CER. For instance, it emerged during the interviews that the intermittent breakdown of vital equipment and problems with the gas receiving plants contributed to the gas flaring activities by some petroleum companies. The respondent went further to indicate that;

> …due to 'up and down' (i.e. problems) with the processing plant, sometimes the oil companies may have to flare beyond the acceptable limit stated in the permit condition. Because the processing plant is down and there's no other facilities that could take the gas. So it's either you're injecting or you're utilizing the gas or you're flaring. Of course, there's some certain amount of gas that you can inject into the reservoir. So with that, if you go beyond that amount and there's no gas end utilizer, you'd have to flare. There've been cases where the oil companies [were] flaring beyond the approved conditions. But because the gas processing plant [was] down. (Participant 1, Agency DD, 2017)

Another interviewee further added that;

> …sometimes Ghana Gas [has problems]. So they (i.e. the petroleum companies) also give it to VRA (i.e. the Volta River Authority). Now, VRA can say I have a problem so I can't take gas to the thermal plant, so stop it. So Ghana Gas will also inform Tullow, don't give me [gas]…that is how the chain is. So if the problem is coming from downstream, from the thermal plants, VRA [will say], my thermal plants are down so I can't take the volumes that Ghana Gas is giving me. So from a hundred and twenty million scarf per day, maybe they'll say we want just eighty. Now Ghana Gas will also tell Tullow please cut down on the gas that you're giving me… (Participant 1, Agency BB, 2017)

Moreover, another recurrent notion expressed by some interviewees was the essence of available and adequate systems such as waste management and treatment facilities that aid

the petroleum companies as they fulfil their environmental obligations. Remarks from some interviewees suggest that the presence of Zeal Environmental Technologies Limited in Ghana is vital in the pursuit of environmental safety. This way, the petroleum companies are provided with the platform to undertake their environmental responsibilities by sending their petroleum and non-petroleum waste to the treatment facility, rather than treating it by themselves or, worst case, dumping them. One interviewee expressed this observation by noting that;

> … [Zeal] is a local company, and [they have] come this far because [the petroleum companies] had trust in [them]. They (i.e. the petroleum companies) have been bringing their waste [to Zeal] to manage because the oil industry can afford to, and they want to do the right thing. They even bring weird chemicals at times… (Participant 1, Agency II, 2017)

6.3.3 Driver 3: Pressure from Society and Social Actors in Ghana

The analysis further demonstrates that the pressure from the Ghanaian society also drives petroleum companies to undertake their environmental responsibilities in Ghana. Environmental safety, as a prerequisite for human survival, emanates from the social need to maintain and/or augment human wellbeing by protecting the natural assets essential for their survival. As a result, local residents, led by their chiefs, opinion leaders, NGOs and CSOs always require the petroleum companies to undertake their petroleum activities in environmentally responsible ways. Given that the petroleum companies operate within a social milieu that is characterized by local customs, norms, principles and expectations, their capacity to demonstrate practical environmental behaviours that meet these social norms and expectations constitutes a significant element in the success of the company. For instance, traditional rulers, such as chiefs, play pronounced roles in local communities. While exercising their customary legitimacies over their people, chiefs represent their interests and advocate on their behalf. The prominence of chiefs commands reverence and obedience from their communities, such that the residents do what the chiefs ask them to do. As a result, petroleum companies that are regarded in the local community to be insensitive to the environmental needs of the community could be met with unfriendly tendencies. One key example is when the local residents embark on prolonged protests and demonstrations to register their displeasure with the petroleum companies. Supporting this observation, one of the interviewees indicated that;

> …when we go for community awareness programs, the chiefs warn the companies to pay attention to the needs of the people…the main thing they require from companies is mainly development of the communities. But they also admonish the companies not to degrade their land. Trust me they (i.e. the petroleum companies) listen to these chiefs because they know the power they (i.e. the chiefs) wield. They (i.e. the chiefs) can direct the people to cause problems for them (i.e. the petroleum companies) (Participant V, 2017)

> …the chiefs are very, very keen on ensuring [environmental safety]…[remember] what happened in Nigeria which has created Boko Haram and all those things…if you like you can start it (i.e. environmental malpractices) and you'll see. Everybody in West Africa has heard of Boko Haram. You know how this case of Niger Delta [also] started – you're spoiling our water bodies and all those things with spillage…people are aware. We live in West Africa…whatever happens in Nigeria would be heard the same hour [in Ghana]. (Participant 1, Agency EE, 2017)

In light of this, petroleum companies that disregard the environmental concerns of peripheral residents risk losing their social licenses and may face further repercussions in the society. To put this in perspective, Heritage Oil has indicated that "[their] licence to operate in any area is dependent on being viewed as a positive force by those most directly affected by [their] operations and therefore it is in [their] interest to consult stakeholders and find ways to be a trusted and useful partner" (Heritage Oil 2014a). Additionally, Tullow Oil, in its 2017 Annual Report, also remarked that "building a robust social licence is fundamental to [their] ability to operate. Without the engaged support of [their] host communities, [they] would be unable to undertake the technical, infrastructural and logistical work associated with exploration, development and production of hydrocarbons onshore and offshore" (Tullow Oil PLC 2017, p. 25). In agreement, one interviewee stated that;

> …if you're an oil producing company and you do not listen to the views of the people…there's something called the social license to operate. You won't have that; and when you don't have a social license to operate, citizens' agitations can lead to cancellation of exploration or exploitation rights, and that will cost you as a company (Participant 1, Agency AA, 2017)

In addition to this, the pressure from the general Ghanaian public also emerged as one of the forceful factors that drives petroleum companies to undertake their CER in Ghana. The

Ghanaian general public, led by the fourth estate, NGOs and CSOs, have over the years pressured the government into doing (if they are not) and/or aborting (if they are doing or planning to do) programs they feel are (not) in their best interest. Typical examples can be seen in instances where public pressure caused the government to immediately institute a ban on all forms of small-scale mining (including Galamsey) (Mensah *et al.* 2019; Nyamekye-Acquah 2018; Hilson 2017); abort plans of building a new Parliamentary Chamber (Myjoyonline 2019d, 2019e); pass the Right to Information (RTI) Bill into law (Asibey 2017), and; relieve the GNPC of its regulatory duties (Gyimah-Boadi & Prempeh 2012), among others. Given this reality, analysis of interview reports suggests that the petroleum companies are not only aware of, but are also driven by the pressure the general public exerts on the government to ensure that they fulfil their CER in Ghana. While speaking about this observation, one respondent indicated that;

> We have a strong society and the [petroleum] companies know this. Even if the regulators are unable to detect breaches in the system, rest assured the Ghanaian public will know and react…and you know the pressure they can give to government. The [petroleum] companies know that if the public agitates continuously over petroleum activities the government will have no option but to act. They (i.e. the petroleum companies) are well aware of these things (Participant R, 2017)

6.3.4 Driver 4: Corporate Reputation

Finally, analysis also demonstrated that corporate reputation – whether promoting or maintaining it – is one of the predominant factors that drives some petroleum companies to undertake their CER in Ghana. Although the petroleum companies that operate in Ghana's upstream industry may vary across different dimensions, such as their sizes, operational scales, location of managerial powers, geographical locations, organizational structures, values and philosophies, the protection and promotion of their reputation is a common trait. Commentaries from Heritage Oil supports these claims. For instance, the Company has indicated on their official website that their ability to retain and improve their corporate reputation, as well as, their capacity to create optimum value for shareholders is vastly connected to their strong environmental performance (Heritage Oil 2014). One interview characterizes this sentiment in the following remarks.

> … the issue is that reputation in this industry is very important. So in terms of health, safety and environment, the [petroleum companies] wouldn't [compromise]. Because if [the] audit comes out that this is what you've been doing (i.e. environmental malpractice) you're done… (Participant 1, Agency HH, 2017).

> …the truth is that these companies cannot stand bad publicity so when you go out there the standards are quite high… (Participant 2, Agency CC, 2017)

> … it's all about being careful and then also applying the regulations…you have high reputable companies also there who have nothing to gain by doing such things (i.e. environmental imprudence). And they know their reputation is at stake. (Participant 1, Agency EE, 2017)

Findings further suggest that protecting the reputation of petroleum companies is so important that some companies invest more resources into strategies that enhance and augment their corporate reputation. So much so that a company like Tullow, willingly exceeds regulatory requirements. This observation is evident in Tullow's adoption of a 20ppm discharge limit, rather than the 29ppm specified by the EPA.

Analysis of other reports show agreement with the view that petroleum companies are driven by their resolve to protect their corporate reputation, to fulfil their environmental responsibilities in Ghana. For instance, commentaries from Kosmos suggests that failure to employ environmentally safe practices, may not only negatively impact individuals and societies where they operate, but also damage their reputation of being a partner of choice in Ghana's upstream petroleum industry (Kosmos Energy 2016b).

Moreover, given the connection between the reputation of publicly traded petroleum companies and their performance on the stock market, analysis indicates that petroleum companies make every attempt to protect and project a positive reputation in Ghana. This is due to the fact that a petroleum company is very likely to record a significant shock in its stocks when it gets implicated in any environmental scandal. This observation was captured in the remarks of interviewees who stated that;

> … [Doing] something that will damage the environment, damage their (i.e. the petroleum companies') assets or affect the welfare and the health and safety of

> the employees is going to affect their (i.e. the petroleum companies') shareholding... (Participant 1, Agency HH, 2017)

> …they don't compromise [on the environment] because any news [about that] will bring their shares down, and can collapse their company within a day… (Participant 1, Agency II, 2017)

It also emerged that some petroleum companies, while protecting their corporate reputations, appoint Ghanaians as heads due to the fact that they will be able to understand and navigate through the various cultural dynamics inherent in Ghana. For example, among the Gã people (who are mainly located along the coast in the Greater Accra Region of Ghana), for instance, in the weeks leading to their yearly festivities, they observe absolute silence. It is believed that during this period, the gods of the Gas require silence in order to purify the land and prepare it for bumper harvests. The noise that accompanies reconnaissance and geological surveys prior to and during petroleum exploration may obstruct the peace and tranquillity needed by the gods. Consequently, national managers of petroleum companies who are Ghanaian indigenes, and appreciate some of these cultural values (unlike foreigners), may know the appropriate ways to engage the relevant traditional leaders and address some of these cultural issues. For example, the CEO of Springfield, Mr Kevin Okyere is a Ghanaian. Likewise, the Managing Director of Tullow Oil Ghana, Mr Kweku Awotwi, is a Ghanaian, who replaced the immediate past Managing Director, Mr Charles Darko; another Ghanaian. Speaking to this issue some interviewees indicated that indeed, usually, Ghanaians are appointed to head the petroleum companies because it is part of the strategies aimed at securing their reputation in Ghana. A summary of the representative remarks are stated as follows.

> …reputation is a big deal for them (i.e. the petroleum companies). So they make sure they protect it. You can see that they (i.e. the petroleum companies) even appoint Ghanaian CEOs because they (i.e. the appointed CEOs) understand our terrain (i.e. Ghana). I think it helps because the Ghanaians know how to engage with local communities – especially for developmental needs and environmental issues (Participant 2, Agency FF, 2017)

> …there are some companies that are headed by Ghanaians. Tullow is headed by Charles Darko (now Mr Kweku Awotwi) and I'm not sure about the others. But the thing is, they put these Ghanaians there because aside their expertise, they know the system in Ghana. It's not only about drilling oil and making money.

> They think about their relationship with the local communities too…and it's a Ghanaian who can facilitate this better. In a way this adds to their overall reputation. Every oil company is concerned about that (Participant V, 2017)

6.4 Conclusion

This chapter has outlined the various ways through which petroleum companies in Ghana's upstream industry seek to undertake their CERs, as well as how those actions are perceived. Collectively, the analysis indicates that besides their environmental communication and messaging, petroleum companies in Ghana's upstream industry, especially Tullow, Eni and Kosmos, are making efforts that suggest they are fulfilling their environmental responsibilities. However, interview analysis revealed rather contradictory accounts. The findings indicate perceptions that some petroleum companies are not trustworthy, and that their environmental communication is a means of 'greenwashing'. When it comes to the actual performance of petroleum companies' CER, while some interview reports suggested that the petroleum companies were not consistent, others argued that the companies that *appear* to fulfil their environmental obligations only did so when they were being watched. The study also found that some of the perceptions about the fulfilment to CER emanates from some stakeholders' misunderstanding or unawareness of the applicable regulatory mechanisms governing the upstream industry. As for the local residents within the vicinity of petroleum operations, it emerged that some of their perceptions emerge out of frustration and anger that their developmental needs are not being met by the petroleum companies.

The chapter has also described the characteristic factors that drive the petroleum companies to undertake their CER in Ghana. It emerged that while Ghana's regulatory environment is an essential motivating factor for petroleum companies to undertake their CERs, the availability and functionality of supporting petroleum infrastructure also determines whether or not and the extent to which the petroleum companies will go to fulfil their CER. The pressure from the general public was also found to contribute to petroleum companies' decisions to behave in an environmentally responsible manner. The final factor that drives the fulfilment of CER by petroleum companies in Ghana is their resolve to protect and project a positive corporate reputation.

Having thus explored the environmental regulatory system governing Ghana's upstream petroleum industry (in Chapter Five), together with how the petroleum companies

undertake their CER in Ghana (in this chapter), the ensuing chapter will discuss the relationship between the regulators, as they exercise their regulatory mandates, and the petroleum companies, as they undertake their CER in Ghana, as well as the implications for regulatory outcomes and environmental safety.

CHAPTER SEVEN: THE POSSIBLE EMERGENCE OF REGULATORY CAPTURE THROUGH THE INTERACTIONS BETWEEN PETROLEUM COMPANIES AND REGULATORS IN GHANA'S UPSTREAM PETROLEUM INDUSTRY

7.1 Introduction

This chapter presents findings relating to the interactions between the petroleum companies, as they undertake their corporate environmental responsibilities in Ghana, and regulatory agencies, as they exercise their regulatory mandates. Analysis reveals a series of multi-layered relationships and interactions between these two entities that facilitate a range of avenues that could obstruct the effective functioning of the environmental regulatory system governing Ghana's upstream petroleum industry. Specifically, these interactions encourage certain practices and tendencies that indicate that regulatory capture c*ould* emerge, and this could undermine the effectiveness of, or in the worst case, result in the failure of the environmental regulatory system.

The analysis in this chapter is based on semi-structured interviews with actors in the industry, as well as information from the mainstream media.

Key Findings

- The interactions between regulators and petroleum companies in Ghana usually create a false sense of collaboration and cooperation between the two parties.
- Regulatory capture could emanate and thrive on the interactions between regulators and petroleum companies.
- Familiarity and Reciprocity are the two most prominent avenues that may expose the environmental regulatory system to possible capture and potential failures.
- Despite the significance of regulatory capture in the global context, awareness of the phenomenon appears largely elusive in Ghana's upstream petroleum industry.

7.2 Development, Manifestation and Impacts of the Interactions between Regulatory Agencies and Petroleum Companies in Ghana's Upstream Petroleum Industry

The stages within the life cycle of petroleum operations in Ghana, as described in Section 4.3.2, sets the context for the analysis of the interactions that ensue between government regulatory agencies and petroleum companies. Analysis demonstrates that both the regulatory agencies and the petroleum companies (as well as their sub-contractors), make use of two main actors during their interactions – the frontline personnel and the personnel in leadership positions (i.e. executive/managerial personnel). The planning, negotiations, codes of conduct, guidelines and policy adoptions within each of these stages are administered and agreed upon by the executive/managerial personnel, while the frontline personnel are the prominent individuals mainly responsible for the actual implementation of the policies and resolutions espoused by their executive/managerial personnel. Analysis further indicates that both the frontline personnel from the petroleum companies and regulatory agencies work together to pre-empt potential environmental damages. Whereas the petroleum companies' frontline personnel implement the performance standards stipulated in regulatory mechanisms and their companies' guidelines, those from the regulatory agencies go to the petroleum facilities to physically inspect and audit petroleum-related activities of the petroleum companies. The frontline regulators do this to ensure that the operations, materials, machinery and technologies, among others, are actually in compliance with the provisions of the governing regulatory mechanisms.

As per the analysis, although the interactions that ensues between these two parties sometimes engender positive regulatory outcomes, they are also fraught with multifaceted threats which usually originate from the self-interests of either party, creating an environment that fosters the possible capture of the environmental regulatory system governing the industry. While the participants did not explicitly use the term 'regulatory capture', analysis of their testimonies – both formal and informal – as well as, analysis of news reports, reveal traits and conditions that are likely to facilitate a conducive environment for the possible emergence of the phenomenon, as defined earlier in Chapter 2, in the Ghana's upstream petroleum industry. These are elaborated below.

7.3 Interactions between Regulators and Petroleum Companies, and the Threat of Regulatory Capture in Ghana's Upstream Petroleum Industry

Based on the analysis of documents, interview reports and review of local media, it emerged that the interactions that ensue between government regulators and petroleum companies create four (4) avenues through which regulatory capture could emerge. These avenues comprise familiarity, reciprocity, the revolving-doors and information asymmetries. These are elaborated as follows.

7.3.1 Possible Emergence of Regulatory Capture via Familiarity

In this section, it is argued that the capture of the environmental regulatory system could occur through the familiarity (i.e. network and connections) between and among the actors in Ghana's upstream petroleum industry, as well as, the lack of familiarity with the operational and technical processes in the industry.

7.3.1.1 Familiarity between the Actors in the Ghana's Upstream Petroleum Industry

Analysis indicates that in Ghana, despite the existence of numerous competent people, the recruitment of personnel into government regulatory agencies is often based on familiarity and politics, rather than expertise. This particular trend is quite prevalent in Ghana; so much so that, even some of the interviewees indicated that when given the chance, they'll recruit personnel based on familial and familiar lines. This sentiment is captured in the following remarks.

> …they (i.e. the appointing authorities) put wrong people…they put [their] cronies…it's politics…the whole thing is politics (Participant 1, Agency CC, 2017)

> … [In] our society as it is, if I were the [boss of a regulatory agency] and my own nephew needs a job, I'll push him through national service[25]. After national service, I'll give him a job (Participant 2, Agency CC, 2017)

This is a critical channel through which the environmental regulatory system may be captured, if it is not already captured. Indeed, one interviewee implied this, revealing that;

[25] National service is a compulsory government employment scheme, wherein service personnel, as they are called, engage in one year mandatory employment, as service to Ghana. Completion of a national service is a prerequisite for employment in State institutions.

> I have colleagues I sat in the same class with who're working for the oil companies. The difference is they're just doing what they're supposed to do – producing oil, but I'm regulating them (Participant 1, Agency BB, 2017).

Complementing this, another interviewee indicated that;

> Conducting audits is a matter of checking their (i.e. the petroleum companies) systems to make sure everything is done according to the law. But of course, if I go out there and meet a friend, or a friend of a friend, I just have to use my discretion (Participant 1, Agency FF, 2017).

Analysis of interviews indicate that this particular situation persists due to the limited scrutiny and oversight on these frontline regulators. Per the analysis, irrespective of the authority given to the heads of regulatory agencies, the close scrutiny from non-governmental and civil society organisations, as well as, the media and, parliament sometimes keeps these agency heads in check. While this, often, dominant focus on the leadership of regulatory agencies in Ghana's upstream industry is necessary to enhance the effective performance of regulatory functions, analysis reveals that there is less scrutiny on the frontline regulators who embark on inspections and audits. As a result, the frontline regulators enjoy some degree of freedom from the direct scrutiny of the media, NGOs and CSOs. This assertion was emphasized by one of the interviewees who revealed that;

> …[because] of the clout of the people in management (i.e. the leadership of regulatory agencies), they are the ones that everybody looks at. Anything that happens will be placed at their door-step. When the agency is doing well, they get all the praise. But people forget that it is the people who do the inspections that do the most work. No body looks them. They only look at those in management. So even if these people (i.e. the frontline regulators) are not performing well it is difficult to know (Participant U, 2017)

Moreover, testimonies from the interviews suggest that usually, the petroleum companies, due to their eminence in the global industry, are able to acquire the best legal minds, influential networks and technical knowledge; all of which they use as leverage to exert immense influence on the regulators – those both in leadership positions and the frontlines. One of the interviewees revealed that;

> …they (i.e. the petroleum companies) take the right people to do the right job. When you go onto the FPSO, there're people from Sri Lanka, people from Australia, people from Ireland, people from US…they're all working, because it is international job (Participant 1, Agency CC, 2017)

Directly connected to this, analysis further revealed that there are some actors in the petroleum industry that own or are closely linked to individuals and/or groups that own businesses that are connected to the operations of some petroleum companies. With this situation at play, it emerged during the interview sessions that frontline regulators are perceived to, often, receive calls from these people who are connected to the petroleum companies, and 'advise' them on how to exercise their regulatory mandates – quite frequently, in the interest of the petroleum company. Interviews with some participants (mainly regulators and personnel of key government agencies connected to the petroleum industry) corroborate these assertions. For instance, one interviewee from an NGO revealed that Ghana's petroleum industry is very political, to the extent that most of the high-profile personalities, such as, political figures and business tycoons have some stake in the industry. It became apparent from the analysis that the frontline regulators are required to consider the interests of these stakeholders when dealing with the petroleum companies. For instance, one of the interviewees revealed that;

> …the oil sector is mostly controlled by most of the politicians and the big guys. Most of them have some stake in some of these oil companies. So when you go out there, you have to be careful (Participant T, 2017)

With this revelation it is appears that (frontline) regulators are unable stop a petroleum company merely because they detect some breaches. At best, the frontline regulators can only issue warnings to the company in question to fix any detected breach. Otherwise, the supervising authority/head will not approve of a decision to stop the petroleum companies. Interestingly, this particular assertion confirms the account of some regulators who recounted instances wherein the former boss of a regulatory agency made phone calls to subordinate regulators insisting that they reverse a regulatory decision they had made, without any justifiable reason. These regulators were ordered to despatch marine vessels (i.e. oil tankers) they had detained because of issues with the vessels' seaworthiness. This observation in captured in the following remarks;

> …I've had an occasion where a ship was detained and then a phone call [nullified the decision]. Because of all this 'rubbish' (referring to the reversal of directives) you don't even bother yourself to detain any vessel. You won't even do it. Because there's no point in doing that. (Participant 1, Agency CC, 2017).

This observation partly resonates with Appiah-Opoku's (2001), assertion that some regulatory agencies, particularly the EPA, having issued environmental permits, rarely monitors to ensure the execution of environmental management systems (EMS). In this context, it appears that in some instances, the regulatory functions (e.g. audits and monitoring exercises) that the regulators conduct are only cosmetic.

The study also found that the various processes that lead to the award of oil blocks and contracts in Ghana, either via tender or direct negotiations, are/were also done along familiar and/or familial lines. One typical instance is the allegation that Mr George Owusu and Dr Kwame Bawuah Edusei – who formed the EO Group – used their familiar ties with then President, John Kuffour, to acquire the rights over 'Ghana's most promising offshore oil block and also receive favourable contractual terms for itself and Kosmos' (Financial Times 2010). Mr George Owusu, was the representative of Kosmos in Ghana while Dr Kwame Bawuah Edusei, a doctor and a supporter of then President Kufuor was appointed as ambassador to Washington in 2006 by President Kuffour (Financial Times 2010).

Further analysis found some instances wherein the performance of regulatory functions in Ghana's upstream petroleum industry was linked to familiarity among the actors in the industry. For example, local media alleges that petroleum-related contracts awarded to Rigworld or its E&P partners were mainly, if not solely, based on their ties with the leadership of the Petroleum Commission (The Statesman 2017). Rigworld is a Ghanaian upstream Oil and Gas Service Company, whose goal 'is to provide offshore, onshore and near-shore oil and gas services to E&P, drilling contractors and production companies in Ghana and West Africa' (Rigworld 2018). Using the Local Content law, the Petroleum Commission, under the previous National Democratic Congress (NDC) government, is alleged to have given numerous preferential treatments to Rigworld, especially to provide crew members to offshore operators (The Statesman 2017).

Another instance is the replacement of Griffon Energy (a Ghanaian upstream oil E&P company) with a newly formed Ghanaian upstream E&P company called Goil Offshore Limited to partner ExxonMobil to explore for hydrocarbons in Ghana's Deep Water Cape Three Points (Myjoyonline 2018b, 2018c). As reported by (Myjoyonline 2018b, 2018c), Griffon Energy was selected after a thorough evaluation of 27 oil companies by Exxon Mobil to partner them in the DWCTP block. Nevertheless, rather than approving of Griffon Energy and ExxonMobil's partnership, the Minister of Energy, John Peter Amewu, approved the selection of Goil Offshore Limited; a company that was part of the 26 unsuccessful applicants in ExxonMobil's evaluation process. On the face of it, it can be said that Goil Offshore Limited, having been only recently created, was selected on familial basis to partner ExxonMobil.

7.3.1.2 The Lack of Familiarity with the Operational and Technical Processes in Ghana's Upstream Petroleum Industry

Analysis also show that it is popularly believed that the recurrent view that the interactions that ensue between the regulators and petroleum companies offer significant opportunities that could in fact enhance regulatory functions. Among the opportunities, the most predominant is the ease by which the regulators and the petroleum companies are able to collaborate and cooperate[26] on issues that have to do with the protection of the natural environment. Interview reports suggest that this has the potential to optimize the respective functions of the petroleum companies and the regulatory agencies in Ghana. For instance, one of the interviewees indicated that;

> …through collaborative efforts, the PC has had access to some relevant information and knowledge – some of which have contributed immensely towards the effective execution of their regulatory duties so far (Participant 1, Agency AA, 2017)

This notwithstanding, analysis reveal that these interactions, in some cases, create a 'false sense' of collaboration and cooperation, whose perpetuation could also lead to the capture of the environmental regulatory system governing Ghana's upstream petroleum industry. Analysis indicates that unlike the petroleum companies that are largely conversant with the

[26] It is important that readers do not confuse the collaboration between/among the government regulatory agencies with the collaboration between the regulatory agencies and the petroleum companies.

technicalities of the petroleum industry (i.e. their facilities, materials, technologies and activities, together with the actual risks and potential environmental threats associated with each of them), most of the personnel in the regulatory agencies usually lack the technical expertise, as shown in Chapter 5. In corroboration of this observation, one of the interviewees, for instance, remarked that;

> …you talk about oil pollution and the environment, but does EPA have the know-how to even cross to the seaside? No! No, EPA doesn't (Participant 2, Agency CC, 2017)

Complementing the lack of technical expertise, further analysis of interview reports also suggests that some of the regulators lack the legal acumen needed to interpret applicable regulatory mechanisms and are usually unable to effectively apply relevant regulatory mechanisms. Consequently, during the performance of their regulatory functions, they encounter various circumstances in which the relevant regulatory mechanisms appear inapplicable or less efficient for them. One interviewee expressed this sentiment, stating that;

> …some of the regulators in Ghana's upstream petroleum industry are technically incompetent…some have no clue as to when, where and how to apply the relevant laws (Participant Q, 2017)

To bridge this gap in technical expertise, therefore, there is a held notion that by interacting and collaborating with the petroleum companies, a platform is created, based upon which the regulators are able to access essential knowledge and are also 'enlightened' on some technicalities in the petroleum industry which they are not privy to. Indeed, the analysis indicate that;

> …because the Petroleum Commission has to understand the technicalities of the [petroleum industry], it [usually] collaborates on a number of things with [the petroleum companies it regulates] (Participant 1, Agency AA, 2017).

Specifically, as with other petroleum companies, the PC also collaborates with the GNPC when the former '…wants information [and/or] expertise to help them work on [petroleum] projects or regulations' (Participant 1, Agency DD, 2017).

This dynamic is quite common among the regulatory agencies in the industry. Nonetheless, while it seems innocuous on the façade, it often creates a 'false sense' of collaboration and cooperation, which provides a conducive environment for the possible capture of the environmental regulatory system governing the industry. While some interview reports convey this concern, additional information also showed that, indeed a false sense of collaboration is created through the interactions that ensue between the two parties, and this could lead to the capture of the environmental regulatory system governing Ghana's upstream petroleum industry. To exemplify this claim further, it emerged from the analysis that while performing their regulatory functions some of the regulators are briefed by their counterparts in the petroleum companies about what they need to inspect. Additionally, in instances where frontline regulators encountered challenges in enforcing regulatory mechanisms, it often takes the collaborative effort between them and the personnel of the petroleum companies to negotiate the intended meaning of some of the applicable regulatory provisions. One interviewee indicated that;

> …when they (i.e. the regulators) conduct their audits, it's not all the time that they understand the laws. So you have occasions where the regulators [informally] brainstorm with the people at Tullow and the rest as to what the laws mean (Participant 2, Agency FF, 2017)

Taking these together, it is evident that the lack of awareness of the operational and technical processes by regulators, as well as, the familiarity between the actors in Ghana's upstream petroleum industry amplifies the vulnerability of the environmental regulatory system and expose it to *potential* capture.

7.3.2 Possible Emergence of Regulatory Capture via Reciprocity

With regards to reciprocity in Ghana's upstream petroleum industry, the findings suggest that be it with the provision of reciprocal favours, treatments or retaliation, reciprocity, quite often, creates unprofessional relationships between government regulators and the petroleum companies which creates a potential avenue for the emergence of regulatory capture in the industry. Via reciprocity, regulators, as well as, the actors involved in the regulatory system, are more likely to pass (or turn a 'blind eye' to) certain interventions and complement them with varied enforcement strategies; depending on whether they are

retaliating or returning favours. Ultimately, this situation could undermine and defeat the purpose of the environmental regulatory system.

One classic example emerged during the interview sessions where respondents revealed that to reward their loyalties, some people did receive (political) appointments to act as board members in key regulatory agencies. In agreement, one interviewee remarked;

> …politician, what money do you have? It is people who'll fund your campaign and at the end of the day you have to pay back. It is the same politicians also that bring in the president. At the end of the day they have to work in unison and make money to pay back their debts, pay back to have the party in place. That is the basis of the corruption. That's what the whole thing is about. How're you going to fund them? You'll give them contracts, you'll give them jobs…they'll bring their people and you'll plant them (Participant 1, Agency CC, 2017)

While (unsurprisingly) no specific names were provided to substantiate these claims, analysis of interviewee reports further suggest that most of the members of governing Boards, albeit appearing competent, end up doing the bidding of those who played a role in their appointments. To reinforce this claim, the interviewee further revealed that rising to certain heights in government agencies is vastly contingent on strong contacts. The interviewee stated that;

> …[for you to get to the top depends on] who you know [and] the links you have. Once you're successful in rising to the top, you'll [have to] pay back…in cash or in kind (Participant 1, Agency CC, 2017)

Analysis of the local media further shows that political appointees usually work to reciprocate favours to their appointing authorities as payment for their appointments. For instance, following agitation by personnel of the Ghana Revenue Authority that political interference, via appointments, was impeding their abilities to meet their revenue targets, one of the staff of GRA revealed that the political appointees, rather than working for GRA were working for their appointing authorities. Media reports cite a representative comment by a GRA staff.

> Those people had the job on a silver platter so they think that they should help or work for their godfathers or superiors (i.e. the appointing authorities) at the detriment of the state (Myjoyonline 2019a)

Complementing this, analysis also suggests that, some political appointees, and Board members, in particular, are usually strategically positioned in State entities to seek and promote the interests of the 'big people and party members', and not necessarily the interests of Ghana. The interviewee further stated that while seeking and promoting the interests of such actors in the society, Ghana, as a nation, becomes fortunate if the interests being pursued are in alignment with the national agenda. For instance, the interviewee indicated that;

> …when these people (i.e. political appointees) are appointed, it's clear where their allegiances will be. If they happen to align with the national agenda then that's a bonus for us (i.e. Ghana) (Participant U, 2017)

Regulatory capture is also a possibility, as the regulators rely heavily on the petroleum companies for physical resources to facilitate the performance of their regulatory functions. Another example that typifies this potential is the use of helicopters owned by the petroleum companies during the performance of regulatory functions. As mentioned earlier, petroleum companies (e.g. Tullow) give the regulatory agencies access to their helicopters to facilitate the performance of their regulatory functions (e.g. conduct audits on the drilling platform). Even though this is quite common in the global petroleum industry, analysis of interview reports suggests that this dynamic represents a potential channel through which the environmental regulatory system could be captured. Recognizing the implications accompanying the reliance and utilization of petroleum companies' resources, some of the interviewees revealed that the use of their helicopters, in particular, is a source of concern, even for the regulators. For instance, one of the interviewees stated that;

> Even though the use of Tullow's helicopter is in itself *worrying*, at the moment it's necessary for the regulators (Participant 1, Agency AA, 2017)

Implicit in the above remark is the admission that the use of resources owned by the petroleum companies could present challenges to the performance of regulatory functions in Ghana. Actually, additional analysis of interview reports suggests that since the

regulators make use of petroleum companies' helicopters and other resources, it was quite easy for the former to reciprocate the 'favour' by being excessively lenient or lax in the exercise of their regulatory mandates. This incidence, as it emerged from the analysis, devalues the clout of the regulators and their agencies in the eyes of the petroleum companies. This sentiment was expressed by one of the interviewees who stated that;

> …when you rely on them (i.e. the petroleum companies) for these things (helicopters and other resources) they begin not to appreciate the clout that you bear (Participant 2, Agency CC, 2017)

The repercussion of this manifestation is the diminutive of respect for and value of the environmental regulatory system governing the industry. This could eventually lead to the partial or total breakdown of the entire environmental regulatory system. Indeed, further interview reports suggest that the reliance of helicopters owned by the petroleum companies put the regulators in positions where they are obliged to 'reciprocate' the favour. Not only to maintain access to the helicopters, but also to maintain the cordial and 'collaborative' relationship between the two parties. This sentiment can be inferred from the following remarks by one of the regulators.

> …If Tullow flies me with the helicopter to the offtake tanker and I go and the tanker is not seaworthy I can't detain the ship……integrity doesn't work there. Because the man (i.e. the petroleum company) is flying you to his place (i.e. the petroleum facility), he's housing you, feeding you, he'll bring you back. What on earth will let you detain the ship because you think it is not in good order? You can't do that (Participant 1, Agency CC, 2017)

Furthermore, analysis suggest that reciprocity is an effective conduit that facilitates the perpetration and perpetuation of corruption in the industry. Media reports suggest that the various processes that ensue in the petroleum industry are usually not transparent; to the point where a series of corruption and bribery allegations have been levelled at some of the personalities involved in these processes. The President of Ghana, Nana Addo Dankwa Akufo-Addo, is even on record to have stated that '…there is no avoiding the fact that the oil industry, unfortunately, has a reputation for corruption' (Ghana Business News 2019). In a typical example, following the discovery of the Jubilee Field in 2007, the NDC government, in 2009, started investigating Kosmos and the EO Group, who were believed

to be connected to the previous (NPP) administration, for alleged corrupt practices (Financial Times 2010; Global Witness 2010). One of the interviewees elaborated on this issue and indicated that;

> …the oil industry is shoddy, [with] a lot of underhand dealings. You know of the EO Group? So one of the [Jubilee] partners happened to be EO Group… invisible shadowy characters. Nobody knows them. If you want, say Tullow, you know the Chief Executive of Tullow. Why is it that the EO Group alone we don't know them even up to now? Companies that have been registered offshore…the essence of offshore means hide, secrecy. So that tells you it is not just a political gimmick (Participant 1, Agency CC, 2017).

Analysis of interviews further revealed that even though there are systems in place to regulate respective industries, the personnel in charge of exercising their regulatory mandates allow themselves to be manipulated through bribes by those that ought to be regulated. Two interviewees stated the following;

> …I think it's possible the [petroleum] companies can influence policy in this country. Just grease (i.e. offer bribes) the MPs and they will drag on bills for years. We've been in the system for long and we know how it works. We have friends who witness some of these things, but no one will admit it to you. (Participant 1, Agency FF, 2017)

> …I know of instances where some people (i.e. regulators) looked the other way because they'd been compromised and allowed companies to engage in illegal acts (Participant W, 2017)

To further buttress this submission about corruption in the industry, Honourable Asamoah Yaw Buabeng, a Member of Parliament for Adenta, during a panel discussion on Joynews File on the issue of corrupt activities involving officers in government (regulatory) agencies, noted that;

> …we have gotten to a position where the very people who manage these processes (i.e. regulatory processes) have been compromised. The very people who manage the rules have been compromised. The people who are signing the checks, the people who are generating the contracts, [and] the people who have our trust[s] are abusing the trust with impunity… (Joynews 2017f).

Even though in most instances it is very difficult to unravel corrupt practices, their prevalence in Ghana, in general, demonstrates the susceptibility of Ghana's regulatory systems to regulatory capture. Bribery and corruption, with the expectation of reciprocal favours seem inescapable, as they infiltrate practically into every facet of the Ghanaian economy. In a typical example, investigation by Anas Aremeyaw Anas revealed how some government officials and political figures usually circumvent laid down laws and policies, and assist the entities they ought to regulate, rather engage in illegalities. In a typical instance, Charles Bissiw, the Secretary of an inter-ministerial committee formed to enforce a ban on small-scale mining in Ghana, was captured on tape taking money (i.e. bribe) to facilitate the processes for a company to violate the ban on small-scale mining, while also advising them on how to obtain protection during their illegal mining activities (Myjoyonline 2019b). Likewise, Ghana's judiciary, the supervisors of the country's democracy, was shown to be inundated in massive corruption. Video footage that was aired to the public showed some of the implicated court justices and judicial staffers from Ghana's lower and high courts 'trading foodstuffs, livestock and monies for justice' (Joynews 2015b).

Together, these instances of reciprocity demonstrate another pathway by which the environmental regulatory system governing Ghana's upstream petroleum industry could be captured.

7.3.3 Possible Emergence of Regulatory Capture via the Revolving Doors

Analysis suggests that the movement of personnel between government regulatory agencies and petroleum companies in Ghana's upstream industry, although beneficial, also has the potential to facilitate the emergence of regulatory capture in the industry.

To begin with, some actors within the environmental regulatory system emphasized that the movement of personnel between the regulatory agencies and the petroleum companies presents both merits and demerits to either party depending on which perspective you take. If and when personnel move from the regulatory agencies to the petroleum companies, the agencies are seen as losing their already scarce expertise. However, 'if it is the other way [round] it would [be] good because [the regulatory agencies] get other experienced hands as well.' (Participant 1, Agency DD, 2017) One interviewee also suggested that;

> …if someone has worked with Tullow (i.e. a petroleum company) [for] ten years and then [goes to PC], I think it's a good thing. They are experienced in the operational side. So they understand how things work. [PC is] not [an] oil and gas producer, [they're] regulators (Participant 1, Agency HH, 2017)

Additionally, in as much as the revolving doors promotes the interchange of relevant expertise between the regulatory agencies and petroleum companies, for the individual personnel on either side of the table, it also provides them the platform to aspire and attain more rewarding jobs in the future. The concern here, however is that the personnel in government regulatory agencies tend to be more attracted to the petroleum companies they regulate. This is mainly due to the inability of the regulatory agencies to match the remuneration packages of the petroleum companies. To exemplify this submission, one interviewee indicated that;

> ...That's how it is; it's a system. People move in and out but it's been low. Continuous mass migration from [the petroleum companies to the regulatory agencies] would be good because they (i.e. the regulatory agencies) get experienced hands. But mostly [the regulatory agencies are unable to] match the salaries of the operators so [this] hardly happens (Participant 1, Agency DD, 2017)

As a result, the material self-interests of government regulators that are driven by the hope of a future employment with petroleum companies is likely to drive them to either render favours for the petroleum companies or be lax in the exercise of their regulatory mandates. One interviewee made this suggestion by stating that;

> …when you want a job you have to impress the person who can employ you. So if I'm a regulator and want to work for any of the oil companies, I'll have to forge a good relationship with them. I can't go out there and act all bossy like I know it all. I need to be reasonably lenient…to make them like me (Participant 2, Agency FF, 2017)

Complementing this, the study also found that usually, public officials in Ghana (e.g. regulators and political appointees), who are at the twilight of their careers, while executing their duties, are promised Board memberships, advisory or other desirable leadership positions in private firms connected to the petroleum industry, or even other regulatory agencies connected to the industry. Such situations usually create conflict of interest which

are often to the detriment of the regulatory agency. Coming from a petroleum company into a government regulatory agency, new regulators and/or 'consultants' are more likely to support the interests of the petroleum companies and, thus, make more auspicious and pro-industry decisions due to their ties with the petroleum companies. This arrangement, holds the potential to compromise the professional conduct of the involved personnel, particularly, when they're promised future positions while still employed in the government agency. One interviewee revealed that there are now retirees of the GNPC at Petroleum Commission who serve as consultants and provide advice to the Commission. The interviewee indicated that;

> …there are people like that [at PC]… [Petroleum Commission has] consultants who have retired from GNPC, who are [there] who help [and] advise [PC] (Participant 1, Agency HH, 2017)

Unsurprisingly, analyses of interview reports reveals a suspicion that rather than advising on regulatory policies, some of these personalities act as lobbyists seeking the interests of the petroleum companies. This way, they don't only advocate but also subtly influence the performance of regulatory functions by influencing the decisions and strategies upon which such functions are performed. One interviewee made the following remark.

> Why would you make a retiree of a State oil company a consultant of a regulatory body? Especially one that regulates the company that person once worked for. What is the rationale? These people are coming from the other side (i.e. petroleum company) so that's where their interests will lie. True they can offer policy advice and all, but when you look closely you'll see that they favour the oil companies. We need to discourage it (Participant Q, 2017)

In addition to the above remark, these instances illustrate how the revolving doors phenomenon serves as a conducive channel through which the environmental regulatory system governing Ghana's upstream petroleum industry *could* be captured.

7.3.4 Possible Emergence of Regulatory Capture via Asymmetric Information

Article 16(1) of the Petroleum Agreement between Ghana, the GNPC, Kosmos Energy and the E.O. Group directs the petroleum companies to keep the regulator "regularly and fully informed of petroleum operations being carried out by [the] Contractor (i.e. the petroleum

company) and provide the regulator with all information, data, (film, paper and digital forms), samples, interpretations and reports, produced in or as a result of such operations (including progress and completion reports)" (Ghana Parliament 2004, p. 58). This particular provision in this Petroleum Agreement, which is stipulated both in the Petroleum E&P Act (Act 919) and the General Regulations on Petroleum E&P (LI 2359), enjoins petroleum companies to provide up-to-date information about petroleum-related activities, data and information to the Petroleum Commission.

It is, however, interesting to note that while some four interviewees suggested that petroleum companies are usually unwilling to divulge information, particularly when it's not in their best interest, seven others suggested that the information they (i.e. the petroleum companies) divulge are usually not always comprehensive. One interviewee revealed that when the frontline staff of the petroleum companies detect issues that may indicate noncompliance (which need to be reported to the appropriate regulators) they report to their superiors, because they don't have the clearance to directly report to the regulators. The superiors will in turn report to the relevant person(s) in their head office. The interviewee proceeded further, noting that;

> It's from there that probably [the incident report will] have to trickle over to [the regulator]. [But] some lawyer sitting somewhere will say no, don't tell these people now…The technical person sitting there would have reported and it would have gone all the way to the [head] office but from there, somebody makes the decision – I don't think we should tell them (i.e. the regulators) (Participant 2, Agency CC, 2017)

Adequate data and information, albeit fundamentally essential in any effective regulatory exercise, is very often unavailable. Paradoxically, however, analysis of interviews indicates that in instances where the needed data and information *are* available, they are usually either inaccessible or not readily comprehensible, particularly, by the frontline regulators.

> …you know accessibility to information has always been an issue in our government agencies. The information we need is not always forthcoming, and when we get them sometimes we don't even know what to do with them…because we don't understand them (Participant Q, 2017)

Appiah-Opoku (2001), in her study, showed that the principal constraints confronting most government regulatory agencies, particularly the EPA, is the lack of organized information and baseline data. Due to this, the EPA, like most regulatory agencies in Ghana, depend on the petroleum companies they regulate for data and information. The absolute reliance of government regulators on petroleum companies may lead to blind trust, which could ultimately lead to regulatory inefficiencies. This stems from the fact that the dependence of the former on the latter sometimes provides the petroleum companies with the opportunity to withhold privileged information; thus creating a situation of information asymmetry which could potentially lead to the capture of the environmental regulatory system governing Ghana's upstream petroleum industry.

Ultimately, these itemized cases, some of which play out in other sectors of Ghana's economy, depict the myriad ways through which the interactions between government regulatory agencies and petroleum companies could lead to the capture of the environmental regulatory system. A remark by Ernest Kofi Abotsi, one of Ghana's illustrious legal practitioners, suggests that regulatory capture is not only a possibility but an actuality within Ghana's regulatory milieu. During a panel discussion Mr. Abotsi stated that;

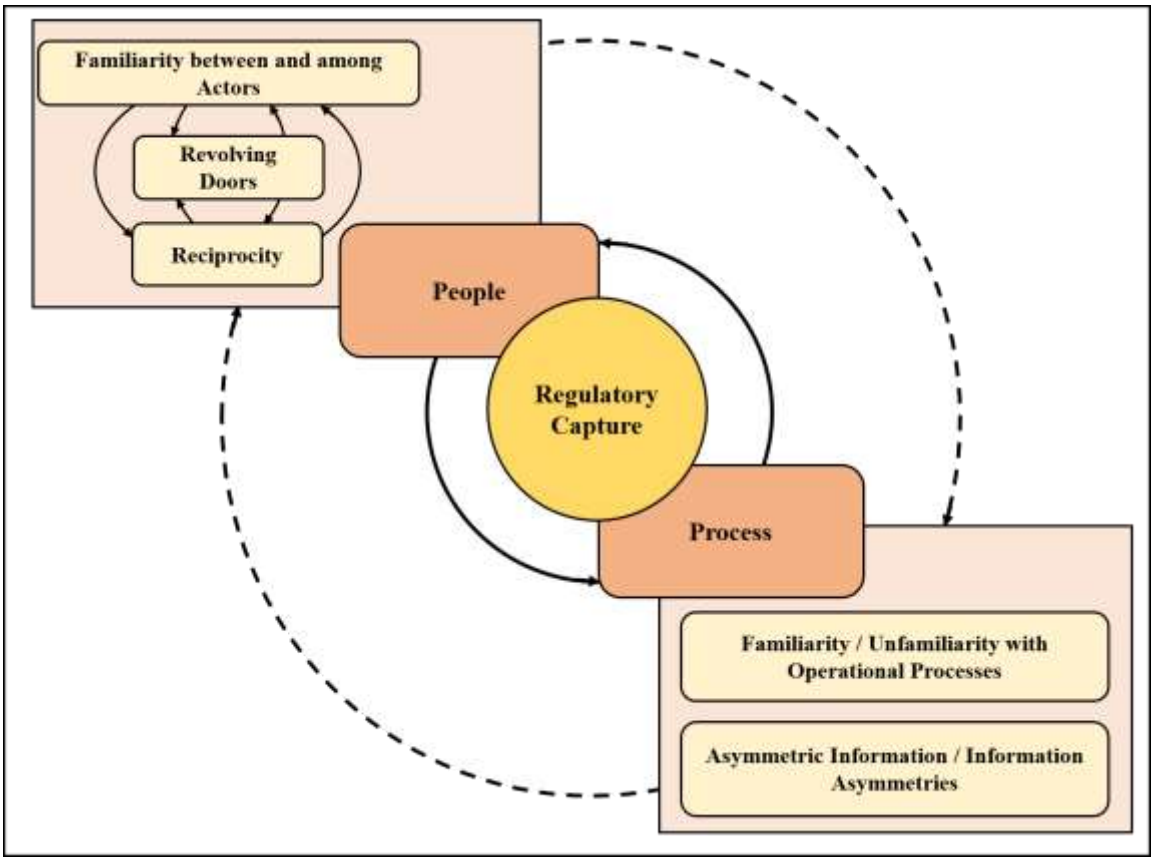
> …there's a lot of regulatory capture going on in this county (Ghana) concerning our regulators, [and] to be honest this is not just the EPA and the other ancillary environmental bodies. Because we see licenses that should not have been issued. We see instances in which people have been permitted to engage in businesses that otherwise they shouldn't have been engaged in (Ernest Kofi Abotsi, Joynews 2018)

It is however, interesting to note that despite the various observations and commentaries on regulatory capture, analysis revealed that empirical knowledge of the phenomenon remains elusive in Ghana's upstream petroleum industry, predominantly, because it has yet to be fully appreciated as a construct. While some interviewees refer to the phenomenon as conflict of interest, others refer to it as corruption. These characterizations, notwithstanding, the reports of the majority of interviewees, together with the pieces of information obtained from secondary sources, reveal numerous traits and circumstances, whose presence if not quickly addressed could result in the emergence of regulatory capture in Ghana's upstream petroleum industry. This can be inferred from the following remark.

> …we're monitoring the performance of oil and gas companies in delivering on their obligations, and preliminary findings show that there are [petroleum] companies that are supposed to even have relinquished their blocks but are still in operation. The Petroleum Commission is responsible for awarding blocks and taking blocks away, but if people (i.e. the petroleum companies) who are supposed to have relinquished their blocks are still on site what does that mean? Does that mean the Petroleum Commission is not doing its work? Does that mean they're being controlled by the powers that bid? There is the risk of conflict of interest, I'll use that…because I don't have full evidence of the actuals, but there are indicators... (Participant 1, Agency AA, 2017)

Taking all of these together, Figure 7.1 illustrates a representative schematic of how the interactions between regulators and petroleum companies could lead to the capture of the environmental regulatory system governing Ghana's upstream petroleum industry.

Figure 7.1: Schematization of Regulatory Capture



Author's Construct

As demonstrated in Figure 7.1 the human elements (i.e. the People) are often the authors and coordinators of the processes (i.e. Process) within the petroleum industry – both within

the regulatory and regulated entities. These processes, in turn, dictate how the human elements function within the industry and interact with one another. The familiarity between the actors, as well as familiarity with (or unawareness of) the operational and technical processes facilitates the Revolving Doors. In most government agencies in Ghana, where you want to go, and what you want to do depend, to a large extent, on 'who you know'. Accordingly, familial relationships between the actors encourage the flow of employees from government regulatory agencies into regulated firms, and vice versa. Likewise, an employee's familiarity with the characteristic issues in the industry promotes the revolving doors phenomenon. The revolving doors, in turn, encourages familiarity, as it exposes and introduces employees who pass through them to different actors, and provides them with opportunities to get familiar with new dynamics they were once oblivious to. Furthermore, the analysis show that the revolving doors facilitate reciprocity, which in turn facilitates the revolving doors. Employees who rise into particular positions with or without merit may have to return the favour to those who may have contributed to their rise. Each of these three operates in different ways to encourage information asymmetries, which, in turn, also creates room for the others to thrive. Familiarity, Reciprocity, Revolving Doors and Asymmetric Information work as either singular entities or together in unison to indicate the actuality of 'partial' or 'total' capture, respectively. Implicit in this submission is the fact that a regulatory system can be under partial capture when discrete components of the system are captured, or under total capture when all the components of the system are captured.

7.4 Conclusion

This chapter has shown the threats associated with the interactive processes that occur between government regulatory agencies and petroleum companies throughout the life cycle of petroleum projects. Collectively, the information from interview and content analyses exemplify some dangers (i.e. red flags) that indicate that regulatory capture *could* happen in Ghana's upstream petroleum industry.

If and when present, the phenomenon could lead to an undermining of the effectiveness of, or at worst, the failure of the environmental regulatory system governing Ghana's upstream petroleum industry. This is discussed in the ensuing chapter, where the implications of these identified threats for the sustainability and performance of the environmental regulatory system governing the industry are discussed.

CHAPTER EIGHT: DISCUSSION AND IMPLICATIONS OF THE STUDY

8.1 Introduction

This study was conducted to understand the theoretical and practical foundations of how and why petroleum companies in Ghana's upstream petroleum industry undertake CERs. The study also aimed at highlighting the relationship between the environmental behaviours of petroleum companies and the environmental regulatory system governing the industry. Drawing from interviews and documentary data analysis, the study found that even though there exists an environmental regulatory system in Ghana's upstream petroleum industry, it is characterized by significant weaknesses, such as inherent ambiguities in the regulatory mechanisms, severe resource constraints and political interference. Together, these weaknesses impact the performance and outcomes of regulatory functions. In relation to the fulfilment of environmental responsibilities by petroleum companies in Ghana, the study found that some Ghanaians distrust petroleum companies, despite evidence they appear to be environmentally responsible. The study further found that Ghana's regulatory milieu; outspoken society and the availability of essential infrastructure (e.g. gas receiving plants) are critical drivers of CER in the country. Moreover, findings suggested that some petroleum companies in Ghana's upstream industry undertake CER in order to protect and project their corporate reputation. However, with respect to the interactions between the environmental regulatory system and petroleum companies, findings reveal certain tendencies and behaviours among the actors in the industry whose presence exposes the environmental regulatory system to possible capture and potential failures.

This chapter discusses these findings, and proceeds further to highlight their implications for the performance of regulatory functions, fulfilment of corporate environmental responsibilities and the protection of Ghana's natural environment. The discussion is presented within three thematic sections, each addressing a particular research question. This chapter concludes by providing some recommendation for Ghana's upstream petroleum industry and its communication methods, and the associated regulatory mechanisms and systems that will require reforms to its agencies and personnel.

8.2 Environmental Regulatory System Governing Ghana's Upstream Petroleum Industry: A Call for Improvement

In reference to Figure 2.1 (i.e. the schematic of a typical regulatory system), the regulatory mechanisms comprise the Constitution, Environmental Assessment Regulations (i.e. *LI 1652*), Petroleum E&P (i.e. *Act 919*) and HSE Regulations (i.e. *LI 2258*), among others. The regulatory entities, on the other hand, comprise the Petroleum Commission (PC), the Environmental Protection Agency (EPA), the Ghana Maritime Authority (GMA) and sector Ministries – Energy (MoEP) and Environment (MESTI). These regulatory entities are populated by the regulatory personnel (i.e. both direct and indirect regulators). The environmental regulatory system, as pertains to its composition, is comprehensive, and in theory, comparable to those of other oil-rich countries, such as Norway (Hunter 2014), and Australia (Hunter 2014, 2011). Nevertheless, analysis of the system, in terms of its actual application, reveals several weaknesses. These weaknesses relate to the deficiencies in the (i) regulatory mechanisms and (ii) the regulatory agencies. Together, these weaknesses impact the functionality and outcomes of the environmental regulatory system governing Ghana's upstream petroleum industry.

8.2.1 Weaknesses in the Governing Regulatory Mechanisms

While the Constitution and some enabling Acts (i.e. both regulatory agencies and petroleum E&P Acts) stipulate some key legal provisions, a number of them appear to have some intrinsic inadequacies. These may stem from the limited expertise of the framers of those regulatory mechanisms, especially in the field of petroleum operations and environmental safety. As indicated previously, petroleum production in Ghana began as far back as 1896 (Kesse 1986). During this time E&P activities were only on a small-scale. Even though some international petroleum companies showed interest in Ghana's modest petroleum industry at the time, little was done to develop a regulatory infrastructure to govern the industry. What may have even discouraged the establishment of a dedicated regulatory system was the huge interest in the gold mining industry; whose regulatory infrastructure was adopted to regulate the petroleum industry (Panford 2017). The huge interest in the gold mining sector, together with the dearth of expertise in the petroleum sector impeded the efforts to establish, in time, a targeted regulatory system for the petroleum industry. This holds significant implications, which will be discussed in subsequent sections.

8.2.1.1 Lack of Clarity and Ambiguities in Key Legal Provisions

In Ghana, a typical challenge associated with regulatory mechanisms is their inherent inadequacies and ambiguities, most of which present regulatory challenges to regulators (Odoom 2005). Although precision in the language used in regulatory mechanisms, together with the scope of coverage they are afforded enhance their effective implementation (Singh *et al.* 2007), this is not always the case with Ghana's regulatory provisions. Some of the legal provisions that govern the nation's upstream petroleum industry, are vague in their directives, and these have led to the misinterpretation and mischaracterization by some regulators, consequently creating challenges for the effective performance of their regulatory functions. This observation is consistent with existing literature that suggest that the majority of regulatory challenges that confront regulatory agencies in Ghana emanate from weaknesses in legal instruments, which eventually lead to poor regulatory outcomes (Amoako-Tuffour & Ghanney 2016; Gyimah-Boadi & Prempeh 2012; Gyampo 2010; Thurber *et al*. 2010; Odoom 2005). Odoom (2005), for example, found that ambiguous legal provisions contributed to the regulatory inefficiencies in curbing illegal chainsaw operations in Ghana's Forestry sector.

In the petroleum sector, however, one key example of ambiguity in legal provisions is the inclusion of 'donation' among the sources of funds for the Petroleum Commission, without explicitly defining the actual, and perhaps, acceptable source(s) of the 'donations' (Section 14 (1c) of the Petroleum Commission Act - Act 821). The challenge with such ambiguities is that they may foster corrupt practices, as some 'unscrupulous' personnel in opportune positions in the Commission could exploit such a provision, and would still be able to justify their actions under this same provision. Such ambiguities could also constrain the regulators during the performance of their regulatory roles, and this cannot be underestimated.

8.2.2 Weaknesses in Regulatory Entities - Lack of Resources, Regulatory Turf War and Political Control

The lack of resources that characterize the regulatory agencies in Ghana remains a major concern. The literature suggests that the availability and timely accessibility to financial, logistical and experienced human resources, collectively, enhance the performance and outcomes of regulatory functions (Dangelico & Pujari 2010; Russo & Tencati 2009). The

literature further suggests that regulatory agencies that fund their own activities are less likely to be affected by shocks from government budget cuts – whether strategically or politically motivated (Verhoest *et al.* 2016; Verhoest *et al*. 2010; Verhoest *et al.* 2004). As a result, such agencies are able to focus on their regulatory duties, rather than getting distracted in the persistent struggle for (more) funds from governments who may not be able to meet their financial needs anyways. This is, however, not the case in Ghana's regulatory landscape.

The majority of regulatory agencies in Ghana, particularly the EPA, are poorly resourced and not adequately funded in order to exercise their regulatory duties effectively. This finding is consistent with previous studies that found that, like the EPA, most Ghanaian regulatory agencies, such as the Minerals Commission (MC) and the Forestry Commission (FC), are confronted with limited funding and insufficient resources needed to expeditiously exercise their regulatory mandates (Amoako-Tuffour & Ghanney 2016; Gyampo 2010; Gyimah-Boadi & Prempeh 2012). Consequently, their regulatory outcomes are sub-optimal (Amoako-Tuffour & Ghanney 2016), and particularly with the EPA, less reassuring in the efforts to ensure the safety of Ghana's natural environment. This observation clearly confirms Herman's (1981, p. 178), assertion that adequate resourcing of regulatory agencies "defines the potential scope and quality of enforcement."

As per the findings, there is reason to believe that some regulatory systems that are designed in Ghana, especially those intended to govern different sectors of the extractive industry are usually done with the prime motive of attracting investment and participation in the industry, and not necessarily to control the activities of participating entities that could adversely impact the natural environment (Akpalu & Parks 2007; Hilson & Nyame 2006). Indeed, as asserted by some interviewees, given the growing nature of Ghana's petroleum industry, together with the economic promise it holds for the realization of the country's developmental agenda, regulatory agencies are deliberately under-resourced which means that regulatory oversights (i.e. how government regulatory agencies perform their regulatory functions) are weakened so as to promote the oil industry.

As the findings suggest, this is usually initiated by charging the regulatory agencies with overlapping and/or conflicting functions, with the latent anticipation that their

unwillingness to collaborate with one another will impede their regulatory efforts. Indeed, rather than collaborating, findings reveal that the regulatory agencies make various attempts to protect and not share their 'turf' with other regulatory agencies. This holds some implications for the overall performance of regulatory functions in Ghana's upstream petroleum industry.

Moreover, analysis of the environmental regulatory system demonstrates that in most instances, political actors and party faithfuls are usually appointed into agencies so as to exert political control over them. These findings are consistent with existing literature which suggests that political appointees in regulatory agencies are there to pursue partisan objectives, and also maintain political control of those regulatory agencies (Heller & Heuty 2010; Aryeetey 2004). While political interference in the regulatory system diminishes the independence of regulatory agencies, as pertains to those in Ghana, it also short-circuits the continuity of well-planned regulatory activities within those agencies (Gyimah-Boadi & Prempeh 2012; Aryeetey 2004; Christensen 1999). This is heightened further as politically appointed sector Ministers, who are legally equipped with unfettered discretionary powers (as *Act 919* does), in order to secure their jobs and positions, pursue the interests of the appointing authority (i.e. President). This is irrespective of whether or not those interests are in alignment with the national interest.

Although, for instance, the establishment of the Petroleum Commission has improved the regulatory milieu of Ghana's upstream petroleum industry (i.e. in terms of its contribution towards the enactment of some key regulatory mechanisms e.g. *Act 919*), the existence of these identified weaknesses hold serious implications for the sustainability and effectiveness of the environmental regulatory system governing the industry. This is discussed in subsequent sections.

8.3 Fulfilment of Corporate Environmental Responsibility in Ghana's Upstream Petroleum Industry: Behaviours, Drivers and Impacts

Petroleum companies that operate in Ghana employ a variety of avenues and practices to undertake their corporate environmental responsibilities; one being the use of environmental communication. Via this strategy, the petroleum companies deploy four messaging tactics in order to inform stakeholders that they are being environmentally

responsible in Ghana. They do this by highlighting their possession of environmental permits and certifications; their compliance with regulatory mechanisms; their affiliations with international organizations; and their commitments to environmentally-related endeavours. With respect to the actual performance of their CER in Ghana, analysis reveals some efforts and traits that suggest that petroleum companies, such as Tullow and Eni, actually fulfil their environmental responsibilities. The actual performance of CER entails the environmental management performance (EMP) and environmental operational performance (EOP). First, the EMPs of the petroleum companies enables the identification of explicit environmental issues, and enhances the establishment of the necessary structures and systems to address these issues. These together facilitate and augment the companies' EOPs. These observations are consistent with the literature that suggests that companies need to have in place the necessary structures, mechanisms and systems in order to undertake their environmental responsibilities effectively (e.g. Trumpp 2015; Rahman & Post 2011; Clarkson *et al*. 2008; Cogan 2006; Punte *et al*. 2006; Olsthoorn *et al.* 2001; Ilinitch *et al*. 1998).

Furthermore, the findings of the analysis of the environmental responsibility of petroleum companies as a result of mapping them against the schematic depicting how CER is fulfilled (Figure 3.2), suggests that corporate environmental responsibility is a multidimensional construct, whose establishment requires rigorous and extensive analysis. This is consistent with Trumpp (2015), and Ilinitch *et al.* (1998), who demonstrate that CER is indeed a multi-faceted concept.

These factors would be discussed in the ensuing section. That notwithstanding, analysis reveals widespread doubt and negative perceptions about the fulfilment of CER by the petroleum companies. These are discussed in Section 8.3.2.

8.3.1 Key Factors Driving the Fulfilment of CER in Ghana

8.3.1.1 The Need to Protect and Project a Positive Corporate Reputation

Whether environmentally responsible or not, different petroleum companies demonstrate variable behaviours, which are largely dictated by several relevant institutional drivers (Scott 2008; Campbell 2007; Doh & Guay 2006; Moon *et al.* 2005). One of the most common driver, as evidenced in this study and consistent with the literature, is the need to

protect and project a positive reputation (Galbreath 2010; Dummett 2006). Historic environmental disasters caused by the BP oil spill and the Exxon Valdes accident have provided vital lessons that indicate that, even though corporate reputation is an intangible asset (Watson 2007), its erosion or outright destruction via environmentally irresponsible behaviours can have significant consequences on companies (Russo & Fouts 1997; Klassen & McLaughlin 1996).

In light of this, petroleum companies make use of environmental communications to inform their stakeholders about the fulfilment of their environmental obligations. Analysis, however, reveals that some Ghanaians doubt the contents of the environmental communications. They assert their belief that the petroleum companies use environmental communication only as a publicity stunt to elicit trust from them and also to enhance their reputation. This notion confirms assertions by Li *et al.* (2010), that in developing countries, in particular, environmental communications are mostly perceived as tools used to manage companies' reputations.

This notwithstanding, because the strategy of environmental communication, particularly those made publicly available on the official websites of the petroleum companies, is usually a voluntary initiative which forms a part of their informal framework for self-regulation (Christmann & Taylor 2002), and self-promotion as a green global corporate citizen (Matejek & Gössling 2014), it tends to imply openness, and sends a signal of honesty to their stakeholders. Thus, the literature suggests that the use of environmental communication enables the petroleum companies to assuage public scepticism and shape positive perceptions relating to the fulfilment of their environmental obligations (Matejek & Gössling 2014; Bansal & Clelland 2004). This way, they are able to boost their corporate reputation as they express their environmental awareness and commitments to their stakeholders (Renwick *et al.* 2013; Galbreath 2010; Maon *et al.* 2009). Being regarded as an environmentally responsible petroleum company helps the petroleum companies to obtain social license from local communities (Prno & Slocombe 2012). This in turn facilitates the establishment of the petroleum companies' environmental legitimacies within their host societies (Bansal & Clelland 2004; Milne & Patten 2002; O'Donovan 2002; Wilmshurst & Frost 2000).

8.3.1.2 Impact of an Outspoken Ghanaian Society

Findings suggest that the vocal nature of the Ghanaian society is a major contributing factor that drives the fulfilment of environmental responsibility of petroleum companies in the country. This is consistent with Fosu (2017), who found that the outspoken nature of Ghanaians, which has been on the increase since 2011, has in part fostered accountability in the country.

The incidence of environmental disasters in the mining sector of Ghana (Kessey & Arko 2013), coupled with the multiple socio-economic and political challenges (Baah-Boateng 2015; Molini & Paci 2015; Adjei & Buor 2012; Aheto-Tsegah 2011; Sowa 2002; Aryeetey *et al.* 2000), have also forced local communities, activists and the fourth estate to be more vociferous in their demand for environmental safety (Mensah *et al*. 2019; Nyamekye-Acquah 2018; Armah *et al.* 2011). Particularly in relation to the protection of the countries' natural environment, the environmental imprudence by *galamseyers* and some large-scale foreign companies has driven the majority of Ghanaians, led by the fourth estate, NGOs and CSOs to pressure the government into implementing a nationwide ban on small-scale gold mining (Mensah *et al.* 2019; Nyamekye-Acquah 2018; Hilson 2017).

The increased use of social media and accessibility to global news reports have also heightened this sort of pressure on the government so as to ensure that petroleum companies fulfil their environmental responsibilities in Ghana. This is in tune with other researchers who have observed that the structure and strength of (Ghana's) social system, together with the consistent surge in environmental awareness, drives some petroleum companies to employ environmentally responsible practices in their petroleum operations (Wrisberg *et al.* 2012; Kassinis & Vafeas 2006). Reports from the interviews suggest that awareness of the pressures and forceful influence of the Ghanaian society drives the petroleum companies to appear to behave responsibly during their petroleum operations. This is also consistent with Rowlands (2000), who suggests that petroleum companies usually adopt proactive environmental behaviours when operating in countries that are concerned and are more vociferous about environmental issues. Obviously, the level of environmental awareness, together with the pressures society can exact hold significant implications for the social acceptance of the petroleum companies in Ghana, as is discussed in subsequent sections.

8.3.1.3 The Role of Regulatory Systems in Ghana

The study also found that the regulatory environment in Ghana drives the petroleum companies to fulfil their environmental responsibilities in the country. Indeed, this observation confirms the findings of previous studies, which suggest that the environmental performance of (petroleum) companies are largely defined by the governing regulatory systems in the countries within which they operate (Dummett 2006; Steger 1993). Studies further show that regulatory systems are usually enhanced within democratic and politically stable countries, wherein the security and freedom of investors are usually guaranteed (Adams *et al.*, 2017; Peev & Mueller 2012; Doucouliagos & Ulubaşoğlu 2008; Carlsson & Lundström 2002). This is evident from the fact that unlike Libya and South Sudan, for example, that have fragile security and precarious political environments (Fitch Solutions 2019), Ghana possesses a fairly stable political environment which can be reasonably construed to facilitate the rule of law, based upon which regulatory systems, even with their inherent deficiencies, as was shown, are implemented. Actually, this political stability has earned Ghana the reputation of being regarded as the beacon of democracy and growth in Africa (Adams *et al.,* 2017). This suggests the need to protect and sustain the fairly stable political environment in Ghana.

However, a study by Fosu (2017), found that the general political stability in Ghana has been declining since 2011. This has translated into a reduction in the general regulatory quality in Ghana, especially, compared with the rest of Sub-Saharan Africa (SSA) (Fosu 2017). Recognizing that a stable political environment is necessary for the exercise of the rule of law and the effective implementation of the multiple regulatory systems in Ghana, its continuous decline is likely to wane the regulatory quality of the environmental regulatory system governing the country's upstream petroleum industry. This could have serious implications.

8.3.2 Origin and Manifestation of Negative Perceptions about the Fulfilment of CER by Petroleum Companies: Is there a Communication Gap?

Most Ghanaian residents hold deep-seated negative perceptions about the environmental performance of petroleum companies within the country. Analysis revealed that these negative perceptions are so entrenched that even in situations where there is evidence that some petroleum companies do fulfil their environmental obligations, they are still believed

to be behaving in an inconsistent manner. This is consistent with previous studies that suggest that generally, local communities in Ghana hold negative perceptions about the fulfilment of environmental responsibilities by companies within Ghana's extractive industry (Armah *et al.* 2010; Tschakert 2009).

Suffice to add, the majority of negative perceptions about the fulfilment of CER in Ghana's petroleum industry, emanate mainly from the manifestation of environmental devastation by illegal small-scale gold mining in Ghana. Illegal mining activities have severely destroyed large expanses of cultivable lands and polluted several fresh water bodies, such as Rivers Birim, Bonsa and Pra (Fosu 2017; Akabzaa & Yidana 2011; Armah *et al.* 2010; Hilson *et al.* 2007b; Obiri *et al*. 2006). Findings by Akabzaa and Yidana (2011), suggest that the pollution of hydrological bodies in Ghana due to mining activities exceeds the 10 μg/L permitted by the World Health Organization (WHO). Complementing this, historic environmental disasters in other oil-producing countries, such as neighbouring Nigeria (Ojowu *et al.* 2007; Zabbey 2004; Onyeike *et al.* 2002), also contribute to the formation of the negative perceptions about the environmental performance of petroleum companies in Ghana.

These entrenched perceptions are further reinforced by the spreading of misinformation by NGOs, such as FoN. This finding confirms Ofori-Parku's (2016), finding that shows that not only do some NGOs (e.g. FoN) misinform the public, but they also 'frame' narratives that project the notion that petroleum companies are environmentally unfriendly. Article 41, Subclause (K) of Ghana's Constitution (1992), imposes a duty on every Ghanaian citizen to 'protect and safeguard the environment'. However, due to the remoteness of local communities within which petroleum activities occur, together with the illiteracy of the majority of residents in those areas (Ofori & Lujala 2015), the local residents are unable to access and assess information that will show whether or not the petroleum companies are being environmentally responsible. As a result, environmental NGOs and activist groups, such as Friends of the Nation (FoN), assume the role of promoting environmental awareness among the general public. This is a worthy cause that is meant to inform local residents and also shape regulatory efforts to enhance the realization of environmental objectives (Holley & Gunningham 2006).

Interestingly, rather than employing empirical evidence, FoN solicits the perspectives of local residents in oil-producing regions, regarding the perceived environmental implications of petroleum operations. The discourse surrounding the incidence of *Sargassum* (i.e. sea weeds) washing up on the beaches and affecting fisher communities is a classic example of misinformation taking place in the oil production region. The local residents, acting on their already entrenched beliefs, informed FoN that it must be the petroleum operations that are responsible for the incidence of *Sargassum* on their shores (Ackah-Baidoo 2013). They also asserted their beliefs that the rising tides, some of which they allege have eroded about 200 houses along the shores are also connected to petroleum operations (Bybee & Johannes 2014). Furthermore, they complained that the petroleum waste, contaminated ballast water and chemicals that are discharged by the petroleum companies were causing the stranding and death of whales and even coastal coconut trees due to the discharged chemicals being absorbed by their roots (Bybee & Johannes 2014).

Consistent with the findings of Ofori-Parku (2016), FoN in turn, confirmed the perceptions of the local residents by informing them, for instance, that indeed, the incidence of *Sargassum* and the death of whales are connected to petroleum operations. This is despite the fact that independent investigations by Acorn International[27] have concluded that there was no connection between offshore petroleum activities and these identified issues. The spreading of misinformation by NGOs, therefore, further heightens the already established negative perceptions that the petroleum companies in Ghana are not environmentally responsible.

In this context, the persistence of these negative perceptions about the fulfilment of CER despite the volume of environmental communications by the petroleum companies suggest a gap between what the petroleum companies say they do, via their environmental communication, and how the local people access and understand these communications. This holds significant implications for both the reputation of petroleum companies and their

[27] Acorn International LLC is a US-based company with expertise in environmental and social risk management. The company specializes in environmental and social assessments and benchmarking, impact assessment of projects and related services that enhance efficient and sustainable development of projects (Acorn International 2018). Acorn was contracted to provide an independent assessment of the impacts of petroleum activities on marine life in the West Cape Three Points, following reports of whales washing ashore.

ability to receive and/or retain social licenses to operate. These are discussed in Section 8.7.1.

8.4 Threats Associated with the Interactions between Regulators and Key Stakeholders in Ghana's Upstream Petroleum Industry - The Possible Emergence of Regulatory Capture

Consistent with previous studies (Kwak 2013; Baxter 2011; Davidoff 2010; Buiter 2008), the analysis of this study revealed that the interactive processes that ensue among the human elements within Ghana's upstream petroleum industry facilitate the pathways that could lead to the emergence of regulatory capture. The various interactions that ensue between regulators and the key actors in the industry create familiarity among them, which in turn creates some level of trust, based upon which reciprocity thrives (Misztal 2013). Kwak (2013), shows that the familiarity between and among regulators and actors within the regulated industry leads to 'cultural capture', wherein the actors in the regulated industry influence the thought processes of regulators, making them see issues from their perspective. Gradually, regulators start to think like those they ought to regulate. In addition, Hempling (2014), also suggests that rather than always observing the actions and inactions of actors in the regulated industry, it is the regulators' attitude and practices that expose regulatory systems to possible capture and potential failures. Indeed the disposition of the regulators in Ghana's upstream petroleum industry, as seen from their familiarity and reciprocity with the actors in the regulated industry, suggest that regulatory capture *could* happen and that *could* undermine the effectiveness of, or worst case, result in the failure of, the environmental regulatory system.

Interestingly, not only do these traits and dynamics prevail in other key regulatory systems in Ghana, but they have also resulted in serious regulatory inefficiencies, if not full regulatory failures, in the country. For instance, the above review of local news reports suggested that regulatory outcomes in the Minerals Commission (MC) and Forestry Commission (FC) are often poor due to the familiarity and complicity among the regulators and powerful personalities (i.e. members of Parliament, political actors, traditional rulers and security operatives) (Myjoyonline 2019c, 2016b). Particularly in Ghana's forestry sector, the exploitation of Rosewood trees increased by 129 percent despite a ban on their felling, transportation and export (Dumenu 2019). Media reports highlighted that regulators

at the Forestry Commission, rather than enforcing the ban, issue permits to members of the ruling New Patriotic Party (NPP), who in turn give out or sell the permits to their cronies and relations to fell and export the trees (Myjoyonline 2019c). Likewise, Ghana's Bureau of National Investigations (BNI), following its investigation into illegal mining, made revelations that confirmed widely held notions that powerful actors were indeed complicit in illegal small-scale mining. Specifically, Benson Tongo Babaan (MP on the ticket of the National Democratic Congress – NDC); Bunyak Kolog (aka Polo, allegedly, a financier of the NPP); and Nana Issah Muni (the Chief of Bokorkope) are some of the personalities cited to be engaged in illegal mining activities (Myjoyonline 2017c). Local news reports further divulged that regulators at the Minerals Commission and the Inter-Ministerial Task Force[28] overlooked the illegality of some illegal miners, and in several instances even gave them protection due to the illegal miners' connections with political figures, chiefs and big business tycoons in the Ghana (Myjoyonline 2017c; 2016b).

Moreover, as demonstrated in the previous chapter, familiarity and reciprocity, while working in concert, can breed corruption, which is a major issue with significant financial consequences (Fosu 2017). In Kenya and Nigeria, for instance, it has been reported that corrupt practices involving the offering and receipt of bribes represents between 8 percent and 12 percent of the Gross Domestic Product (GDP) (Clay 2004), and as a phenomenon, is still rife in Ghana, particularly, within the extractive industry and regulatory landscape (Adadevoh 2014). Although several regulatory measures have been put in place to minimize its occurrence in the country (e.g. Anti-Money Laundering, Public Procurement and Financial Administration laws), Fosu (2017), indicates that the control of corruption in Ghana is weak, and has steadily declined since 2011. Several practical cases show how entrenched corruption is in Ghana's regulatory agencies. For example, multiple instances have been shown in Ghana's forestry sector wherein illegal chainsaw operators bribed law enforcement personnel (i.e. the Police and Military personnel constituting a task force) and regulators of the Forestry Commission in order to continue their illegal operations (Hansen 2011; Obiri & Damnyag 2011; Odoom 2005; Marfo 2004). This, Dumenu (2019), suggests has led to significant exploitation of banned tree species, as a result of systemic lack of enforcement and transparency in the forestry sector.

[28] The Inter-Ministerial Task Force was established in 2013 to complement the regulatory efforts of the Minerals Commission to enforce the ban on illegal small-scale mining (i.e. Galamsey) in Ghana.

Obviously, due to the familiarity among regulators and powerful actors, the applicable regulatory mechanisms governing the respective sectors were/are either not enforced or laxly enforced. Carpenter (2004), terms this as 'corrosive' or 'deregulatory' capture. While these manifestations in Ghana confirm the assertion that regulatory capture is, indeed, part and parcel of every regulatory system (Carpenter & Moss 2013; and Etzioni 2009), together, they reveal the susceptibility of the environmental regulatory system governing Ghana's upstream petroleum industry and its likelihood to be captured by vested interests and thus the potential for it to fail.

Of specific relevance to this study, most of the bribery and corruption cases in the petroleum industry usually occur during the signing of petroleum agreements and contracts, where influential personalities in host countries are bribed (Stiglitz 2007). In this way, petroleum agreements (PAs) and licenses get awarded to petroleum companies based on other reasons, rather than merit. It is in respect of this that Downs (1957, p.136), indicated that;

> …even if social welfare could be defined, and methods of maximizing it could be agreed upon, what reason is there to believe that the men [*sic*] who run the government would be motivated to maximizing it? To state that they should do so does not mean that they will.

Also emergent from the analysis, the 'Revolving Doors' phenomenon proved to be one of the conduits through which the environmental regulatory system governing Ghana's upstream petroleum industry could be captured. In Ghana, even though employment in State agencies does provide job security, the accompanying remuneration is relatively little when compared with private sector employment, although the latter cannot assure job retention as well as the State (Lokko 2008). Employees in government entities, as some in this study demonstrated, are therefore, more willing to migrate into private firms for the remuneration, and not the job security. This observation is, in part, consistent with Lokko's (2008), study which found that the majority of Ghanaians are prepared to forfeit employment in State agencies for higher salary packages in private firms. Indeed, to pass through the revolving doors usually requires conformity with certain principles the destination company upholds (Kwak 2013; Abrams & Hogg 2001; Akerlof & Kranton 2000). This is deleterious, as it may negatively affect the professionalism of the personnel who desire to pass through the revolving doors into well-paid positions in petroleum

companies. To some extent, it can be said that the regulatory agencies, sometimes, serve as preparatory grounds for personnel that aspire for future jobs in the petroleum companies that they regulate.

Implicit in these observations is the fact that the actors within the environmental regulatory system (i.e. both those who make and enforce the regulatory mechanisms) like other humans, also pursue their individual interests (March & Olsen 2010; Smelser & Swedberg 2005), – wealth, better conditions of service, prestige and fame, among others – some of which may be in conflict with the public interest. It is in the pursuit of personal interests, such as these, that regulatory personnel lend themselves to various situations that exposes the environmental regulatory system to possible capture and potential regulatory failures. Interestingly, however, awareness of the phenomenon appears largely elusive in Ghana's upstream petroleum industry, as the phenomenon has yet to be recognized as a relevant construct.

If and when certain key actors in the environmental regulatory system are captured (say lawmakers), then their expected outputs may be in the interest of the regulated firms. To that end, the enacted laws, regulations and policies that are needed to achieve adequate regulatory outcomes are very likely to be porous. Within this premise, no matter how effective the relevant regulators exercise their regulatory mandates, achieving decent regulatory outcomes will be challenging due to the inadequate laws, regulations and policies made available to them. Likewise, if and when these key actors in the regulatory system are immune to capture, the expectation is that they will produce appropriate laws, regulations and policies. It is now up to the relevant regulatory agencies to devise strategies that will result in the achievement of adequate regulatory outcomes. If these strategies are designed under the influence of capture, then the regulatory functions of the agencies will surely be compromised. In supposing the actions of the legislature and the strategies adopted by regulatory agencies signify immunity to capture, the frontline regulators may still be susceptible to capture. This is because the actual application of the regulatory mechanisms happens at the forefronts by the frontline regulators.

It is, nonetheless, postulated that systemic transparency and accountability measures will help tackle the issue of regulatory capture (Deighton-Smith 2004). Without discrediting the

efficiency of accountability (Bovens 2008), and transparency (Grigorescu 2007), in addressing regulatory capture, there is evidence that indicates the existence of incredible magnitudes of actual cases of regulatory capture in well-developed democracies despite extraordinary levels of transparency and media freedom (Bowles & Hamilton 2013). This is partly because, not all regulated firms will be fully transparent in their operations. Even though required, not all regulated firms will readily disclose 'complete and reliable' data or information about their operations and how it impacts the natural environment (Dykstra 2011; Ravat & Ufer 2010). Additionally, the 'transparency measures' put in place to check against capture are in themselves regulations which are also subject to capture (Etzioni 2009).

8.5 Implications of Findings

This study has significant implications for the conceptual and practical premise of corporate environmental responsibilities and regulatory governance, particularly, in developing countries. This subsection outlines the various implications of the findings of this study.

8.6 Implications of Findings for CER Research and Regulatory Reforms

8.6.1 Contribution to the Literature on Corporate Environmental Responsibility in Developing Countries

Since the discovery of oil in the Jubilee Field, there have been calls for prudent management of the resource (Panford 2017; Obeng-Odoom 2014b; Marful-Sau 2010). However, much of the scholarly focus and discourse has been on the management of the revenues (Ofori & Lujala 2015; Mensah-Yawson 2013; Owusu-Ansah 2008; Breisinger *et al*. 2010; Moss & Young 2009), with limited attention to the environmental management dimension. This study bridges this gap as it contributes to our understanding of corporate environmental responsibilities in Ghana, and by extension, other developing countries. Specifically, by exploring why and how petroleum companies fulfil their CER in Ghana, the study contributes to the literature by expanding knowledge on the indicative themes and drivers that characterize CER in developing countries. Moreover, by divulging the various messages and narratives that petroleum companies usually emphasize in their environmental communication, this study contributes to the CER scholarship as it draws attention to key traits that inform responsible environmental practices.

Furthermore, the application of Figure 3.2 'the schematic depicting how CER is fulfilled', in the analysis of CER and the subsequent findings suggest that the schematic appropriately conceptualizes CER and is, therefore, suitable in assessing the environmental responsibility of companies.

8.6.2 Contribution to the Literature on Regulatory Capture

Given the dearth of scholarly research on regulatory capture in developing countries, this study contributes to the existing body of literature by adding to the extant evidence and expanding the theoretical and practical understanding relating to the definition, diagnosis and remediation of regulatory capture.

Firstly, the study presents a novel and a comprehensive definition of regulatory capture, which enables better characterization of the phenomenon. This new definition was necessitated by the fact that earlier definitions did not entirely characterize what the phenomenon means in this contemporary era. While some definitions focus on regulatory entities (e.g. Posner 2013), others focus on the regulatory personnel (e.g. Hempling 2014; Adams *et al*. 2007). In other definitions, however, the emphasis is on the regulatory mechanisms used to govern the activities and practices of companies (e.g. Yackee 2012). Moreover, while some definitions describe regulated companies as the captors of regulatory systems (e.g. Yackee 2012; Stigler 1971), others refer to dominant interest groups (e.g. Bernstein 1955). Yet, other definitions are nebulous as to who the actual captor is (e.g. Helm 2006). Furthermore, earlier definitions failed to capture the nexus between regulatory capture and regulatory failures. In respect of these drawbacks in the existing definitions, this thesis has redefined regulatory capture as *the process that undermines or, in the worst case, results in the partial or total collapse of a government regulatory system through the consistent or repeated application of components of the regulatory system in the interests of the regulated industry, instead of the general public, by the intent and action of actors within the regulated industry or those operating on its behalf.*

This new definition, which brings together the relevant elements that characterize regulatory capture in this contemporary era, expands our knowledge and the existing scholarship relating to what regulatory capture really means.

Secondly, based on this new definition, the study established a theoretical schematic of regulatory capture that integrates relevant conceptualizations and offers a framework for the diagnosis of the phenomenon. This study, as it explores the relationships and interactions between regulators, and their exercise of environmental regulatory duties and petroleum companies, and their environmental responsibilities in Ghana, demonstrates that there are various ways through which the environmental regulatory system governing Ghana's upstream petroleum industry *could* be captured. By providing a new way of determining the sources of regulatory ineffectiveness, as well as potential failures, in developing countries (e.g. Ghana), this study uniquely suggests a strong nexus between regulatory capture and regulatory ineffectiveness (or in the worst case, failures) in Ghana. Thus, regulatory ineffectiveness (or failures) usually draws attention to the presence of regulatory capture. While the findings of this study contribute to the existing body of literature, they do not, in any way, deny the contribution of other pertinent forces to regulatory ineffectiveness or failures.

8.7 Practical Implications of the Findings

8.7.1 Reputational Concerns for Petroleum Companies and Their Ability to Receive and/or Retain Social Licenses to Operate

The articulated doubts about the contents of environmental communication of petroleum companies, together with the entrenched negative perceptions about the fulfilment of their environmental responsibilities threatens the reputation of the petroleum companies and their abilities to obtain social licenses from the local societies within which they operate.

The 'social license to operate' (SLO), as mentioned earlier basically refers to social acceptance and approval of companies by local societies within which the companies operate (Moffat *et al.* 2014; Syn, 2014; Black, 2013; Boutilier & Thomson 2011). Complementing official legal licenses and permits issued by the State, the attainment of a social license to operate is vastly important. Failure to obtain it could expose companies to myriad risks, including protests, conflicts, violence and even loss of lives (Moffat *et al.* 2014; Syn 2014; Black 2013; Hatzold 2013; Behrends *et al.* 2011). In the absence of a social license to operate, the manifestation of the outlined implications could further lead to significant loss of operational time, which could in turn negatively impact the income

and future investment opportunities of the petroleum companies (Davis and Franks 2014; Sohn 2007).

Practical instances of these implications can be seen in the Niger Delta where local residents, in reaction to the environmental devastation of Shell, embarked on violent protests (Watts 2016; Nwozor 2010), and destroyed several properties belonging to Shell (e.g. pipelines). Even in Ghana, there have been several instances where local residents have embarked on demonstrations and clashed with both legal and illegal mining operators due to the environmental implications of their mining activities (Crawford & Botchwey 2017; Aidoo 2016; Hilson & Yakovleva, 2007; Hilson *et al.* 2007a; Hilson, 2002).

Ultimately, the perceptions of local communities that are adversely impacted by the extractive industry do matter (Ofori & Ofori 2018; Moffat *et al.* 2014). For that reason, the negative perceptions, as highlighted in the study, that are held by the local residents is a major concern. Whilst the SLO of petroleum companies are currently not at risk, there is a potential risk that in the future local communities may disapprove of their operations given the current negative perceptions they hold. Given that these petroleum companies are international, the erosion of their SLO in Ghana could have detrimental effects on their reputation which in turn could affect their ability to win petroleum contracts in other countries.

These findings have shown that the Ghanaian society is a forceful agent that can exact tremendous influence and pressure on government to meet their demands. Therefore, petroleum companies that seek to receive and/or retain their social licenses to operate, as well as those that seek to establish their environmental legitimacy in the local communities, need to assuage these negative perceptions about their CER and gain the trust of the locals. The petroleum companies need to demonstrate to the local residents, as well as regulators, that they actually *are* environmentally responsible. One key way to demonstrate their environmental responsibilities is by communicating their environmental activities and outcomes to the public. However, given the fact that the petroleum companies already do this, the persistence of ongoing negative perceptions about them suggest that the current methods of environmental communication may not be effective. Measures to address this issue are outlined in Section 8.8 (i.e. Recommendations).

8.7.2 Implications for the Sustainability and Performance of the Environmental Regulatory System and Environmental Protection in Ghana's Petroleum Industry

The identified deficiencies in the environmental regulatory system (e.g. inherent ambiguities and lack of resources) have serious ramifications for the overall performance of regulatory functions in Ghana's upstream petroleum industry. First, the ambiguities in regulatory mechanisms, together with the lack of expertise by the regulators could promote the excessive use of discretion that would be exercised on the misinterpretation and mischaracterization of regulatory provisions. Also, the focus on the economic benefits of petroleum resources to Ghana, and the political ploys used to deliberately frustrate the regulatory efforts aimed at securing the safety and protection of Ghana's natural environment will continuously impede the efficiency and outcomes of the environmental regulatory system. These could create significant socio-political and environmental impacts, as evident in the Ghana's mining and forestry sectors (Dumenu 2019; Hansen 2011; Obiri & Damnyag 2011; Odoom 2005; Marfo 2004).

Moreover, the lack of collaboration among the regulatory agencies, coupled with their continuous protection of their turf could seriously impede the realization of positive regulatory outcomes in the industry in particular, and Ghana in general. For instance, suggestions by Dumenu (2019), indicates that the lack of collaboration among the Forestry Commission, the Conservation on International Trade in Endangered Species (CITES) Management Authority and the Customs Excise and Preventive Service (CEPS) is partly responsible for the regulatory inefficiencies that led to the significant rise in the illegal felling, transport and trade of banned forestry species. Furthermore, the lack of resources that characterizes the regulatory agencies, which is a justification for their persistent reliance on petroleum companies for the necessary expertise and resources is problematic. The reliance on petroleum companies for these elements for the performance of their regulatory duties could potentially compromise the regulatory efforts aimed at protecting the natural environment.

Furthermore, the familiarity and reciprocity between the actors in the upstream petroleum industry, as well as the Revolving Doors make room for the *potential* capture of the

environmental regulatory system. This has significant implications for the performance and sustainability of the environmental regulatory system.

If and when this happens, the captured regulatory system *could* encourage irresponsible corporate behaviours that could lead to the incidence of oil spills and leakages; imprudent discharge of waste; as well as negligent flaring and venting of gases. Collectively, these events hold serious environmental implications, comprising the possible polluting of potable water bodies, destruction of cultivable lands and the defacement of aesthetic and culturally prominent assets (e.g. shrines). These manifestations are likely to instigate social unrest and violence, as experienced in the Niger Delta (Jack-Akhigbe 2013; Pegg & Zabbey 2013; Uyigue & Agho 2007; Aaron 2006; Zabbey 2004).

Already the myriad environmental disasters caused by both Ghana's mining and forestry sectors show how vulnerable environmental regulatory systems are to possible capture and potential failures. Recognizing that Ghana's modern petroleum industry is a young one, the outlined challenges and the potential repercussions raise concerns about the effective performance and sustainability of the environmental regulatory system governing the industry. At the moment there are only three oil fields in operation – Jubilee, TEN and Sankofa fields. It is obvious that if and when the oil fields and the petroleum companies in the upstream sector increase, there will be a corresponding increase in the latitude, scale and capacity of the industry, as well as the accompanying potential environmental threats. This anticipated increase is likely to compound the existing problems inherent in the regulatory system, further impeding the performance and outcomes of the environmental regulatory system.

There is therefore the need to quickly address the shortfalls in the environmental regulatory system to fortify and provide it with a conducive environment to thrive. The implications of the weaknesses in the environmental regulatory system further calls for the need to devise practicable measures and strategies that can detect and impede the various indicators whose presence are likely to facilitate the emergence and/or perpetuation of regulatory capture. A few measures are recommended in ensuing section.

8.7.3 Implications for the Attainment of Sustainable Development Goals (SDGs) in Oil-Rich Developing Countries within and outside Africa

This study holds important implications for the effective management of petroleum resources (and more broadly, natural resources) and the attainment of sustainable development goals (SDGs) for countries endowed with rich natural resources both within and outside Africa. This study speaks to the achievement of vital components of the SDGs, which seemingly distinct, are interconnected. These comprise Climate Action (SDG#13); Peace, Justice and Strong Institutions (SDG#16) and; Partnership for the (Attainment of the) Goals (SDG#17).

Africa is emerging as a power house in relation to hydrocarbon resources as new and commercially significant discoveries are continuously being made, particularly within the Gulf of Guinea in West Africa and Eastern Africa (Panford 20017). Hydrocarbon discoveries in Uganda, Tanzania, Mozambique and Kenya will add to the total reserves of Africa's hydrocarbon resources. Given that the attainment of SDGs in most African countries, especially most resource-rich countries, has been slow, the various issues discussed in this thesis draw attention to the key issues that need to be addressed in order to expedite the attainment of the SDGs in these endowed countries and in Africa in general.

In order to attain the SDGs and others, the study has demonstrated that excessive and uncontrolled governmental involvement in the extractive industry, coupled with its continuous interference in regulatory processes facilitates the platform upon which corruption flourishes; capture emerges; the endowed nations' resources looted and environmental issues are overlooked. These are consistent with the literature that showed how entrenched corruption and capture in the petroleum industry of Cameroon (Frynas 2005; Pegg 2006), Equatorial Guinea (Wood, 2004), Nigeria (Mustapha 2010), and Gabon (Soderling 2006), have led to a retardation in development, ineffective regulatory systems and environmental devastations (Idemudia 2012; Rossi 2011; Patey 2010). Moreover, the observed deterioration of the political, social, economic and environmental foundations of valuable gem-producing countries such as Liberia, Congo, Angola, Zimbabwe, Sierra Leone and South Africa (Panford 2017; Kelsall 2013), are likely to worsen if the very institutions and systems that govern these aspects are not protected against capture and its

ramifications. The consequent implications of these issues are some of the factors that are likely to impede and delay the attainment of key sustainable development goals.

This study therefore, provides resource-rich African and non-African developing countries, such as Colombia and Ecuador, with the opportunity to make informed choices and take proactive actions that would enhance the attainment of key sustainable development goals (SDGs), while also operationalizing measures aimed at averting the possible emergence of regulatory capture (or if already present, address and mitigate the phenomenon) and potential failures.

8.7.4 Implications for the Effectiveness of Key Policies in the Natural Resources Domain – the Extractive Industries Transparency Initiative (EITI)

While this study demonstrates the entry points of regulatory capture and consequent possible failures, it also provides valuable insights into how the phenomenon straddles across different sectors within the extractive industry. Of particular relevance is the implication of this study for the effectiveness of key standards, guidelines and policy reforms such as the Extractive Industries Transparency Initiative (EITI).

This study has shown that regulatory systems are not immune to capture, and that even the mechanisms and processes aimed at ensuring transparency (e.g. the EITI and other related transparency and accountability mechanisms) are equally fallible and susceptible to capture. This submission is not to assert that vital policy reforms such as the EITI are grossly flawed, rather it aims to create awareness to the possible capture of the systems used in the transparency efforts.

The findings of this study provide more compelling evidence which demonstrate that even in spite of the extraordinary levels of transparency measures and media freedom in well-developed democracies, such as the U.S., there is the existence of incredible magnitudes of actual cases of regulatory capture (Bowles & Hamilton 2013). This is unsurprising since the ‘measures’ put in place to ensure accountability and transparency are in themselves regulations (or at least possess regulatory fortes) which are vastly vulnerable to capture (Etzioni 2009) and potential failures.

Drawing from this, there is the need for a review of the processes and involved actors in the various mechanisms that underpin the Extractive Industries Transparency Initiative (EITI) and other vital standards, guidelines and policy initiatives governing the natural resources space. It is therefore imperative for stakeholders and subscribers of such related standards and guidelines to work strategically in a cooperative and collaborative fashion to identify effective administrative and functional strategies that will ensure success and result in a win-win situation for all stakeholders.

8.8 Recommendations

8.8.1 Adequate Allocation of Resources for Government Regulatory Agencies

There is an urgent need to provide regulatory agencies with appropriate and sufficient expertise, logistics and financial resources to execute their regulatory functions. Admittedly, there are other sectors that demand urgent attention in Ghana. Nevertheless, the protection of the natural environment need not be relegated to the background. The petroleum sector is now contributing significantly to Ghana's GDP, with 30 percent of export earnings and 12 percent of revenue derived from Crude oil (Fosu 2017). Therefore the need for the State to allocate a percentage of these revenues to resourcing the regulatory agencies is possible. This could be done through legislation to ensure it is fully implemented and not at the discretion of political actors.

8.8.2 Regulatory Reforms

The regulators need to be trained regularly so as to be up to date, not only with the various regulatory mechanisms, but also with the fluidity of the petroleum industry (i.e. operations, technology and associated impacts). Complementing this, it is imperative that performance standards (i.e. Key Performance Indicators [KPIs]) are set to oversee and appraise the individual regulatory performance of the regulators. Additionally, agency targets and standards ought to be set. With this, there should be a policy that requires the leadership of each regulatory agency to publicly address the nation and outline their progress at meeting their targets. Annual Reports prepared by the regulatory agencies are usually not always publicly available for scrutiny by stakeholders. Therefore, by addressing the nation, stakeholders will become aware of the activities and progress of these regulatory agencies. In this context, therefore, the fear of losing one's job and/or the public embarrassment that may accompany the failure to meet agency targets, may put the agency leaders in check so

as to be much more proactive in their regulatory roles. This is likely to drive them to monitor the performance of their subordinates and frontline regulators to ensure that they undertake their regulatory duties effectively.

Also, collaboration among the regulatory agencies – the EPA, the Petroleum Commission and the Ghana Maritime Authority – needs to be encouraged so as to enhance regulatory performance and outcomes. This recommendation is necessary since the regulatory agencies are not always willing to collaborate with one another in the performance of their regulatory duties, in spite of the convergence of their regulatory functions.

Furthermore, recognizing that politics will always be a part and parcel of every Ghanaian industry, especially the petroleum industry, it is very likely that the leadership positions of key government agencies will always change personnel whenever there is a change in government. In line with this, it is imperative that there is a common vision for the country, towards which each regulatory agency's vision and mission statements are aligned. Such a move provides certainty and some form of direction for the government regulatory agencies. So even if there is a change in leadership personnel every time there is a change in government, the national vision and those of the agencies will guide the agencies' leaders not to deviate from their core mandates. This will minimize the discontinuities in policies resulting from a change in leadership personnel. The national vision, however, needs to be designed in a way to make room for reasonable improvement if and when new and better information are obtained.

8.8.3 Conception, Design and Implementation of Regulatory Systems

Regulatory systems, ought to be designed by taking into account the vulnerability and potential weaknesses that characterize the three core components that make up regulatory systems – the regulatory mechanisms, entities and personnel. These vulnerabilities need to be quickly identified during conception and neutralized, so as to minimize the threat of regulatory capture. It is, therefore, important that all ambiguities are eliminated from the regulatory mechanisms so as to avert the recurrent issues of misinterpretation and mischaracterization. This calls for the need to review, and possibly amend, some of the critical regulatory mechanisms governing the various aspects of the country so as to enhance their effective interpretation and implementation. Pursuant to this, specific

interpretations and explanations can be appended to clauses in the regulatory mechanisms that usually get misinterpreted.

Additionally, the design of (environmental) regulatory systems should also check the exercise of discretionary powers within the regulatory milieu. While these efforts may not create a fully perfect regulatory system, together, they will contribute significantly towards the creation of a well-thought-out and a well-designed regulatory system – one that is more likely to be immune to regulatory capture.

8.8.4 Pragmatic Strategies to Curb Corrupt Practices among Regulatory Personnel

Talking about corrupt regulators while ignoring their realities, with respect to the various temptations they are confronted with during the performance of their regulatory duties, for instance taking of bribes and gifts to complement their meagre salaries, will not amount to much. Corruption is rife in Ghana's regulatory agencies, nevertheless, it is not always the case that government regulators accept bribes because of greed (Lokko 2008). On the contrary, most Public Service employees take bribes to supplement their meagre salaries. There is, therefore, the urgent need to create serious discourse on incentives and compensation, particularly, for law and regulatory enforcement personnel. One effective way will be to provide more attractive salary packages that discourages corrupt behaviours in the regulatory agencies. Even though Ghana is a lower middle income country that is confronted with several challenges, including financial constraints, it would be prudent to provide attractive remuneration packages to regulators to enhance their professional integrities.

Furthermore, given that corruption and bribery are deeply rooted in the Ghanaian society (Crawford & Botchwey 2016), one key way to uproot it is to encourage attitudinal change by the general Ghanaian public, and this could be achieved through the education system, right from kindergarten. This endeavour could be championed by the country's National Commission for Civic Education (NCCE).

Also related to this issue, even though there is a legal provision for the protection of whistle-blowers in Ghana, it is not clear as to whether or not, and how, this provision is implemented. It is important that in the fight against corruption, all the strategies that bear

potential and actual forte in curbing the issue must be encouraged. This way the *Whistle-blowers' Act* (i.e. Act 720) should be fully implemented. To make this Act more meaningful and encourage the general public to be vigilant, while ensuring adequate accountability from regulators, it is important that citizens are educated on petroleum and environmental issues, as well as how to access and assess information, under the backing of the *Right to Information (RTI) law*. By so doing, the entire regulatory system can be appraised by the general public since they will know and understand what indicators to adopt in the appraisal processes.

8.8.5 Re-evaluation of Regulatory Enforcement Strategies

The findings of this study, have divulged the threats associated with the regulator-regulated interactions, and draw attention to the regulatory strategies employed by the regulatory agencies. Taking cognisance of the fact that in the US, the lack of a rotation policy for regulators in the enforcement of financial regulations in banks resulted in weak supervision (Treasury Office of Inspector General 2009b, 2011c), it is prudent for regulatory agencies in Ghana to adopt a rotational policy for teams, and not individuals, who conduct inspections and audits. This strategy could be an effective way of averting the emergence of capture in Ghana's upstream petroleum industry.

The study has also shown that frontline regulators in Ghana enjoy some degree of detachment from the direct scrutiny from the media, NGOs and CSOs. Also, analysis suggests that the technical reports that are prepared by frontline regulators at the end of their audits, unless required for promotions, are usually a mere formality, and as such, are usually not reviewed by their superiors. This, therefore, deprives the regulatory agencies of the ability to ascertain the competences of the frontline regulators and also detect indicators that could inform potential capture. This consequently impedes the proper management and resourcefulness of the regulatory agencies (Kenny 2012). Given that regular assessment of regulators' performance may improve the overall resourcefulness of the agency (Hall 2012; Seidman & McCauley 2012), failure to do so is likely to engender the opposite results. It is, thus, imperative that the functions and outcomes of frontline regulators are monitored and properly evaluated in order to rule out traits and tendencies that *may* lead to their capture. This is necessary, given the fact that the frontline regulators are those who possess the actual power to enforce the regulations at the frontlines (see Lipsky 2010; Maynard-

Moody & Musheno 2003; Riccucci 2005). Consequently, their effectiveness and immunity to capture contributes significantly to the success or otherwise of established regulatory systems.

8.8.6 Improving Local Perceptions through Enhanced Environmental Communication

The persistence of negative perceptions about the companies by some Ghanaians, despite the environmental communication employed by the petroleum companies, suggests that the current environmental communication techniques employed by the petroleum companies are less effective in assuaging the negative perceptions among the local residents in Ghana. This suggests that a modification in the way the petroleum companies do their environmental communication is necessary. Petroleum companies need to engage the local residents in a more congenial manner and make sure that they convey their environmental messages in ways that are accessible and comprehensible to the locals. Acknowledging that the majority of local residents are illiterate, the petroleum companies need to initiate measures to enlighten and educate the general populace on what the petroleum industry really entails and how they are actually operating to ensure the safety and protection of the natural environment. Rather than making environmental communication via methods that can only be accessed by literate people (e.g. the use of their official websites, newspapers, brochures and reports), they need to complement these avenues with the use of popular mass media such as radios and televisions. Since most of these locals don't really comprehend the English language, the petroleum companies can also use radio stations and television channels that broadcast their programs in the local dialects.

When the local residents are able to access and appreciate the industry and the prevailing dynamics, they are more likely to identify the indicative traits that will inform them as to whether or not petroleum companies are actually being environmentally responsible in Ghana. This way, the petroleum companies could also eliminate the issue of misinformation by NGOs. Moreover, there is the need to monitor the kind of information NGOs disseminate to local residents in order to prevent issues of misinformation.

8.9 Conclusion

This chapter presented a discussion of the key findings of the study. Overall, the findings reaffirm the necessity to optimize the three key components of the environmental regulatory system governing Ghana's upstream petroleum industry as part of the efforts to ensure the safety and protection of the nation's natural environment. Even though the examples and explanations in this study suggest that the environmental regulatory system governing Ghana's upstream petroleum industry is under threat of capture, awareness of the phenomenon appears largely elusive in the industry. This could be attributed to the fact that the phenomenon has yet to be recognized as a relevant construct. Also, the pervasiveness of bribery and corruption in the Ghanaian context has eclipsed the significance and notoriety of regulatory capture, not only in Ghana's upstream petroleum industry, but Ghana in general. Therefore, these findings, while drawing attention to the relevance and implications of regulatory capture in Ghana's regulatory agencies, also paves the way toward a more rigorous and concerted treatment of this phenomenon in future research.

Although the study focused exclusively on Ghana's petroleum industry, it indirectly calls for a closer look at both the generic and industry-specific environmental regulatory systems. Exhaustive reviews, possible amendments and adequate implementation are precursors to improving and sustaining the (environmental) regulatory systems used in Ghana. The findings from this study may also be useful to any of the oil-endowed economies in developing countries – such as Angola, Nigeria, Uganda, Mozambique, and Sao Tome and Principe.

CHAPTER NINE: CONCLUSION

9.1 Introduction

Various stakeholders, including environmental advocates, social actors and local communities, are becoming progressively concerned with the adverse environmental externalities of petroleum activities and the extents to which petroleum companies (will) go to ensure the protection and safety of the natural environment. In Ghana, for instance, in virtually all instances, environmental disasters that occur are largely blamed on either the absence of environmental regulatory mechanisms or the lack of enforcement of these regulatory mechanisms or both. Indeed, not much is known about the regulatory mechanisms that are designed to govern both the activities and behaviours of companies within the petroleum industry. Moving beyond this commonly held narrative, therefore, this study set out to understand the theoretical and practical foundations of how and why petroleum companies in Ghana's upstream industry undertake corporate environmental responsibilities, and also appreciate the relationship between their environmental behaviours and the environmental regulatory system governing the industry.

Using qualitative research techniques, information was collected from extensive documentary analysis (including relevant literature and media), as well as semi-structured interviews with key actors in Ghana's upstream petroleum industry. This information was analysed to address three research questions. These are;

1. What measures currently exist within Ghana's upstream petroleum industry, to ensure the safety and protection of the natural environment?
    a. Are there any challenges that (may) affect the efficiency of these measures?
2. Under the context of CER, and as far as environmental protection is concerned, in which ways do petroleum companies undertake CER in Ghana's upstream industry?
    a. What are the key factors that drive petroleum companies to undertake corporate environmental responsibilities in Ghana?
    b. How is the fulfilment of environmental responsibilities by the petroleum companies perceived in Ghana?
3. What is the relationship between the environmental regulatory system and the environmental behaviours of the petroleum companies in Ghana's upstream petroleum industry?

The findings of the study, which address these questions, are compiled and presented in Chapters 5, 6 and 7, while Chapter 8 links these findings and discusses their implications.

This chapter provides a summary of the key findings, followed by an acknowledgement of the limitations of this study, suggestions for future research and the concluding remarks.

9.2 Summary of Key Findings

The study found that there is an environmental regulatory system in place that governs Ghana's upstream petroleum industry. This system is made up of the regulatory mechanisms (e.g. Ghana's Constitution, Environmental Assessment Regulations-*LI 1652*, Petroleum E&P-*Act 919* and HSE Regulations-*LI 2258*); regulatory entities (i.e. the Petroleum Commission, Environmental Protection Agency, Ghana Maritime Authority and sector Ministries – Energy and Environment); and regulatory personnel (i.e. the regulators). Each of these components that constitute the environmental regulatory system is however, confronted with some challenges. Together, these challenges impact the functionality and outcomes of the regulatory system. The study further found that delays in enacting legal provisions, together with inherent ambiguities and the limited scope of coverage of relevant legal provisions present challenges in the regulatory efforts to protect Ghana's natural environment. Analysis also showed that the government regulatory agencies in the industry are vastly characterized by resource constraints (i.e. financial, logistics and personnel), little or no enforcement of regulatory mechanisms and political interferences in regulatory functions. The study further found that the regulatory agencies were not always willing to collaborate with one another during the exercise of their regulatory mandates.

Moreover, the study found that the main driving forces that make petroleum companies undertake their CER in Ghana are the regulatory milieu in Ghana, the pressure from the Ghanaian society and the availability of essential infrastructure (e.g. gas receiving plants) in Ghana. Also, the study found that petroleum companies in Ghana's upstream industry undertake CER in order to protect and project their corporate reputation.

When it comes to the fulfilment of CER by petroleum companies in Ghana, the study found that the petroleum companies engage in environmental communication to convey a sense that they are or will be environmentally responsible. Petroleum companies, thus, use environmental statements to highlight four indicative ways that seek to inform stakeholders

that they are being environmentally responsible in Ghana. They do this by highlighting (1) their compliance with regulatory mechanisms; (2) their possession of environmental permits and certifications; (3) their affiliations with international organizations; and, lastly (4) their commitments to environmentally-related endeavours. As per the analysis, the actual performance of CER by the petroleum companies can be traced mainly from their application of technology, and waste management arrangements. These notwithstanding, there is widespread doubt among some Ghanaians about the fulfilment of corporate environmental responsibilities by the petroleum companies in Ghana.

Moreover, this study found that during the regulatory processes, government regulators engage in a series of interactions with the petroleum companies which persist throughout the lifecycle of the petroleum projects. These interactions between the two parties provide the conducive environment that could facilitate the possible emergence of regulatory capture. Among the avenues that are likely to facilitate the emergence of the phenomenon in regulatory agencies, it was found that familiarity and reciprocity, which are profound in Ghana, are the two most prominent avenues. Whereas familiarity, describes the relationship with (e. g. acquaintance) or the state of having personal knowledge about some entity or issue, reciprocity illustrates the practice of doing and reciprocating favours for mutual benefit. It was, however, noted that in spite of the significance of regulatory capture in the global context, awareness of the phenomenon appears largely elusive in Ghana's upstream petroleum industry. This could be linked to the fact that regulatory capture has yet to be appreciated as a relevant construct in Ghana, although a related phenomenon, corruption, is much better understood.

9.3 Limitations of the Study

It is important to note that this study suffered a few limitations which were beyond the control of the researcher and likely to affect the research findings (Simon & Goes 2011). A major limitation was the inability of a number of the leading upstream petroleum companies to participate in the study. Closely allied with this limitation was the limited access to official data (e.g. official audit reports from the regulators), together with the unevenness of available data. In light of these limitations, it was quite challenging to empirically analyse all of the petroleum companies outlined in the scope of this study. While these limitations did not affect the analysis and subsequent findings relating to regulatory capture

and the environmental regulatory system governing Ghana's upstream petroleum industry, they may have had a bearing on the data interpretation and analysis of the petroleum companies' environmental responsibilities in Ghana.

Secondly, even though qualitative research methods facilitate easy collection of data, unlike quantitative methods, interpretations and deductions are not always straight forward (Creswell 2013). It is therefore possible that, in spite of the measures put in place, the researcher, while analysing the data/information, may have employed some element of personal bias. Likewise, while it was assumed that the testimonies of the interviewees were candid, it is likely that some may not have been. It is also possible that some of the testimonies were only the personal opinions of the interviewees, and thus, may not necessarily reflect the actual dynamics in their agencies/companies or in the petroleum industry in general. Furthermore, despite the assurance of anonymity, it is equally possible that while some participants may exaggerate issues, others may down-play them.

Finally, because this research is a case study exploring the CER of petroleum companies and the environmental regulatory system governing Ghana's upstream petroleum industry, the findings from this research may only be applicable to the Ghanaian context, and not readily applicable to other contextual settings. Consequently, rather than providing emphatic empirical generalizations, this study provides an empirical account of the indicative themes that characterize how and why petroleum companies in Ghana's upstream industry undertake their environmental responsibilities, as well as the adequacy of the environmental regulatory system governing the industry. The findings can, therefore, not be used to draw reliable statistical conclusions.

In spite of these limitations, however, compelling conclusions can be drawn from this study. Of particular relevance is the possible emergence of regulatory capture and potential failures. The study also draws attention to the need to protect and optimize environmental regulatory system as part of the efforts to ensure environmental safety. As for the issues of generalization, it is vastly a matter of degree: it is the readers of this thesis who will determine whether or not, and the degree to which the findings emerging from this study are applicable in other contextual settings (Gomm *et al.* 2000).

9.4 Suggestions for Future Research

The findings of this study open up future research opportunities. To begin with, because the petroleum industry is within the category of polluting industries, it would be interesting to know the actual environmental behaviours and performance of other companies within the polluting industry (e.g. airline companies, tanneries, chemical manufacturing, mining and ore processing companies). Findings from such studies would add to the general understanding of companies' environmental responsibilities and behaviours. Specifically, findings from such studies will provide supplementary insights, based upon which more robust environmental regulatory systems could be designed. Overall, this will contribute towards the efforts aimed at protecting the country's natural environment.

Another interesting area of future research inquiry pertains to the issue of regulatory capture. As suggested by the findings of this study, it is quite possible that the environmental regulatory system governing Ghana's upstream petroleum industry could be captured, if it is not already captured. Especially, if the issues identified in this study are left to persist. This uncertainty justifies the need for extensive empirical studies, whose findings will confirm or refute, with a greater degree of certainty, the presence of regulatory capture in the industry. Also connected to this, the pathways and avenues used in this study need to be empirically tested to ascertain the extent to which they contribute to the emergence of regulatory capture. Together, the findings of such studies will also inform the specific strategies to adopt in order to optimize regulatory systems and minimize the possible emergence and accompanying repercussions of regulatory capture.

9.5 Concluding Remarks

Contrary to typical narratives that there are no laws governing Ghana's upstream petroleum industry, this study found that there is in fact a plethora of regulatory mechanisms which like the other components of the regulatory system (e.g. regulatory entities and personnel), form only a part of the entire regulatory system designed to govern the industry. While the study partly confirms a narrative of the existence of little or no enforcement, it further reveals the key underlining complexities that epitomize the environmental regulatory system governing Ghana's upstream petroleum industry. These complexities, which expose the environmental regulatory system to possible capture and potential failures, emphasize the need for practicable reforms, whose implementation will facilitate the achievement of

environmental objectives in Ghana, while also promoting the sustainability of the environmental regulatory system. Some of these reforms will necessitate the re-evaluation of regulatory enforcement strategies in Ghana's upstream petroleum industry. Also, pragmatic strategies will have to be put in place to monitor the relationships and interactions among the actors in the industry (especially, those between the regulators and petroleum companies), so as to avert the possible incidence of capture in the industry. Moreover, adequate policies and mechanisms ought to be devised to curb corrupt activities in the industry, while also assuaging the negative perceptions about the petroleum industry through improved environmental communication strategies by the petroleum companies and effective education by Ghana's National Commission for Civic Education (NCCE).

This study contributes to the existing body of literature on Corporate Environmental Responsibility (CER) and Environmental Regulatory Systems in Ghana. Also, while this study may serve as the point of departure and offer the platform upon which the CER of the petroleum companies can be accurately ascertained, it also forms the first step in the comprehensive assessment of the CER of companies in other sectors of the polluting industry (e.g. chemical manufacturing, mining and ore processing companies). This study further provides some useful insight into the pertinent dynamics that characterize upstream petroleum operations and environmental safety in Ghana. Moreover, findings from this study may inform relevant stakeholders and enable them to identify and persistently monitor the essential indicators that facilitate and/or hinder the realization of environmental objectives, not just in the petroleum industry but across every sector of the Ghanaian economy. Equipped this way, actors in various industries within Ghana, being conscious of public scrutiny, will be mindful to act in ways that present positive outcomes for all stakeholders.

As the timing of this study coincides with persistent calls by environmental activists and local societies for better measures to secure the safety of Ghana's natural environment, it underscores the need for the relevant regulators to continuously monitor the environmental performance of the operating petroleum companies so as to avert, mitigate and/or manage any untoward behaviours. Drawing from the evidence presented in this study, it is clear that within Ghana's upstream petroleum industry, the availability and efficiency of a robust environmental regulatory system with sturdy checks against regulatory capture is essential

in the efforts aimed at preserving the sanctity of the country's natural environment and forestalling its pollution and/or utter destruction. Therefore, if Ghana, or for that matter other developing countries, wish to pursue sustainable development, then the fortification and protection of its (environmental) regulatory systems are key in ensuring that the safety of the natural environment is guaranteed.

APPENDIX 1: ETHICS APPROVAL LETTER

THE UNIVERSITY of ADELAIDE

RESEARCH SERVICES
OFFICE OF RESEARCH ETHICS, COMPLIANCE AND INTEGRITY
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9 March 2017

Associate Professor M Nursey-Bray
Department of Geography, Environment and Population

Dear Associate Professor Nursey-Bray

ETHICS APPROVAL No: **H-2017-028**

PROJECT TITLE: **Corporate Environmental Responsibility and Regulatory Oversight in Ghana's Upstream Petroleum Industry: Documenting the Characterizing Dynamics**

The ethics application for the above project has been reviewed by the Low Risk Human Research Ethics Review Group (Faculty of Arts and Faculty of the Professions) and is deemed to meet the requirements of the *National Statement on Ethical Conduct in Human Research (2007)* involving no more than low risk for research participants. You are authorised to commence your research on **09 Mar 2017**.

Ethics approval is granted for three years and is subject to satisfactory annual reporting. The form titled *Annual Report on Project Status* is to be used when reporting annual progress and project completion and can be downloaded at http://www.adelaide.edu.au/research-services/oreci/human/reporting/. Prior to expiry, ethics approval may be extended for a further period.

Participants in the study are to be given a copy of the Information Sheet and the signed Consent Form to retain. It is also a condition of approval that you **immediately report** anything which might warrant review of ethical approval including:

- serious or unexpected adverse effects on participants,
- previously unforeseen events which might affect continued ethical acceptability of the project,
- proposed changes to the protocol; and
- the project is discontinued before the expected date of completion.

Please refer to the following ethics approval document for any additional conditions that may apply to this project.

Yours sincerely

DR JOHN TIBBY
Co-Convenor
Low Risk Human Research Ethics Review Group
(Faculty of Arts and Faculty of the Professions)

DR ANNA OLIJNK
Co-Convenor
Low Risk Human Research Ethics Review Group
(Faculty of Arts and Faculty of the Professions)

APPENDIX 2: INTERVIEW GUIDE FOR GOVERNMENT REGULATORY AGENCIES

Regulatory Procedure

This section aims at assessing the regulatory procedure of government regulatory agencies and how that may impact the execution of regulatory functions.

1. Can you tell me about any environmental events/issues (as a result of oil and gas operations) that have occurred in recent times?
    a. What are the causes of these incidents?
2. Can you mention some of the environmental regulations in Ghana, their effectiveness and their impacts on the operations of oil and gas firms?
3. Can you give some examples of non-compliance issues that occurred in the past, and how the agency handled them?
4. Has there ever been an instance of regulatory failure in the oil and gas industry?
    a. What were the causes, and how were they addressed?
5. What has been the greatest achievement of the agency as far as (oil and gas) environmental protection is concerned?
6. What are some of the challenges confronting your agency (and other regulatory agencies) in the execution of your regulatory roles, and how are these challenges addressed?
7. Does your agency incentivize oil and gas firms for complying with and or penalize them for not complying with environmental regulations?
    a. What are the incentives and penalties?
8. Has your agency ever hired an active, laid off or retired employee from any oil and gas firm/public office/NGO/academic institution?
9. How are environmental regulations designed, monitored and assessed?
10. Does prior employment in oil and gas firms play a role in regulatory duties?
11. Can you comment on data/information sharing with oil and gas firms and other regulatory agencies?
12. Have you or are you currently working with or providing any environmentally related services, assistance or advice in any organization besides this agency?

Conflicts of Interest

This section aims at assessing the perception of employees about regulatory capture and its impacts on their regulatory roles.

1. What types of conflicts of interest does your agency usually encounter?
2. How will you define conflict of interest?
3. What do you think are the causes and impacts of these conflicts of interest?

4. How does your agency handle these issues?

Interactions in the industry

This section aims at assessing the interactions of employees and how that may impact their regulatory functions.

1. What kind of linkages, in your view, are there between the oil and gas firms and government regulators, and in what ways do these linkages affect effective environmental regulations in the industry?
2. How does the agency maintain effective cooperation in the industry?
3. Has there been an instance where you had friends/family relations working in the industry?
4. Do you require or get any assistance from any government regulatory agency, academic institutions and the media?
5. Was there ever an instance where an oil and gas firm hired an active or retired employee from this agency?
6. Are agency and or government retirees contracted/contacted in regulatory executions?
7. Has there been an instance where a government regulator run for government office?

Agency Profile

This section aims at assessing the hierarchical structure of government regulatory agencies and how that may impact the execution of regulatory functions.

1. Is the leadership at this agency assumed by a board or a head, and how is the board/head appointed and dissolved/dismissed?
2. How has the agency performed with regards to environmental safety (in the oil and gas industry)?
    a. Give examples.
3. In what ways does the agency collaborate with NGOs and CSOs?
4. How has the government assisted the functions of the agency?
5. What are your expectations of government regulators, oil and gas firms and NGOs in ensuring environmental safety in Ghana?

APPENDIX 3: INTERVIEW GUIDE FOR PETROELUM COMPANIES

Regulatory Procedure

This section aims at assessing how oil and gas firms respond to environmental regulations.

1. Can you tell me about any environmental events/issues (as a result of oil and gas operations) that have occurred in recent times?
    a. What are the causes of these incidents?
2. Can you mention some of the environmental regulations in Ghana, their effectiveness and their impacts on your operations?
3. Can you give some examples of non-compliance occurring?
4. What role does your firm play in planning and designing environmental regulations?
5. What challenges does your firm face in complying with environmental regulations?
6. What has been the greatest achievement of your firms as far as environmental protection is concerned?
7. What factors are considered when implementing environmental regulations at the firm?
8. Has your firm ever hired an active, laid off or retired employee from a government regulatory agency/public office/NGO/academic institution?
9. Is your firm incentivized for complying with and or penalized for not complying with environmental regulations?
    a. What are the incentives and penalties?
10. Can you comment on data/information sharing with regulatory agencies and other oil and gas firms?
11. Have you or are you currently working with or providing any oil and gas related services, assistance or advice in any organization besides this firm?

Conflict of Interest

This section aims at assessing the perception of oil and gas employees about regulatory capture and its impacts on their regulatory roles.

1. What types of conflict of interest does your firm usually encounter?
2. How will you define conflict of interest?
3. What do you think are the causes and impacts of these conflicts of interest in the industry?
4. How does your firm handle these issues?
    a. Examples of past conflict of interest issues.

Interactions in the Industry

This section aims at assessing the interactions of employees in the industry and how that may impact regulatory functions.

1. How important is a good relationship with regulatory agencies and NGOs in the industry?
2. What kind of linkages, in your view, are there between the oil and gas firms and government regulators?
    a. In what ways do these linkages affect effective environmental regulations in the industry?
3. What do you think is the criteria for assigning inspectors and monitoring agents in government regulatory agencies?
4. What is the relationship of your firm with academic institutions and the media?
5. Has there been an instance where you had friends/family relations working in the industry?
6. Has there been an instance where an employee of this firm run for government office?

Agency Profile

This section aims at assessing the hierarchical structure of oil and gas firms, and how that may impact the execution of regulatory functions.

1. How has the firm performed with regards to environmental safety?
    a. Give past examples.
2. In what ways does the firm collaborate with NGOs and CSOs?
3. How does the government respond to environmental pollutions as a result of oil and gas operations?
4. What are your expectations of government regulators, oil and gas firms and NGOs in ensuring environmental safety in Ghana?

APPENDIX 4: INTERVIEW GUIDE FOR NGOS AND CSOS

Regulatory Procedure

This section aims at assessing how oil and gas firms respond to environmental regulations.

1. Can you tell me about any environmental events/issues (as a result of oil and gas operations) that have occurred in recent times?
    a. What are the causes of these incidents?
2. Can you mention some of the environmental regulations in Ghana, their effectiveness and impacts on the operations of oil and gas firms?
    a. Do oil and gas firms have challenges in complying?
    b. Do regulators have challenges in implementing these regulations?
    c. How does your organization ensure compliance?
3. Has there ever been an instance of regulatory failure in the oil and gas industry?
    a. What were the causes, and how were they addressed?
4. Can you give some examples of non-compliance issues that occurred in the past, and how they were handled?
5. What has been the greatest achievement of your organization as far as environmental protection is concerned?
6. Does your organization recruit from government regulatory agencies and oil and gas firms?
7. Do you think prior employment as a government regulator is preferable for future employment in oil and gas firms?
8. What happens when oil and gas firms fail to comply with environmental regulations?
9. Can you comment on data/information sharing among government regulatory agencies and oil and gas firms?
10. Do you think regulatory agencies sometimes adjust/compromise their performance in order to achieve certain objectives?
11. Have you or are you currently working with or providing any environmental-related services, assistance or advice in any oil and gas firm/ government regulatory agency?
12. How does the involvement of government officials impact the execution of regulatory functions?

Conflicts of Interest

This section aims at assessing the perception of employees in NGOs about regulatory capture and its impacts on regulatory roles.

1. What types of conflicts of interest does your organization usually encounter?
2. How do you define conflict of interest?
3. What do you think are the causes and impacts of these conflicts of interest?
4. How does your organization handle these issues?

5. Can you identify any conflicts of interest in the Ghana oil and gas industry?
    a. What do you think are the causes and impacts?
6. What do you think can be done to tackle it?
7. Do you think the government regulators and oil and gas employees are aware of this issue?

Interactions in the industry

This section aims at assessing the interactions of employees in the industry and how that may impact regulatory functions.

1. How important is a good relationship with regulatory agencies, oil and gas firms and other NGOs in the industry?
2. Besides ensuring environmental safety, which other avenues does your organization (or employees) engage with government regulators/ other NGOs /Government officials?
3. Do you think a change in government will affect regulatory operations and commitment to environmental safety, if yes, why?
4. What do you think is the criteria for assigning inspectors and monitoring agents in government regulatory agencies?
5. Do oil and gas firms require the expertise of academics?
6. Has there been an instance where you had friends/family relations working in the industry?
7. Do you require/get any assistance from any regulatory agency in the industry?
8. Has there been an instance where an employee of this firm run for government office?
9. Has there been an instance where your organization participated in an event organized by the government, a government regulatory agency, other oil and gas firms, NGOs?

Agency Profile

This section aims at assessing the hierarchical structure of oil and gas firms, and how that may impact the execution of regulatory functions.

1. Is the leadership at this organization assumed by a board or a head, and how is the board/head appointed and dissolved/dismissed?
2. How have government regulatory agencies and oil and gas firms performed with regards to environmental safety?
3. Does your organization work closely with any NGOs and CSOs?
4. How has the government assisted the functions of the agency?
5. What are your expectations of government regulators, oil and gas firms and NGOs in ensuring environmental safety in Ghana?

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