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Are There Good Institutions in Ghana's Oil and Gas Industry?

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List of abbreviations

AGOC	Aramco Gulf Operations Company
BoG	Bank of Ghana
CBN	Central Bank of Nigeria
CPI	Corruption Perception Index
GNIPC	Gross National Income Per Capita
DI	Democracy Index
DPR	Department of Petroleum Resources
EITI	Extractive Industry Transparency Initiative
FA	Federal Account
FIRS	Federal Inland Revenue Service
FDI	Foreign Direct Investment
FI	Formal Institutions
GHF	Ghana Heritage Fund
GRA	Ghana Revenue Authority
GSF	Ghana Stabilization Fund
GPF-G	Government Pension Fund-Global
GDP	Gross Domestic Product
IAC	Investment Advisory Committee
II	Informal Institutions
IMF	International Monetary Fund
IOC	International Oil Company
HC	Human Capital
HDI	Human Development Index
MFEP	Ministry of Finance and Economic Planning
NOC	National Oil Company
NCS	Nigeria Customs Service
NNA	Nigerian National Assembly
NNPC	Nigerian National Petroleum Corporation
OGSRIC	Oil and Gas Sector Reform Implementation Committee
PF	Petroleum Funds
PIB	Petroleum Industry Bill
PRMA	Petroleum Revenue Management Act
PSA/C	Production Sharing Agreement/Contract
PPP	Purchasing Power Parity
RIAC	Revenue Investment Advisory Committee
SC	Social Capital
SCPMA	Supreme Council for Petroleum and Mineral Affairs
UN	United Nations
UNDP	United Nations Development Programme
WGI	Worldwide Governance Indicators

Abstract
Managing petroleum resource revenue and turning it into a sustainable treasure is challenging, and the role of institutional factors in this regard cannot be over emphasized. Oil producing countries in Africa have not achieved better living standards. In 2001, out of 32 oil exporting countries worldwide, 6 of the 9 countries with the lowest human development indicators are in sub-Saharan Africa. Following this situation it becomes necessary for a country like Ghana with relative political stability and who recently discovered oil takes institutional measures to escape from issues of oil curse, hence the need for such a study a worthwhile venture.

To do this, the study employs the use of secondary information from articles, journals, and other relevant academic literature to do desktop analysis. Deductive approach to qualitative analysis is used as this helps to devise a framework to organize and direct the data analysis. The study reveals that with the exception of Norway, who has strong productive institutions, the institutions of the rest of the three sample countries (Ghana, Nigeria and Saudi Arabia) appear to be weak. Also, the study indicates the importance and the criteria for measuring good and effective institutions, and how petroleum wealth affects institutions and reciprocally how institutions affect sustainable development and management of petroleum resources.

A framework developed in figure 3 shows that participation, human and social capitals are important determinants of institutional factors and thus necessary for sustainable development and management of petroleum resources. The framework indicates two different outcomes when hydrocarbons are discovered in a country; either sustainably managed or oil cursed depending on the kind of institutions that precede the oil discovery. The study also shows that Ghana, Nigeria and Saudi Arabia respective oil and gas industry institutions are characterized by strong destructive and weak productive institutions. How and what the oil revenue is invested in is the most crucial decision in terms of sustainable development and management. Good governance is the most appropriate option now for Ghana, Nigeria and Saudi Arabia. To do this the study recommends that the concept of 'Good Enough Governance' by Grindle should be employed. The idea is that these countries should pursue improvements in their governance in ways that are feasible and possible to their specific context rather than trying to replicate the so called best functioning models from a country like Norway. It is also recommended that Ghana, Nigeria and Saudi Arabia invest in human and social capital since they are vital ingredients for every functioning institution. **Key words:** good institutions, oil and gas

CHAPTER ONE

1.0 Introduction

"I wish your people had discovered water".

King Idris of Libya, when he was told that a US consortium had discovered oil

Most often than not, mankind believes that discovering a treasure is a fortune and a promise of happiness. Notwithstanding, Ross (2012) and Ascher et al (1990) take a contrary view that countries that are endowed with natural resources tend to grow at a slow pace compared with countries without or with few natural resources. Katz et al (2004) indicate that in spite of enormous petroleum resources in Nigeria; its Gross Domestic Product is still the same forty years ago. Between 1965 and 1998, the growth rate of some oil rich countries such as Venezuela and Iran was 1% per annum and Kuwait and Iraq 3% within the same period (Ross, 2012). These disheartening outcomes could be attributed to the effects of the petroleum policies on petroleum wealth and human endeavor. This wealth usually tends out to be a blessing or a curse (Humphreys et al, 2007). Humphreys (2007) and colleagues add that the resource wealth sometimes even tends to relegate the other sectors of the economy to the background, a sign of the infamous 'Dutch Disease'. The disease even becomes more severe when the temporary resource wealth industry finally displaces the manufacturing sector (Humphreys 2007). This study seeks to explore the role of institutional factors in the sustainable development and management of petroleum resources and how these institutions are applied in Ghana, Nigeria, Norway and Saudi Arabia oil and gas industries in their quest to astutely manage their petroleum resource revenues. Finally, the lessons Ghana can derive from these countries in order to ensure prudent petroleum resource revenue management.

The recent discovery of oil in commercial quantities off the Cape Three Points in 2007 took Ghana to join the club of oil producing countries (Oteng 2007). This evoked the urgent need for institutional policies to be put in place to ensure that the oil revenue inures development. A comprehensive look into the institutional practices and policy issues of petroleum resource revenue management in Nigeria, Norway and Saudi Arabia will be explored relating to government contracts, investment portfolios, environmental issues and revenue management. This research focuses more on the latter to explain how this may influence development outcomes through the management of oil revenues.

1.1. Problem Statement

Any person who has dreamt of winning the lottery or finding a buried treasure assumes that a large cash windfall is going to make him rich or better off. However, for many developing countries, finding a valuable natural resource like oil can have some peculiar and even sometimes political consequences that tend out to be a curse (Ross, 2012, Karl, 1997). Katz et al (2004) indicate that, in 2001, African oil producing countries together produced an average of 3.8 million barrels of oil per day, representing about 5 per cent of world oil production. Their average production was projected to increase to 5 million barrels per day by 2006. Oil exports in Africa amounted to more than US$25 billion per year between 1997 and 2001 and were estimated to increase to US$30 billion between 2002 and 2006. Yet in terms of infrastructural development, administrative capacity, human resources and living standards, these resource endowed countries (Nigeria, Angola, Gabon, Equatorial Guinea, Republic of Congo and Uganda in the case of Africa) grew less rapidly than resource poor countries during the last quarter of the twentieth century (Katz et al, 2004, Karl, 1997). In general, oil producing countries in Africa have not achieved better living standards. In 2001, out of 32 oil exporting countries worldwide, 6 of the 9 countries with the lowest human development indicators are in sub-Saharan Africa (Bainomugisha et al, 2006). Following this situation it becomes necessary for a country like Ghana with relative political stability and who recently discovered oil takes institutional measures to escape from issues of oil curse, hence the need for such a study a worthwhile venture.

1.2. Objectives of the Study

The Aim

To explore the role institutional factors play in the sustainable development and management of petroleum resource revenue in Ghana

The Specific Objectives

1. To identify institutions responsible for the management of petroleum resource revenue in Ghana, Nigeria, Norway and Saudi Arabia.
2. To assess the suitability of these institutions based on the institutional theory.
3. To determine the lessons Ghana can derive from Nigeria, Norway, and Saudi Arabia.

1.3. Methodology

The study is a desk based analysis based on the use of secondary information from literature. Deductive approach to qualitative analysis is used as this helped me to devise a framework to organize and direct my data analysis (Yin, 2003). Secondary information according to Saunders et al (2009) is most appropriate for comparative research in situations where data is readily available. This provides for rich and robust data and enhances validity. The information will qualitatively be discussed alongside the objectives of the study. Qualitative analysis provides for in-depth knowledge and gives a true view of situations. Denzin and Lincoln (2000) indicate that qualitative methods emphasize on the socially constructed nature of reality, the close relationship between the researcher and what is being studied, and the situational limitations that shape the inquiry. The secondary data are likely to be of high quality than primary data (Stewart and Kamins as cited by Saunders et al, 2009).The quantitative aspect covered the use of quantitative variables in the institutional indicators for comparison. In general, the theoretical framework applied in this research covers different subject areas within extractive industry resource revenue management, finance, environment and development. In this direction, the research focuses on the relevant literature on institutional framework, the concepts, importance and criteria for good institutions. Features of good institutions drawn from the institutional theory and institutional frameworks were used in drawing graphical comparisons between the selected countries.

1.4. Delimitations

The focus of this research is the role institutions play in the sustainable development and management of petroleum resource revenue in Ghana with lessons from Nigeria, Norway and Saudi Arabia. The natural gas is not distinguished as a separate industry throughout the research, and most of the analysis on oil is considered to hold for gas too.

1.5. Definition of Concepts and terms

For the purposes of this study, it is important to make known some terminologies.

Oil/Resource curse: the economic, social and political disorders in a natural resource rich or endowed country constitute the oil/resource curse. In fact, the correct terminology should have been mineral curse and more specifically petroleum curse since the malady is not caused by other kinds of natural resources such as forests, fertile land, and fresh water resources.

Petroleum resources and petroleum revenues: In this study, it is the petroleum revenue that accrues to the government after the investor has taken out its cost of production and the profit oil shared between the investor and the government. The two terms; petroleum resource and revenue is being used interchangeably.

Institutions: are the rules of the game that influence human behavior in society (North, 1990). In this research, they are the rules, regulations and policies that influence how petroleum resource revenues are managed or used in a particular country.

The sustainable management / development of petroleum resource revenue: refers to the use of petroleum resource revenue in such a way that it meets the needs of the present generation without compromising the ability of future generation to meet their own needs. Sustainable development or management of petroleum resources is made possible through the establishment of petroleum funds, human capital and investment in durable public infrastructure that will benefit and advance society for generations yet to come.

Human Capital: the stock of knowledge, competencies, skills, experiences and training acquired by individuals

Social Capital: in this research concerns the relationship that exists between the media, civil society, the general public and the government.

Dutch Disease: Negative tendencies resulting from huge increases in a country's income stream. The Dutch disease is basically as a result of oil and gas resource discovery. It can also be caused by an increase in foreign currency such as Foreign Direct Investment (FDI), Foreign Aid or an incessant rise in natural resource prices in a particular economy.

1.6 Contribution of the study

This study contributes to academic literature on the oil curse and gives a practical understanding of the petroleum revenue management in Ghana, Nigeria, Norway and Saudi Arabia. It also provides an understanding of the role human and social capitals as well as participation play through institutions in the sustainable development and management of petroleum resource revenue. Also, the study is the first of its kind thus the institutional analysis of sustainable petroleum resource revenue development and management in Ghana. The study also provides a general sketch of the petroleum revenue management institutions in Ghana, Nigeria, Norway and Saudi Arabia and the lessons Ghana and mechanisms Ghana has put in place to escape the oil curse and ensure sustainable development.

Fiscal regimes vary from country to country and are usually codified in production sharing agreements/contracts (PSAs or PSCs) (Duval et al, 2010). Under these agreements, the state represented by the National Oil Company (NOC) maintains ownership of the oil and appoints a contractor or investor through a competitive bidding process to help the government develop the oil. Payment for the investor is share of production of the oil thereof. The government however, will not recompense the investor for exploration costs if the oil deposits are not worth developing (Katz, 2004)

The PSA/C normally specifies the percentage of the total production of the resource that would be retained by the investor to recoup its costs i.e. Cost oil and the remaining oil thus profit oil are divided between the investor and the state according to a formula predetermined in the PSA/C even before the exploration, production and development of the oil (Duval et al, 2010). The government in principle receives the physical oil from the investor, but usually agrees on joint marketing with the investor (Katz, 2004). Besides, the profit oil shared between the investor and the state, the state also levies the investor oil income tax and various bonuses such as a signature bonus (Katz, 2004)

How the institutions in the state manage its share of the resource revenue is what constitutes the central theme of this research. The astute management of the oil revenue depends on a number of intervening variables and the role of institutional factors cannot be discounted. If the institutions in charge manage the revenue well (prudent spending), then it becomes a blessing, if they do mismanage (through corruption), they country will find itself drowning in the devil's excrement (Ross, 2012).

1.7 The outline of the Study

The study is organized into five chapters. Chapter one introduces the study with the problem statement, objectives of the study, the methodology, definition of concepts and terms and the contributions of the study to knowledge. Chapter two reviews academic literature on the role of institutional factors in the sustainable management of petroleum resources, thus it is dedicated to understanding the concept of institutions, the relationship between petroleum wealth and institutions and how institutions in turn affect the sustainable management of petroleum wealth. The last part of the literature review highlights the importance of institutions and how to measure good and effective institutions. A framework is finally developed to help understand this relationship which is of importance to Ghana as an emerging oil country. The framework distinguishes two different outcomes when a country discovers hydrocarbons; the country is either oil cursed or the oil is sustainably developed and managed.

The chapter three deals with the findings of the research which is important to understanding the institutional landscape of the sample countries thus Nigeria, Norway and Saudi Arabia. It also identifies the various institutions responsible for petroleum resource revenue management in Ghana, Nigeria, Norway and Saudi Arabia. Chapter four discusses and analyses the findings and the lessons Ghana can derive from Nigeria, Norway and Saudi Arabia. The final chapter concludes with some critical comments.

CHAPTER TWO

2.0 Review of literature on the role of institutional factors in the sustainable development and management of petroleum resources

"The importance of institutions has emerged as a key aspect of the natural resource curse debate. In the context of a viable social contract, based on widely agreed formal and informal rules for the allocation of resources and the settlement of grievances, institutional arrangements can be sufficient to restrain opportunistic behavior and the violent expression of grievance".

The World Bank, 2003

The discovery of natural resources such as petroleum resources may be like a blessing (Ross, 2012). However, just like winning the lottery, there are many challenges associated with managing such influx of revenues (Humphreys et al, 2007).If the petroleum resource revenue is not managed well, then the country falls prey to the resource curse syndrome, but if it does manage it astutely, it becomes a blessing (Katz et al, 2004). The chapter seeks to explore the literature on the 'oil curse' i.e. The problems of managing petroleum resources by reviewing academic literature on the topic and relating those challenges to concepts like institutions, human and social capital and how such issues can affect the sustainable development and management of petroleum resource revenue. The chapter is divided into seven sections: introduction, the concept of institutions, oil resource revenue and institutional quality, and how institutions affect petroleum resource revenue management. The last four sections include; importance of institutions, good and effective institutions, and finally indicators for good institutions.

A nation can be regarded as being oil cursed if it exploits her petroleum resources and the resulting revenues do not bring about economic development or growth (Drysdale, 2007). A surface review of relevant literature on the topic presents the perception that the oil curse is unavoidable when a nation discovers hydrocarbons in commercial quantities (Bainomugisha, 2006). However, some countries like the US, Norway, Canada have managed to escape the oil curse (Rosser, 2007).

The challenges facing the sustainable management of petroleum resources are legion and are, in this literature categorized into institutional and economic. The chapter will start by giving a brief discussion of the economic challenges of the oil boom. Even though the main focus is on the institutional aspects of the oil curse, the institutional and economic issues about the oil curse are intertwined and often difficult to decouple (World Bank, 2005). I will briefly explain the infamous 'Dutch Disease' and thereafter, a framework relationship between petroleum resource revenue management and institutions will begin to evolve. The last part is committed to examining the institutional challenges of petroleum wealth.

Bainomugisha (2006) and colleagues provide evidence indicating that abundance of petroleum resources often leads to slower economic growth through what is called the Dutch Disease. The proposition of the 'Dutch Disease' phenomenon is that countries endowed with natural resources tend to be slower at innovation and creativity relative to resource poor countries. This is attributed to resource rich over reliance on the 'manner' sent from heaven which tends to weaken other sectors of the economy such as agriculture, manufacturing, industry, service that keep the economy vibrant and healthy (Ascher, 1999). Because of large inflows of oil revenues, oil rich nations tend to be quick at buying even basic goods and services instead of producing them (Bainomugisha et al, 2006). This gives rise to an economy that is difficult to sustain when petroleum resources are completely exhausted. A clear example is Gabon whose over reliance on the oil destroyed its agricultural sector. With oil resources almost exhausted, the country now has to feed her citizenry from imported food with less income from the oil sector (Bainomugisha et al, 2006).

The institutional literature on the sustainable management of petroleum resources is relatively new and still at the developing stage. Here, there is a reciprocal relationship between how petroleum wealth affects institutions and how institutions in turn also affect the sustainable management of petroleum resource revenue. The three main institutional challenges according to Drysdale (2007) are: corruption, oil related conflicts and mismanagement of petroleum resource revenues. The assertion that institutions affect the management of petroleum resource revenue is important to understanding how oil resource revenue can be managed to bring about sustainable development. The fact that there is corruption, conflict and oil resource revenue mismanagement in a country may not necessarily be as a result of the presence of petroleum resources.

Important to institutional qualities are human and social capital development (Drysdale, 2007). Thus human and social capitals are seen as important determinants of institutional quality. Lack of human capital in a country can have a direct impact on its institutional quality and consequently affects how well institutions function. For instance, revenue mismanagement may be attributed to the inability of the institutions to manage finance due to lack of or inadequate human capital (Katz et al, 2004). It stands to reason therefore that with strong and robust institutions in place, manned by the right human capital; a country can manage its petroleum resource revenue astutely leading to sustainable development or will mismanage its oil wealth as a result of poor institutions coupled with low human capital development.

The debate about how oil wealth impacts on a country is dated back as early as the 14th century (Stevens, 2003). Auty's (2001) research shows that there is a correlation between resource wealth and economic growth rate. However, Ross (2001) was quick to add that economic growth is just one of the measures of sustainable management or development. Nankani (1979) adds that social development and income inequality are not also peculiar to resource endowed countries. The review works by World Bank 2005, Davis et al 2005, Manning 2004, and Stevens 2003 among others on the oil curse indicate that there is a negative correlation between natural resources (oil) and economic growth. However, Hannesson (1998) counters this saying that countries like Norway, the US, Canada have managed their oil wealth well. This, Drysdale (2007) concludes that the oil curse is an economic dilemma.

While current efforts geared to ensure sustainable management of petroleum resources emphasize the role and responsibilities of various characters, relatively little attention is being paid to the potential contribution of institutional factors in the management of petroleum resources (Bryan and Hofmann, 2007). Yet the fundamental functions of institutions in the oil and gas industry are crucial to mitigating the various problems that are associated with the sustainable management of petroleum resources (Brunnchweiler, 2007). Davis et al (2010) state that instead of attributing poor economic performance to such issues as; lack of natural resources, climate change, the genetic makeup of the people, it is now conventional to search for institutions as the panacea to economic development issues. Institutions according to Davis et al (2010) are not products of the natural environment such as minerals, farmlands, fresh water or temperate climate neither they are made up of physical structures like factories, roads or dams.

The roots of institutional theory are traced back to the years of formative social sciences enlisting and incorporating the creative works of scholars such as Marx and Weber, Cooley and Mead, Velen and Commons among others (Bill et al, 1981). Contemporary Institutional theory is employed to analyze systems ranging from micro interpersonal relationship to macro global frameworks of institutional analysis (Scott, 2004). Scott (2001) further adds that institutional theory of late has reached a promising stage and that institutions are consisted of cultural cognitive, normative and regulative elements coupled with associated activities and resources that help bring stability and more meaning to social life. Although institutional scholars have diverse opinions on the emphasis they put on these elements and the different levels of analysis at which they undertake their work, all recognized the fact that social behavior and associated resources are anchored in rule systems and cultural schema (Zucker, 1987).

2.1 Institutions

Institutional theory attends to the multifaceted and more robust aspects of social structure. It considers the processes and procedures by which structures, norms, rules, schemas become established as authoritative control mechanisms for social behavior(Scott, 2004).Institutional theory determines how institutions are created, adopted, adapted and diffused over time and space and how these institutions come to be of use or of no use (Scott, 2004). In fact, there is no one accepted definition of institution as there are many interpretations of it as there are institutions (WIDER Jubilee Conference, 2005).A generic definition of institutions is institutions are the rules of the game that influence human behavior in society (North, 1990). This is further explained as a set of rules that regulate how human beings interact in a particular society by helping them fully or partially develop expectations of what other actors will or will not do (Rodrick, 2007). Veblen (1909) defines institutions as "*settled habits of thought common to the generality of men*". Glaeser et al (2004) see institutions as the property rights and the fundamental structures of the government. Glaeser (2004) and colleagues draw a distinction between institutions and policies. They see a policy to concern such things as government expenditure, exchange rates, interest rates, and wage and price control mechanisms among others. If institutions are the rules of the game, then some of these policies listed above qualify as institutions (Davis, 2010).

The endless discourse about the definition of the term institution and organization led to some scholars reject the definitions of institution and organization; instead, they focused on the practical applicability of the two terminologies (Hodgson, 2006). The two terms are sometimes used interchangeably (Davis, 2010). Davis (2010) says there is no clear dichotomy between institutions and organizations. North (1994) objects this conflation between institution and organization and asserts that if institutions are the rules of the game, then organizations and entrepreneurs could be seen as the players of the game. Dovers (2005) objects Davis (2010) assertion and draws a distinction between the two. Organizations are manifestations of institutions such as associations, agencies among others. He further adds that an organization can sometimes become influential and persistent such that it can be classed as an institution, but generally, organizations are easy to dissolve or change, on the other hand, institutions are lasting.

Institutions present incentives, opportunities as well as limitations for organizations in society. The term institutions could also be defined as the social, economic, legal and political structures of a society. It is also necessary to distinguish between formal and informal institutions. Formal institutions (FI) according to (Hodgson, 2006) are those endorsed by the state and that any other institutions fall within the category of informal institutions (II).But Knight (1992) sees an II as rules that regulate or structure how people interact in a particular society such as forming or standing in a queue or corruption. Since IIs are part of cultural and social institutions, then it stands to reason that individual expectations are embedded in these social and cultural institutions. Whether formal or informal institutions, they cannot go beyond a particular society of transcend national frontiers (Knight, 1992).Dovers (2005) definition of a formal institution is similar to that of Hodgson. North (1990) indicates that most of the time, organizations are classed as formal institutions. Examples of formal institutions include political institutions, government departments, trade unions, NOCs, IOCs, legislature or judiciary among others (Acemoglu and Johnson, 2005). Dale et al (2001) explain that institutions apply not only to government departments, but also to routine patterns of behavior between the individual (micro level) and other groups in society (meso level) and the state (macro level) at large whether formal or informal or directly or indirectly involved in the petroleum resource revenue use and management.

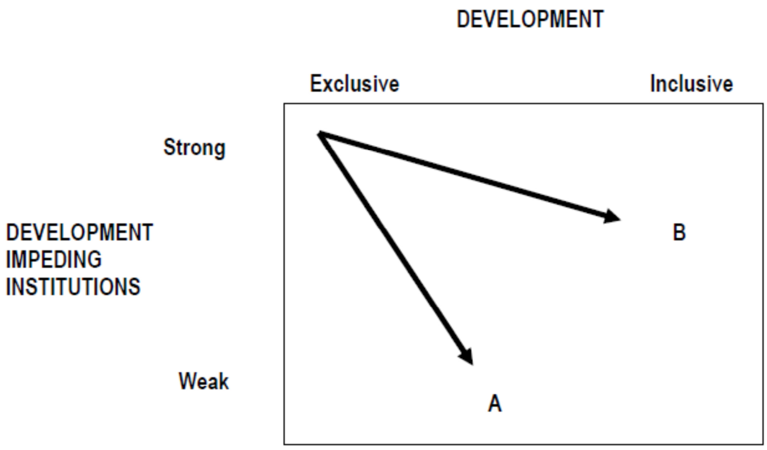
If institutions are important in determining economic development and we want to know why differences in economic development across time and space despite the availability of natural resources, then it is important to first understand why and how institutions vary from country to country (Hodgson, 2006). Institutions are neither static nor neutral (Leftwich, 2006). As indicated earlier, institutions allocate incentives (advantages and opportunities) and disincentives (disadvantages) in different ways and of course there will be winners and loser in the course of establishing or changing them. It is commonly agreed that institutions can be formal or informal depending on the context, thus the definition of institution will depend on the purpose of the analysis (Leftwich, 2006).Durkheim (1938) summarizes everything about institutions saying that social science is the science of institutions. For the purposes of this research, the term is used to refer to formal institutions thus organizations, norms, rules and formal social systems because they are easy to change relative to informal institutions.

2.2 Petroleum wealth and institutions

Recent literature on the oil curse has shown how petroleum resource revenue can affect the quality of institutions in a country. North (1990) indicates that the discovery of petroleum resources can either strengthen or weaken the institutional capacity of that country. Institutional quality differs from country to country and from being weak, strong, and unpredictable with features of resilience and persistence (North, 1990). He further says that strong institutions reduce unpredictability and result in compliance and conformity which are necessary ingredients of good institutions designed to achieve sustainable development. When institutions such as corruption are strong in a nation, it becomes difficult if not impossible to lift the oil curse (Katz et al, 2004).

A situation where institutions in a country negatively affect other institutions in their quest to ensure sustainable development, such institutions are called Development Impeding Institutions (Grafton and Rowlands, 1996). Grafton and Rowland illustrate this to show the relationship between the quality of development and Development Impeding Institutions.

Figure 1: **Development Impeding Institutions**



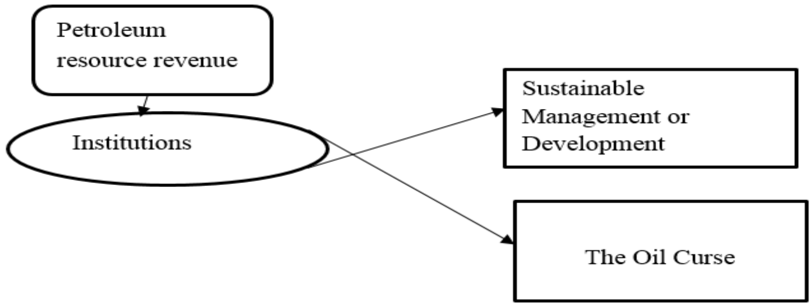
Source: adopted from Grafton and Rowland, 1996

In the figure according to Grafton et al (1996), the lines A and B represent different development paths. Both lines show a move in the direction of exclusive development where the masses in the society will benefit from the oil resource revenue. To achieve this, they say Development Impeding Institutions must be weakened.

Institutions, whether destructive or productive according to Matthews (1986) can be strengthened or weaken depending on the time frame. Matthew further indicates that there is some kind of inertia associated with institutional change because institutions take a longer time to evolve. Institutional change according to Drysdale (2007) occurs at a glacier space. At the center of creating, changing and sustaining institutions are human beings. People who benefit from an institution are likely to act in a way that will help sustain that institution whereas losers are likely to work towards changing the institution to their favor (Matthews, 1986). Institutions that wield and sustain the interest of the masses with power have a greater chance of being strong while institutions that serve the minority selfish bureaucrats and politicians are likely to be destructive and informal (Drysdale, 2007). Not every strong institution will positively impact on sustainable development.

Institutional literature on the oil curse elucidates that some oil endowed countries have weaker institutions compare with countries without petroleum resources (Mehlum et al, 2002, Sala-I-Martin and Subramania, 2003). An analysis of the resource curse and how it affects formal and informal institutions and sustainable development is illustrated by Sala-I-Martin and Subramania, 2003, Ross, 2003, Drysdale, 2007 and Woodcock et al, 2001) in figure 2.

Figure 2: The impact of petroleum resource revenue on institutions



This framework develops as the literature unfolds. The institutional literature on the oil curse can be grouped into; rent seeking and corruption, oil related conflict and resource revenue mismanagement (Drysdale, 2007). These issues are not absolute in the sense that it is not every oil endowed country that faces these challenges in the management of their petroleum wealth.

Rent seeking is when individuals or groups look for means that will benefit them by manipulating institutions to their advantage contrary to established and legal of creating wealth. This has the tendency to affect those mostly the majority in society who would have benefitted from the normal and legal means of creating wealth (Krueger, 1994). Though there exist a difference between rent seeking and corruption, both have the potential of negatively affecting institutional quality and sustainable development (Bhagwati, 1982). Corruption is not legal while rent seeking is legitimate and can be encouraged by the state.

Literature on the relationship between rent seeking and corruption establishes that resource endowed countries such as Nigeria are susceptible to rent seeking and corruption compared with resource poor countries like Burkina Faso (Drysdale, 2007). Natural resources such as oil present an incentive for corruption and rent seeking behavior that in the long run establishes a milieu that supports strong but destructive institutions such as corruption to wipe out productive and good institutions such as transparency and accountability (Robbins, 2000). Frequent fighting, for example, over oil rents may lead to civil unrest and political instability and reduction in the quality of democratic decision making and consequently, fall in democratic institutions (Drysdale, 2007). As corruption and rent seeking persist, the gap between the have (bourgeois) and the have nots (proletariat) widens making it very difficult to maintain democratic institutions.

Petroleum resources are mismanaged mostly because the institutions that are entrusted with the responsibility to manage such resource revenues lack the necessary capacity or are weak to perform such functions (Drysdale, 2007). This problem is attributable to bad institutions and low human capital development. Human capital is said to be crucial to the sustainable management of petroleum resources. Gylfason (2001) and Manning (2004) assert that low human development capital in a country can have negative tendencies on the petroleum resource revenue management.

2.3 How institutions affect petroleum resource revenue management

The previous section discusses how petroleum wealth may affect economic growth, institutions and sustainable development. The fact that a country experiences high corruption, civil unrest/oil related conflicts and revenue mismanagement does not mean that country is resource or oil cursed because bad institutions that retard economic development or growth may be as a result of other factors. Sala-i-Martin and Subramania (2003) suggest that proper management of petroleum resources can build or strengthen the capacity of productive institutions. World Bank (2003) also suggests that a country can take advantage of abundance of petroleum resources to encourage productive or good institutional development.

As Sala-i-Martin et al (2003) indicate that the quality of institutions that precede the discovery of petroleum resources are important in determining how these resources are managed and their impact on the economy of a nation. The literature so far has shown that the role of human capital to institutional quality cannot be over emphasized. Social capital has been yet another determinant of institutional quality.

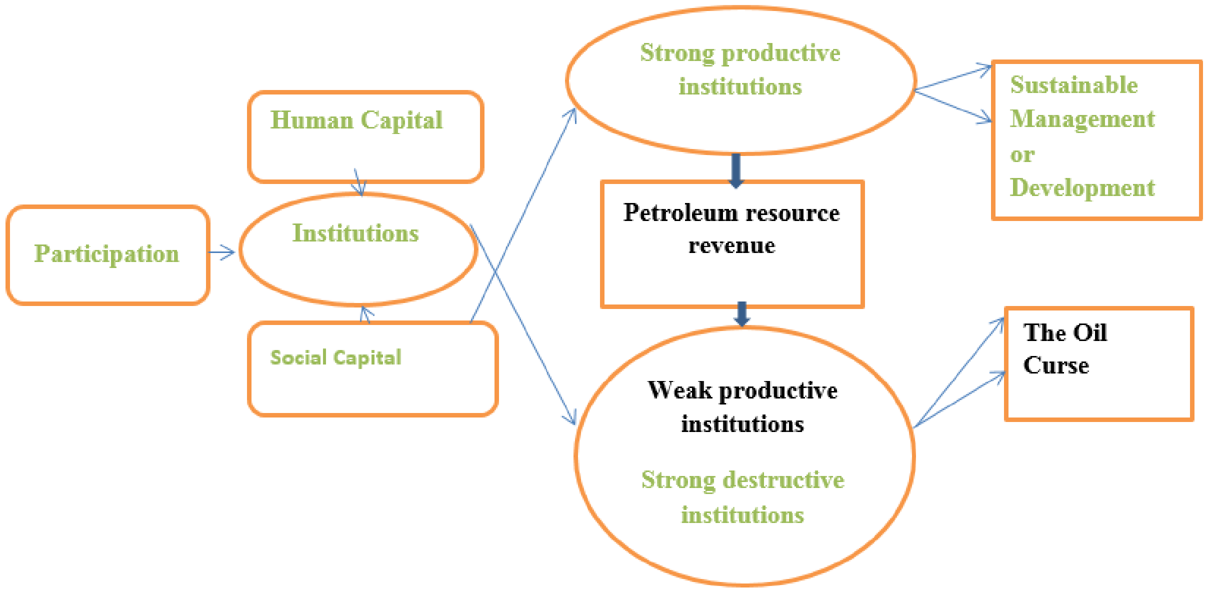
If the quality of an institution is critical to the sustainable management of petroleum resources, then it does make sense to understand what makes these institutions good and strong. According to Putnam (1988), social capital is an embodiment of social organization that facilitates coordination and cooperation for mutual benefit (Fukuyama, 2001 as cited by Drysdale, 2007). Since the focus of this research is not about social capital, its precise definition may not be necessary rather its integral role in understanding strong institutions is what matters.

Social capital has a close link to understanding institutions whether formal or informal institutions (Knowles, 2005). Knowles (2005) further explores this connection and indicates that social capital is related to the concept of what North (1990) explains as an informal institution. Social capital is also seen as the investments that encourage participation and cooperation in both formal and informal institutional settings and can be regarded as a precondition for establishing good and strong institutions for managing oil resource revenue (Drysdale, 2007). Trust and healthy relationships are crucial to strengthening of institutions and how individuals or groups interact have institutional connotations.

Participation is yet another ingredient for institutional quality. The involvement and participation of civil society and various stakeholders in the decision making is an important component of petroleum resource revenue management. Active participation enhances productive institutions such as accountability and transparency strengthen decision making and the people are likely to gain the trust and confidence of the institutions. Democracy in theory allows for people to participate and access information. One corollary and advantage of participation is that people have the opportunity to contribute and make decisions and volition to reflect their interest (larger interest).

Pratchett (1999) explains this saying that there is a relationship between 'public participation and representative democracy' the World Bank and others define public participation as *"The process of engaging affected people and other interested parties in open dialogue through which a range of views and concerns can be expressed in order to inform decision-making and help build consensus. To be meaningful, consultation should be carried out in a locally appropriate manner, for example with information in local languages distributed in advance"*. Consultation is an institution that encourages participation. Situations however, abound where the issue at hand is technical and the people may not have the capacity to participate; but the basic aim can still be to allow the people an opportunity to learn through the participation. Figure 3 is conceptual framework developed to demonstrate the relationship between petroleum revenue and institutions.

Figure 3: The framework for understanding the relationship between petroleum resource revenue and institutions



2.4 Importance of institutions in petroleum revenue management

This part establishes that the role of institutions in the sustainable management of petroleum resources for socioeconomic development cannot be overemphasized. Thus institutions are crucial to overcoming the malady of the oil curse. It is against this background that the issue for policy makers is no more whether institutions do matter, but rather which institutions should be put in place and how such institutions can be acquired (Rodrick, 2007). Institutions according to North (1990) are seen as important determinants of socioeconomic development in society. A possible remedy to the oil curse is being proffered by more emphasis on the role of institutions in economic development which gained momentum since 1990s. Steven (2008) further asserted that institutions can be the answer to the predacious conduct of bureaucrats and politicians in oil producing countries.

Institutions wield an important effect on management, while the oil abundance and policy in itself does not except through their effect on institutions. When a country has weak institutions, managing petroleum resource revenue through such weak institutions can have negative outcomes (Eigen-Zucchi, 2003). The nature of institutions present at the time of oil discovery can determine whether that country can or cannot avoid the oil curse. Mehlum (2006) notes that a blend of weak institutions and oil wealth will lead to the oil curse. Contrary to the earlier arguments that petroleum wealth undermines economic development through weakening of institutions, there is rather a positive correlation between oil resource abundance and institutional quality

(Brunnschweiler, 2006). Brunnschweiler further remarks that abundance of oil resources in a country should lead to good institutions and economic growth. The reason is that countries with good institutions benefit more from the oil wealth because the people through institutions are able to manage revenues thereof (Ibironke, 2004).

Research suggests that democracy and good institutions work together as the former helps create good institutions (Rodrick, 2007). One fundamental objective of every institution is to reduce unreasonable actions by individuals and to lessen conflict of interest among various stakeholders (Inforresources Focus, 2008). It is against this background that it is only by decoupling power and function and public involvement that institutions can serve the purpose of checks and balances and consequently ensure sustainable management of petroleum resource revenues (Ibironke, 2004). Acemoglu (2005) does indicate that institutions are very important in determining monetary returns. Relevant experience with oil booms always emphasizes the need for good institutions and public financial management (IMF, 2007).

Institutions also play a distributional role in determining how petroleum resource revenues should be allocated and how responsibilities are assigned to various actors (Inforresources Focus, 2008). Thus institutions not only mobilize resources, but also how such resources are distributed among the beneficiaries (Acemoglu, 2005). It is argued that the fundamental determinant of differences in socioeconomic development among nations is the differences in their economic institutions and that to be able to overcome these differences in development means reforming these institutions (Acemoglu, 2008). The issue of institutional quality is fundamental to understanding the oil curse because situations where institutions are weak (Nigeria), petroleum resources will lead to a growth curse and oil wealth becomes a blessing when the institutions are good (Norway) (Mehlum, 2005). Ross (2012) admits this by quoting the former US vice president, Dick Chiney as saying……. "*The good Lord didn't see fit to put oil and gas reserves where there are democratic governments").* This illustrates that; oil resources without good institutions such as democratic governance will result in the oil curse. The natural resource theory ascertains that there is a positive correlation between good institutions and economic development (Pessoa, 2008). It is an undeniable fact that good institutions attract FDI which is important in enhancing economic growth. As seen from the aforementioned analysis, capacity building of institutions especially oil rich countries in developing economies such as Angola, Nigeria is very important because such countries lack the necessary capacity to build up such institutions (Barbe, 1994).

There is a debate as to whether weak institutions and bad policies are caused by the abundance of petroleum resources or it is that the petroleum resources make worse weak institutions and bad policies on economic growth (Arezki, 2007). Qureshi (2008) ascertains that natural resources only test the institutional arrangements of oil producing or exporting countries and that it is only countries with good institutions and efficient management systems that are able to pass this test and profit from their oil wealth.

2.5 Are there good and effective institutions?

It is necessary that institutions are good and effective as institutions in themselves may not perform the functions for which they are created. The literature so far indicates that countries with petroleum resources are cursed when they have weak institutions (Boschini, 2005). Good and effective institutions ensure that there is probity, transparency and accountability among politicians, thus making it possible for the oil revenue to be managed for the benefit of both present and future generations (Kalstad, 2007). Any social organization that ensures that the citizens have an effective, reliable and an enforceable property rights can be classified as being a good institution (Acemoglu, 2003). Acemoglu (2003) emphasizes that the hallmarks of every good institution are the enforcement of property rights for the masses, restraint on the actions of politicians and other powerful groups in society and then institutions also make sure that there is a certain amount of equality among the citizenry. Good institutions are the medium through which local communities and the general public can be involved in the management of petroleum resources (Batra, 2006).

2.6 What are the criteria for measuring good and effective institutions?

Institutions according to North (1990) in themselves cannot be measured. There is no generally accepted standard yardstick against which institutions can be measured (Steven, 2008). Steven (2008) and colleague further argue that if it is not made clear as to what institutional quality is all about, it will be extremely difficult if not impossible to know whether the indicators being used to measure institutional quality will capture everything that they intend to measure. Since it is not easy to measure institutional quality, it is only important that external factors are used to evaluate the relative performance of institutions.

The general notion is that good outcomes from petroleum resources are synonymous with good institutions (Steven, 2008). Rodrick and Subramania (2003) suggest that institutional quality can be measured using a multiple of external indicators ranging from the protection and enforcement of property rights to the strength of rule of rule in a particular country. Another indicator worth noting is checks and balances, thus the restraint on the legislature, executive and other arms of government (Rodrick and Subramania, 2003).

The paper identifies some institutional indicators such as the United Nations HDI, Worldwide

Governance Indicators (WGI); GNIPC among others will be used to compare the three case studies (Nigeria, Norway and Saudi Arabia). These indicators are chosen because they can easily be obtained and are generally recognized and accepted worldwide. HDI measures the GDP, literacy rate, life expectancy and educational attainment for various countries. It measures human capital development in a country. WGI as the name suggests deals with issues of governance for Nigeria, Norway and Saudi Arabia for 2000 and 2010. The six WGI used by the World Bank are: rule of law, the effectiveness of the government, quality of regulation, control of corruption, voice and accountability, and political stability and absence of violence (WGI, 2010). How much each citizen will receive if the annual income of the whole country were to be shared or divided equally among every woman, man and children in a particular country is what constitutes GNIPC.

To find out the difference good institutions can make in terms of petroleum resource management, Nigeria, Norway and Saudi Arabia in the next chapter are compared to find out why different outcomes out of the same petroleum resource in the three countries. The problem of the oil curse in Nigeria can be countered by good institutions. With good institutional frameworks in place, oil resources have the potential of turning the oil resources to benefiting a nation while the same oil resources in another country just like Nigeria can lead to the oil curse because of bad or weak institutions. Just as these countries; Nigeria, Norway and Saudi Arabia discovered oil in 1956, 1961 and 1938 respectively, these countries are different in terms of their institutional experiences. While Norway has been one of the oldest countries with democratic credentials and firmly formed institutions, Nigeria ended their military reign just in 1999.

The conclusion that can be drawn from this is that the impact of petroleum resources is dependent on the relationship between that country's resources and the institutions. The Chapter explained the concept of institutions as the rules of the game that influence and regulate human behavior in the society. The study unearthed the criteria for measuring good and effective institutions using UN HDI, CPI, and GNIPC among others. A framework was developed to illustrate the relationship between institutions and oil wealth. The framework distinguishes two outcomes when hydrocarbons are discovered and developed in a nation thus the oil either becomes a blessing (sustainably developed and managed) or a curse (corruption characterized with mismanagement). The framework identifies human and social capital couple with public participation as significant ingredients for sustainable petroleum revenue management.

The framework also presents that when a country has strong productive institutions such as transparency and accountability and weak destructive institutions like corruption, the petroleum wealth will be managed wisely. Conversely, weak productive institutions and strong destructive institutions will result in the oil curse. It also assesses the indicators for good and effective institutions (Human and social capital as well as participation of the civil society) and that productive institutions are likely to support sustainable revenue management whiles destructive and weak productive institutions (corruption) will hinder sustainable development and management.

CHAPTER THREE

3.0 Research Findings

The fundamental issue faced by oil producing countries is how to turn the oil to benefit their citizens. Accomplishing this is not without strong and effective institutions. This part of the study seeks to bring to light the institutional literature (Findings) of the sample countries (Ghana, Nigeria, Norway and the Kingdom of Saudi Arabia). The findings are based fundamentally on the criteria for measuring good and effective institutions (the United Nations Human Development Index (HDI); Worldwide Governance Indicators (WGI), Gross National Income Per Capita (GNIPC) among others. The second part identifies various institutions among the sample countries and their assigned roles in their respective oil and gas industries.

3.1 Institutional literature of the sample countries

The sample countries used for this research are: Nigeria, Norway and Saudi Arabia. I chose these three countries for the descriptive and comparative analysis because they are all endowed with petroleum resources, one (Norway) representing the developed world, the other (Nigeria) representing the developing economies and Saudi Arabia an epitome of the autocratic system and the largest and the leading country with petroleum reserves, production, exports and refining capacity in the world. The three sample countries have different levels of economic development and institutional quality. It is very important that the study chose Norway to illustrate that it is possible for every nation to astutely manage its petroleum resources provided there is a complementary relationship between institutions and oil wealth.

Research has shown that oil producing or exporting countries are more corrupt than even the world average even if Norway is included (Tsalik et al, 2005). The general expectation is that petroleum wealth will help bolster rather than weaken institutions and state capacity in Nigeria. Contrary to this expectation, the various governors in Nigeria resist the capacity building of institutions because they take advantage of the situation and exercise their discretion over the policy making processes and allocation of the petroleum export rents (Luong, 2004). Saudi Arabia, even though not a bastion of democracy, it is doing fairly well in terms of their petroleum resource revenue management (Katz et al, 2004).

The literature also shows that Norway had good institutional quality for a long time while Nigeria and Saudi Arabia have weak institutional quality. It shows that a country like Norway with higher institutional quality is able to manage its petroleum resources better than Nigeria and Saudi Arabia with lower institutional quality. To determine the institutional quality of these three countries, the external factors or indicators of good institutions identified earlier would be used.

Table 1: The relationship between country rankings for democracy, HDI and corruption perception index in Nigeria, Norway and Saudi Arabia for 2011

Democracy Country Rank of 2011

Country	Rank	Score
Nigeria	119	3.83
Norway	1	9.8
Saudi Arabia	161	1.77

Human Development Index Rank, 2011

Country	Rank	Score
Nigeria	156	0.459
Norway	1	0.943
Saudi Arabia	56	0.77

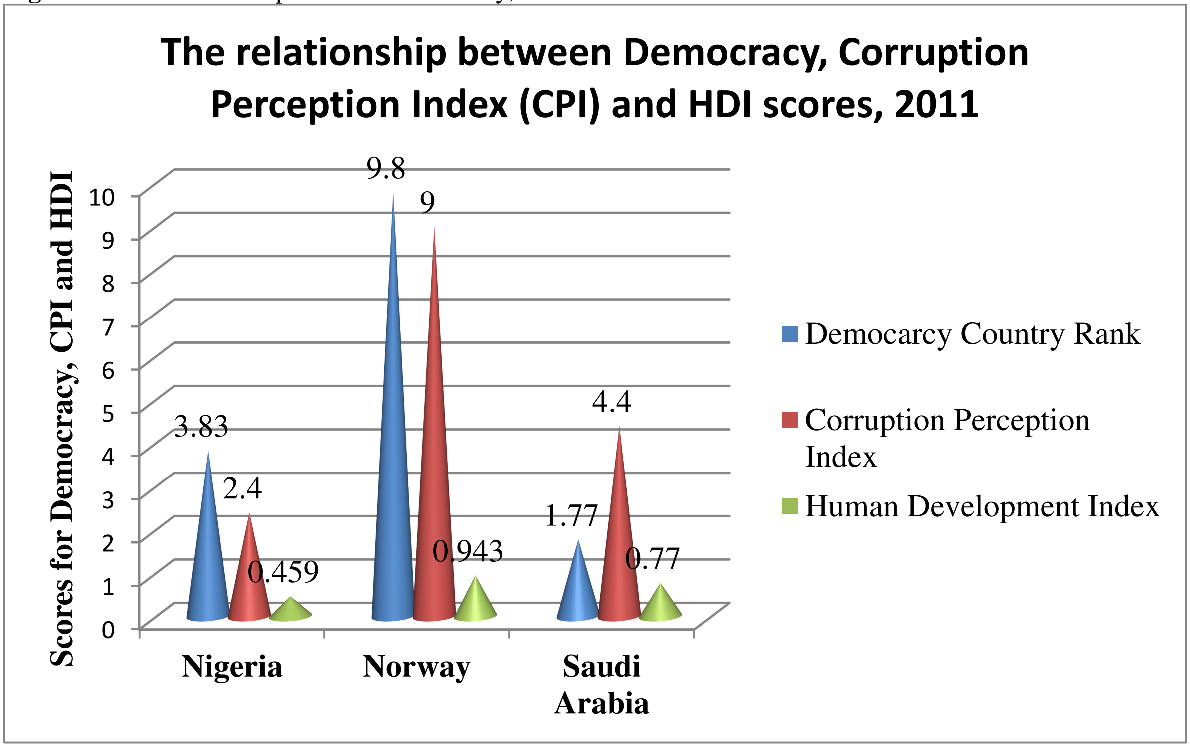
Corruption Perception Index Rank, 2011

Country	Rank	Score
Nigeria	143	2.4
Norway	6	9
Saudi Arabia	57	4.4

Source: CPI, 2011, Economist Intelligent Units, Democracy Index 2011, HDI, 2011, World democracy Table, 2011.

The above table shows the country rankings and scores for Democracy, Human Development Index (HDI) and Corruption Perception Index (CPI) for Nigeria, Norway and Saudi Arabia. The figures used are the country ranking of 2011 for all three indicators. Norway in 2008 was ranked 7th, 14th and 2nd for Democracy, CPI and HDI respectively while Nigeria was 100th, 121st and 154th for the same indicators. Between 2000 and 2011 Saudi Arabia's HDI grew by an average of 0.55 %. While Norway improved (Democracy 1, CPI 6 and HDI 1) within the three year period (2008-2011), Nigeria got worse off (Democracy 119, CPI 143 and HDI 156) for its institutional quality indicators. Could Saudi Arabia have been democratic if it had not discovered oil? The system of governance that precede oil discovery persists i.e. Nations with effective democratic institutions continue in their path of institutional development, so is the canonical case of Saudi Arabia who practiced autocratic system since antiquity before it discovered oil (Steve, 2011).

Figure 4: The relationship between democracy, CPI and HDI



Source: Economist Intelligent Units, Democracy Index 2011

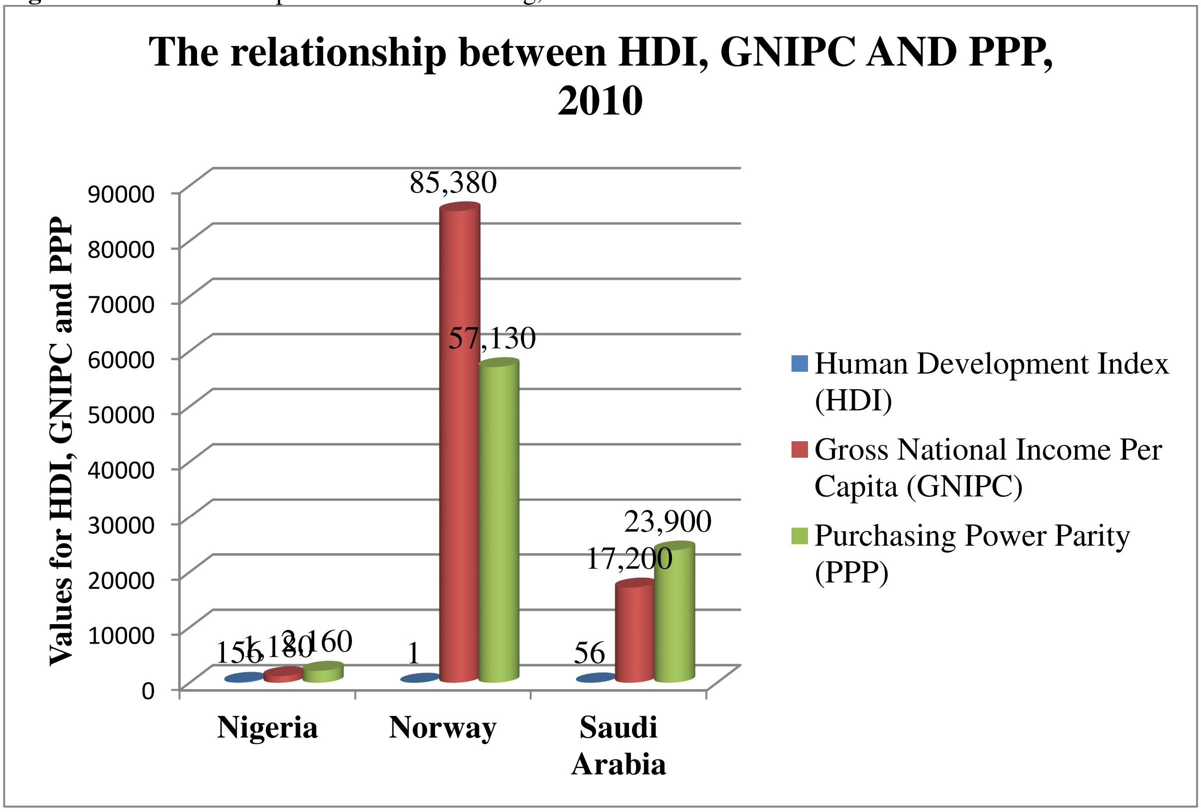
Figure 4: illustrates a situation where democracy is weak in a country with a high CPI, it leads to low or poor HDI. A critical analysis of table 2 and figure 3 demonstrates clearly why countries like Norway have become a model of success when it comes to petroleum revenue management. The 2008 and 2011 Human Development Indices indicate a consistent performance story of Norway and go to buttress the idea that good institutions are indeed critical to the sustainable management of petroleum resources.

Figure 5: below also illustrates the Gross National Income Per Capita (GNIPC), Human Development Index (HDI) and the Purchasing Power Parity (PPP) for Nigeria, Norway and Saudi Arabia. The GNIPC and PPP figures are for 2010 while HDI figures represent that of 2011. The three countries were selected because they form the basis for descriptive and comparative analysis of this research as cases of failure, success and fairly good respectively from which Ghana can learn. The GNIPC figures are in US$.

Table 2: The relationship between HDI, GNIPC and PPP

	Nigeria	**Norway**	**Saudi Arabia**
Human Development Index (HDI)	156	1	56
Gross National Income Per Capita (GNIPC)	1,180	85,380	17, 200
Purchasing Power Parity (PPP)	2,160	57,130	23,900

Figure 5: The relationship between HDI Ranking, GNIPC and PPP



Source: The author with data from World Bank, 2010.

The figure above shows that low HDI has a positive correlation with high GNIPC. Norway performs better than Nigeria and Saudi Arabia in terms of HDI and GNIPC statistics. Norway has been pointed out as one of the countries with the highest GNIPC in the world (World Bank, 2010).

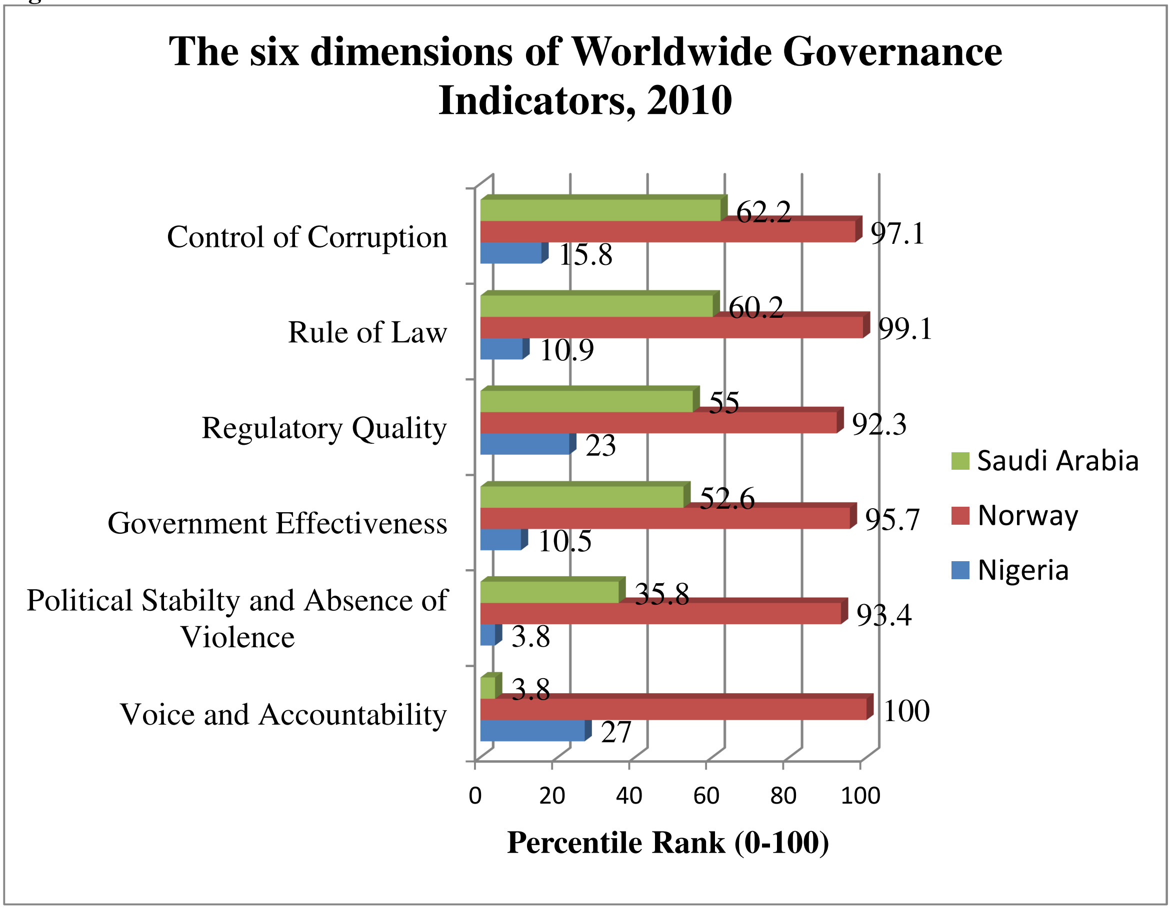
The latest update of Worldwide Governance Indicators (WGI) research project is provided by Kaufmann et al (2010) which covers about 213 countries. The WGI 2010 update also measures the six dimensions of governance as stated earlier in this paper. Some significant changes have occurred in governance between 2000 and 2010 with some improvements in regulatory quality in all three sample countries. Nigeria especially did well in the area of corruption control but however, it became relatively worse off in the rest of the four indicators (voice and accountability, political stability and absence of violence, government effectiveness and the rule of law). Norway has been able to maintain a high level of good governance over the ten year period. Saudi Arabia improved remarkably between the ten year period for effectiveness of Government, quality of regulation, rule of law and control of corruption. However, it performs badly for the voice and accountability and Political Stability and Absence of Violence within the same period. The table also demonstrates some relationship between good governance and sustainable management of petroleum resources.

Table 3: Changes in the six dimensions of governance in Nigeria, Norway and Saudi Arabia, 2000-2010

		Percentile Ranking (0-100)				
	2000 Nigeria	**2000 Norway**	**2000 Saudi Arabia**	**2010 Nigeria**	**2010 Norway**	**2010 Saudi Arabia**
Voice and Accountability	30.3	96.2	8.7	27	100	3.8
Political Stability and Absence of Violence	9.6	95.7	48.1	3.8	93.4	35.8
Government Effectiveness	15.1	94.1	46.3	10.5	95.7	52.6
Regulatory Quality	20.6	83.3	50.5	23	92.3	55
Rule of Law	16.7	97.1	53.1	10.9	99.1	60.2
Control of Corruption	6.8	97.1	40	15.8	97.1	62.2

Source: World Bank, 2010.

Figure 6: The six dimensions of Worldwide Governance Indicators



Source: the author with data from World Bank, 2010

Norway is said to have been a model of success in oil revenue management in the world due to its effective institutions and good governance. The literature also shows that good governance, proper regulatory frameworks and anticorruption policies are crucial to sustainable management of petroleum resources (Limi, 2006). Limi (2006) further asserts that if Nigeria can build the capacity of its institutions to the level of those of Norway, it will result in seven fold increase in GNIPC of Nigeria in the long run. If the tenets of the Extractive Industry Transparency Initiative (EITI) couple with voice and accountability are incorporated into the oil and gas industry in Saudi Arabia, it will in the future undoubtedly become a model of petroleum resource revenue management in the world.

3.1 Identification of institutions in Ghana, Nigeria, Norway and Saudi Arabia oil and gas industries

Considering the fact that institutions are not universal and cannot be easily transferred from one country to another, this second part of the research findings identifies institutions responsible for sustainable development of petroleum resources in Ghana, Nigeria, Norway and Saudi Arabia.

3.1.1 Institutions in Ghana's oil and gas industry

Ghana discovered petroleum resources in 2007 and started the production and export business in the third quarter of 2010. Ghana upon this, in 2010 passed into law a Petroleum Revenue Management Act (Act, 815) to make available a framework for the collection, allocation and the management of petroleum resource revenue in Ghana. The Act provides that petroleum resource revenue management should be carried out in a responsible, accountable and transparent in such a way that it will benefit Ghanaians in accordance with the Article 36 of the constitution of the Republic of Ghana. The Act establishes a petroleum management account situated at the Bank of Ghana (BoG) and institutions that will assess collect and disburse the petroleum revenue. To ensure sustainable management of petroleum resources in Ghana, the Act provides for some Petroleum Funds (PFs) i.e. Ghana Stabilization Fund (GSF) and Ghana Heritage Fund (GHF). GSF is aimed to sustain the public expenditure of the economy of Ghana in times of revenue shortages whether as a result of oil price falls or adverse production changes. The object of the GHF is to provide an endowment fund for the sustainable development of petroleum resources for future generations through strategic investment in foreign assets even after the petroleum resources are completely depleted.

To do this effectively and efficiently, the Petroleum Revenue Management Act (PRMA) sets up some institutions with specific tasks to manage Ghana's petroleum resource revenues. The institutions among others are; the Ministry of Finance and Economic Planning (MFEP), the Ghana Revenue Authority (GRA), Revenue Investment Advisory Committee (RIAC) and the Bank of Ghana (BoG).

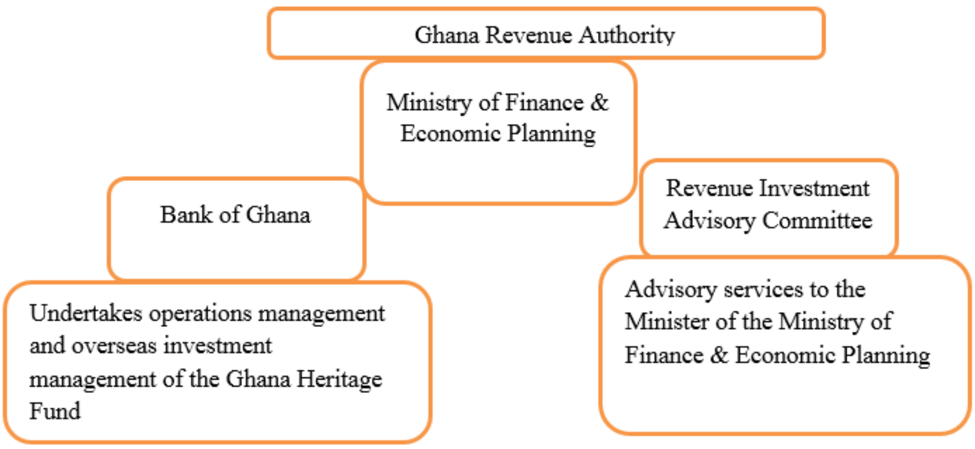
Table 4: The institutions established by the Ghana Petroleum Revenue Management Act (Act 815, 2010)

Name of Institution	Main Responsibility
Ministry of Finance and Economic planning	• Develops an investment policy for the petroleum funds • Manages the Ghana petroleum funds • Takes investment and management decisions in consultation with the Investment Advisory Committee and the Governor of Bank of Ghana (BoG) • Enters into operations management with the BoG for the operational management of the petroleum funds of Ghana
Ghana Revenue Authority (GRA)	• Petroleum resource revenue due the Republic of Ghana from whatever source be it in or outside of Ghana shall be assessed, collected and accounted for by the Ghana Revenue Authority
Revenue Investment Advisory Committee	• Recommends to the minister of finance and economic planning the investment strategy and policy of the Ghana Petroleum Funds (GPFs) • Advises the minister of finance on the broad investment guidelines that should be provided BoG • Reviews and audits the GPFs
Bank of Ghana	• In charge of day to day operational management of the petroleum account under the terms of operations management agreement • Manages the petroleum reserves account astutely within the framework of operations and management strategy as provided by the Ministry of Finance and Economic Planning

Source: Petroleum Revenue Management Act, 2010, (Act 815), Republic of Ghana

The Act stipulates that management of the petroleum resources should give priority to the agricultural sector, infrastructure and service delivery in health and education, human capital development, strengthening of institutions, rural development, environmental management and the social well-being of the physically challenged or handicapped and other disadvantaged Ghanaians.

Figure 7: Illustrates the institutions in Ghana's oil and gas industry



3.1.2 Institutions in Nigeria's oil and gas industry

A country endowed with petroleum resources like Nigeria must endeavor to utilize those resources maximally. The Federal government of Nigeria under the reign of the former president Olusegun Obasanjo in 2000 instituted an Oil and Gas Sector Reform Implementation Committee (OGSRIC) to separate the commercial institutions from the policy making institutions in the oil and gas sector in Nigeria (Iledare, 2008). Unfortunately, Obasanjo's administration could not carry out the proposed institutional restructuring exercise.

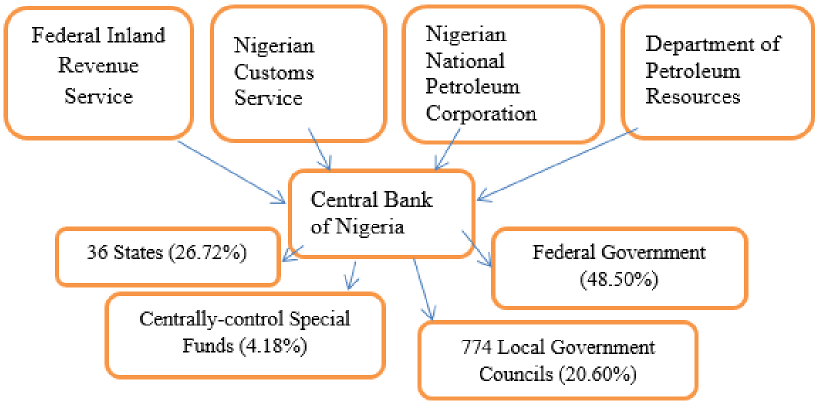
Nigeria did not relent in its quest to restructure institutions in its oil and gas sector (Okogu, 2006). On 7th September, 2007, the Federal government under the presidency of late Umaru Yar'Adua reconstituted the committee under the chairmanship of Dr. Riwlanu Lukman to transform the institutions in the oil and gas industry in Nigeria into functional institutional structures to be able to effectively manage the oil and gas industry in the country (Iledare, 2008). Iledare (2008) adds that the restructuring was supposed to facilitate the increment of Nigeria's GDP to a level comparable to the top twenty (20) economies in the world by 2020. Because of the short-lived reign of Umaru Yar'Adua, the committee was dissolved after his death. However, there is a Petroleum Industry Bill (PIB) currently before the Nigerian National Assembly (NNA), aim to establish and make clear the rules and the institutions that will entrench good resource revenue management, transparency and accountability in the oil and gas industry in Nigeria (Okigbo, 2012).The Federal revenue collection and management institutions include: Federal Inland Revenue Service (FIRS), the Nigerian Customs Service (NCS), Nigerian National Petroleum Corporation, Department of Petroleum Resources and the Central Bank of Nigeria (Iledare and Suberu, 2010).

Table 5: Petroleum revenue management institutions in the context of Nigerian Federal Fiscal System

Name of Institution	Main Responsibility
Federal Inland Revenue Service	• Responsible for collection of corporate tax in Nigeria
Nigerian Customs Service	• Collects excise and import duties
Nigerian National Petroleum Corporation	• In charge of managing the government participating interests in the oil and gas exploration and production
Department of Petroleum Resources	• Collects signature bonuses and royalties on behalf of Nigerian government
Central Bank of Nigeria	• In which the collected revenues are deposited

Source: IAEE, 2008

Figure 8: Petroleum revenue sharing and management institutions in the context of Nigerian Federal Fiscal regime



Source: The author with data from World Bank, 2010

The revenue at the Federation Account in the Central Bank of Nigeria devolved to the sub-national governments are shared among the states and the local government councils based on the following criteria: equality (equal amounts to each state or locality) 40%; population 30%; social development needs 10%; land mass and terrain 10%; and internal revenue generation effort 10% (Iledare and Suberu, 2010). Iledare (2010) and colleague add that, notwithstanding these constitutional and statutory provisions, the federal revenue sharing mechanism has continued to be one of the most intractable and contentious issues in Nigeria. Two issues have been particularly controversial, namely, the administration of the Federation Account and the weighting of the derivation principle. For the purposes of this study, the focus is put on the former.

There is an issue concerning the Federal Account, which relates to the underpayment of centrally mobilized revenues into the Federal Account and some deductions that the Federal Government does before sharing among the various beneficiaries (Ekpo, 2007). These deductions entail the so-called memorandum items such as the NNPC Joint venture cash calls and priority projects, servicing of external debt, proceeds from excess crude and excess petroleum profit taxes and royalties (Iledare and Suberu, 2010). Other 'illegal' deductions, under the centrally controlled special funds, according to Iledare et al (2010) include allocations for the development of the federal capital territory, for ecological emergencies, for statutory revenue stabilization, and for the development of natural resources. Although the Supreme Court has nullified all of these deductions, the Federal Government still continues to redirect revenues purposed for the Federation Account, neglecting the Constitution and the Supreme Court's ruling (Ekpo, 2007). While provisions for the special Stabilization Fund, Excess Crude Account, and collective Intergovernmental funding of investment obligations in the oil sector are sound in principle, the present modus operandi by which the Federal Government deducts huge sums of money from the Federation Account lacks transparency and accountability and consequently short-changes the states and local government councils by surreptitiously decreasing revenue pools for general Intergovernmental sharing. Nevertheless, the Supreme Court's ruling of a fiscally sound mechanism such as the excess crude account, whereas legally correct, raises the issue whether the Constitution is apt to Nigerians needs in this regard.

3.1.3 Institutions in Norway's oil and gas industry

Most countries have dedicated institutions for the management of petroleum resource revenues in their oil and gas sectors, and Norway is not exception in this respect. This management role is either dedicated to a ministry, or similar institutions embedded within another Ministry or department (The World Bank, 2009). Norway is, in many ways, different from Nigeria and Saudi Arabia. One common factor, however, among these countries is their endowness in oil and gas resources and the centrality of the petroleum resource revenues to their economies. A critical feature of the Norwegian petroleum management policy has been a well-defined division of roles and responsibilities among the different state institutions (Mark et al, 2011). Below are the institutions responsible for petroleum resource revenue management in Norway.

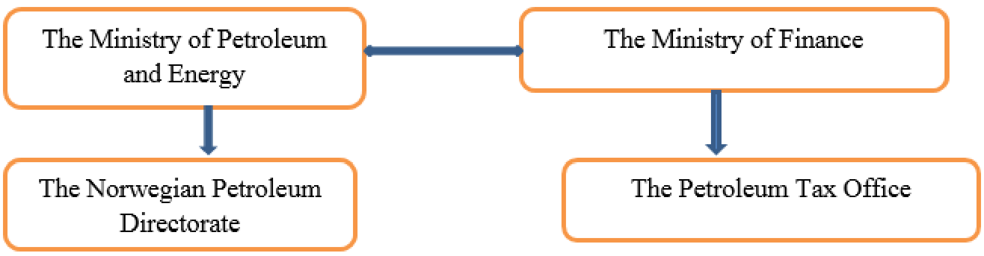
Table 6: Petroleum revenue management institutions in Norway

Institution's name	Main Responsibility
The Ministry of Petroleum and Energy	• Responsible for management of petroleum resources in Norway. • Other responsibilities include; making sure that petroleum operation activities are undertaken in conformity with the standards set by parliament and the government.
The Norwegian Petroleum Directorate	• An administrative subordinate to the Ministry of Petroleum and Energy. It plays an important role in the petroleum resource management and serves as an advisory body to the Ministry of Petroleum and Energy.
The Ministry of Finance	• It is responsible for collecting taxes i.e. corporate tax, special petroleum tax, CO_2 tax and NOx tax from the Norway's petroleum sector.
The Petroleum Tax Office	• It is a department of the Ministry of Finance. Its core duty is to ensure that the right and correct assessment, mobilization and collection of petroleum taxes and fees in Norway.

Source: Mark et al, 2011

In Norway, there is no one particular arrangement to assign or share petroleum resource revenues between the three tiers of government; the Central, the Counties (18) and the Municipalities (431) (IMF, 2009).The municipalities' budget is five times more than the counties. Petroleum resource revenues are paid to the central government only. Unlike Nigeria, Norway has a petroleum fund which was established initially as a fiscal policy tool to support the sustainable management of petroleum revenues in 1990 (IMF, 2009). The petroleum fund was rechristened as the Government Pension Fund-Global (GPF-G) in 2006 as part of the country's effort to broaden pension reforms, bringing to light the GPF-G's role in meeting the rapid increase in public pension expenditures in future years, but at the same time not earmarking its resources for any other purposes (Government Pension Fund Act No.123, 20th December, 2005).

Figure 9: Petroleum revenue management institutions Norway



Source: The author

Figure 9: indicates that the institutional framework and the division of responsibilities are clearly spelt out. Transparency is the hallmark of the Norwegian petroleum revenue management system, a leader in petroleum resource revenue management transparency. Norway's management system is highly decentralized with emphasis on integrity and proper functioning of government institutions. There is an apparent policy on the management of petroleum resource revenues. The various institutions also make available revenue management information to the general public. Unlike Nigeria, the petroleum revenue in Norway is entrusted to various institutions with the following management functions; the counties are in charge of regional planning and development such as transport, business development, secondary education, dental health and cultural services. Municipalities are responsible for fire prevention and control, care for the aged and disabled, waste management primary education, kindergartens, sanitation and water management. While the counties and municipalities have autonomy, most of their management and operation activities are regulated and subject to standard practices set by the central government. The revenue management institutions in Norway are given legal protection against politicians and other arms of government.

3.1.4 Institutions in the kingdom of Saudi Arabia's oil and gas industry

No successful petroleum industry can be attained without innovative, good and flexible institutions. Effective petroleum resource revenue management is achieved through strategic human and social capital development (Drysdale, 2007) i.e. continuous training and development of specialist human capital to take up management responsibilities in those institutions such as the Supreme Council for Petroleum and Mineral Affairs (SCPMA), and Saudi Aramco. It is against this background that this part of the research seeks to identify the petroleum revenue management institutions in the Kingdom of Saudi Arabia's oil and gas industry. The table below shows the various institutions and their management roles.

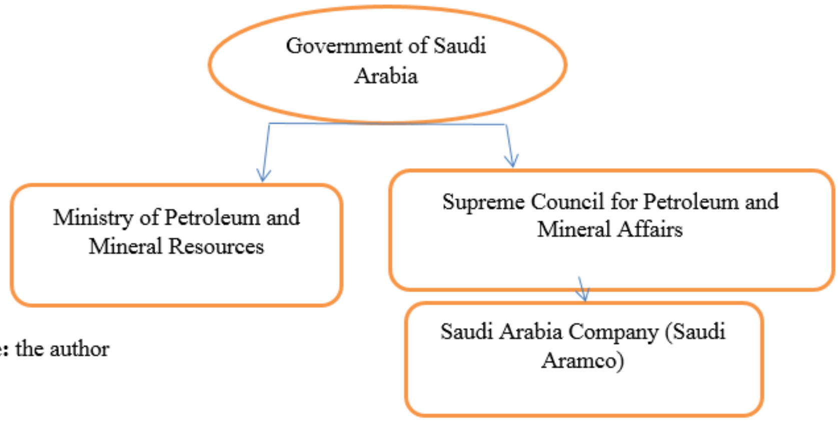
Table 7: Petroleum revenue management institutions in Saudi Arabia

Petroleum revenue management institutions in Saudi Arabia

Institution's name	Main Responsibility
The Ministry of Petroleum and Mineral Resources	• Responsible for administering and monitoring policies related to the petroleum industry in Saudi Arabia. • Other responsibilities include; making sure that affiliate companies such as Saudi Arabian Company (Saudi Aramco), Aramco Gulf Operation Ltd (AGOC), Saudi Texaco, operating activities are undertaken in conformity with the standards set by the government.
The Supreme Council for Petroleum and Mineral Affairs	• It serves as the link between Saudi Arabia oil industry and the government • It designs the kingdom's petroleum management policies and strategies • It takes charge of general petroleum industry be it policy, management or strategy
The Saudi Arabia Company (Saudi Aramco)	• Just like NNPC, Saudi Aramco is also responsible for the management of government participating interest and pays taxes, returns and profits to the government. It rather generates revenue for the government. It also engages in exploration and production activities. The petroleum resource revenue management in Saudi Arabia is solely entrusted to the SCPMA. SCPMA membership is composed of members of the royal family, government ministers and the oil industry leaders.

Source: OPENENERGYINFO, 2012.

Figure 10: Institutions in Saudi Arabia oil and gas industry



Source: the author

Finally, the chapter concludes that countries vary in so many aspects, so are institutions. As seen from the above findings, the sample countries institutions were measured against the standards of the UN HDI, WGI, and GNIPC to find out how strong and effective they are on the management of oil revenues. Sadly, apart from Norway, the rest of the sample countries do not have strong and effective institutions. All of the samples countries have had institutions to manage their petroleum industry and resources thereof. While some countries like Ghana, Norway and Saudi Arabia manage their petroleum resources at the central level, Nigeria contrarily decentralizes its petroleum resource management. Based on the literature reviewed so far, it is only important to attempt to discuss the findings in the three case countries and analysis of lessons Ghana can derive from such a discussion. The discussion of the analysis is premised on the indicators for good and effective institutions identified early on in this study. Accordingly, transparency and accountability are the only sure way to counter the destructive institutions in Ghana, Nigeria, Norway and Saudi Arabia. The important thing that can be learned from the theoretical study and the quantitative data from Nigeria, Norway and Saudi Arabia is that good institutions correlate with sustainable management of petroleum resources.

CHAPTER FOUR

4.0 Discussion: An Analysis of the Findings

There is a plethora of theories to delve into in the area of management, with institutional theory being used widely to explore a range of research challenges. In the field of institutions, the use of institutional theory remains at the developing stage, with much potential for espousal (Weerakkody et al, 2009). This chapter concerns the application of institutional theory to the topic of petroleum revenue management institutions in Ghana, Nigeria, Norway and Saudi Arabia.

The academic literature examined so far has focused on conceptual issues such as participation, social and human capitals. The concepts analyzed petroleum resource revenue management with regards to the concept of sustainability. Thus any country that utilizes its oil resource endowment will be on the path of sustainability if it invests the revenue accrued on other capitals such as human, physical or institutional.

There are other factors crucial to determining economic growth beside availability of petroleum and other natural resources; political stability, over dependence on aid, isolationism trade policies, defective social services, geographical issues, limited or inadequate financial know-how (Woolcock, et al, 2001). Determining the factors that cause economic stagnation and low or bad institutional quality can be difficult. For example, the curse of corruption, conflict and civil unrest and oil revenue mismanagement in a country such as Nigeria could be as a result of other factors and not necessarily intrinsic to their oil wealth. Indonesia for instance, some time ago experienced recurrent conflict and corruption, however, Indonesia is still considered by many as one of the countries that escaped the oil malady (Rosser, 2007).

Another issue worthy of mentioning is foreign aid to developing countries like Ghana, Nigeria among others. Aid might have consequences similar to inflows of oil revenue. The developing or third world countries are normally the recipients of these aids and in a situation where for example, Nigeria who produces oil; it is sometimes difficult to point out whether the bad institutions are as a result of the aid or the oil wealth or even poverty. In both situations there is an inflow of huge revenue with little effort, and eventually, the same economic issues i.e. absorption problems, exchange rate issues and institutional weaknesses, thus bad financial management practices, corruption and mismanagement. This eventually benefits the developed economies more than the developing countries. Africa's development predicaments could partly be attributed to the foreign aid.

Conflict as a destructive institution in Nigeria and other African oil producing countries may not be as a result of the oil resources. Though most African civil wars have purposefully drawn attention to the need to curtail access of the rebel movement to resource rich areas, these conflicts may not at all be related to oil resources (Nkandawire, 2002). A distinction between the battle for control over petroleum resources and religious and ethnic conflict currently going on in Nigeria must be drawn. As indicated earlier, conflict can impact on institutional quality and some of these institutions can exhibit stubborn tenacity .It is important to add that bad or weak institutional factors may be due to past conflicts. Therefore, countries who are rebuilding their institutions are more susceptible to the oil curse irrespective of their natural resource wealth. Likewise, countries like Ghana, Nigeria who are freed from colonial ties, especially a situation where the Great Britain (colonizers) neglected to invest in the local institutions, will definitely struggle to develop such institutions and can easily fall victims of the oil curse; so is Nigeria. The table below shows institutions as a function of human and social capitals and participation.

Table 8: Institutions as a function of Participation, Human and Social Capital

KIND OF INSTITUTION	GHANA	NIGERIA	NORWAY	SAUDI ARABIA
Human Capital	X	X	✓	✓
Social Capital	X	X	✓	X
Participation	X	X	✓	X

Source: the author

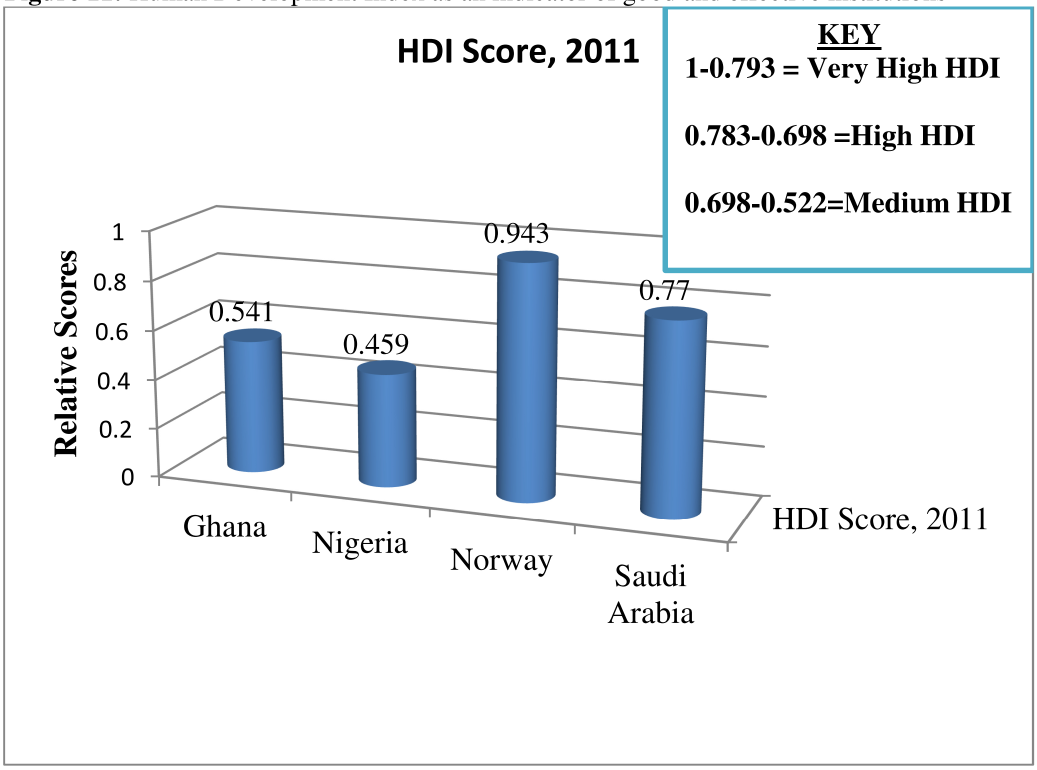
Depending on the level of development of the countries concerned, the oil revenues could be used in three different ways. A developed country like Norway can afford to establish petroleum funds (future generations' fund), countries like Ghana and Nigeria still developing will need to invest the oil revenues in projects with human and social outcomes. A country like Saudi Arabia in the middle stages of development can invest in infrastructure to improve their economic productivity through diversification. Ghana, Nigeria, Saudi Arabia will require institutions with the ability to restrain personal and group interests of politicians and bureaucrats in order to make best use of their petroleum resources.

As mentioned earlier, because it is not easy to measure institutional quality, it is only important that external factors such as the UN Human Development Index (HDI), Worldwide Governance Indicators (WGI), and Gross National Per capita Income (GNIPC) among others are used to show how the theory is applied.

Table 9: The relative HDI, Democracy and CPI scores as an indicator of good and effective institutions among the sample countries

Country	HDI Score	Democracy Score	Corruption Perception Score
Ghana	0.541	6.02	3.9
Nigeria	0.459	3.83	2.4
Norway	0.943	9.8	9
Saudi Arabia	0.77	1.77	4.4

Figure 11: Human Development Index as an indicator of good and effective institutions



Source: the author with data from HDI, 1980-2011

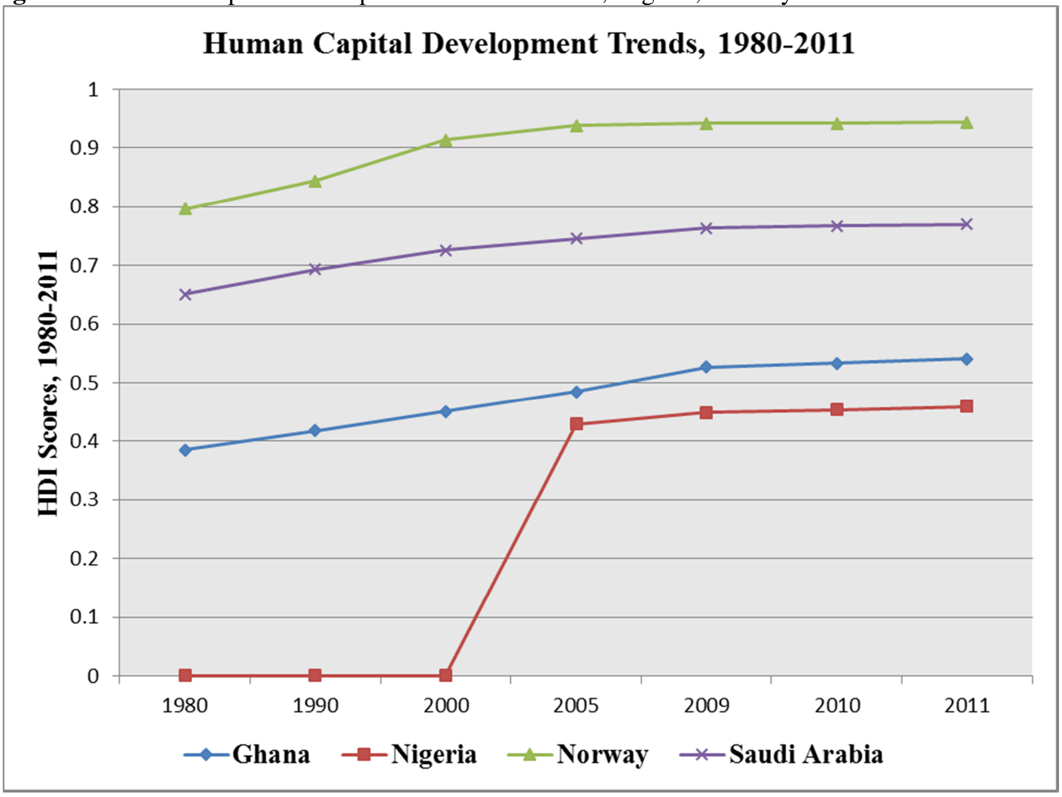
HDI is a composite index measuring average achievement in the three basic components of; long and healthy life, knowledge and a decent standard of living. HDI as a measure of institutional quality is based on data from Human Development Index Trends, 1980-2011. The index score for a country is between 0 and 1. Very high HDI is between 1-0.793, high, 0.783-0.698, medium 0.698-0.522 and low is 0.510-0.286 where a higher score means better and effective institutions. Norway (0.943) and Saudi Arabia (0.77) met the threshold for very high and high HDI respectively. Since Human Development encompasses the level of employment, knowledge, skills and quality of life of people, a higher score indicates that institutions are effective in delivering hence the high scores associated with Norway and Saudi show a measure of quality and effective institutions in the two countries. Ghana also falls within the category of countries with medium HDI score of 0.541. Ghana needs to do more to enable her climb up the ladder. Nigeria ranks 156 out of 187 countries with an HDI score of 0.459, which by United Nations (UN) standards is below world average. Although it is not apparent the link between HDI and institutional quality, it is obvious that a country like Norway has had good and effective institutions for a very long time whiles a country like Nigeria and somehow, Ghana have had relatively weak institutional quality since Ghana's score is close to the average. It is observed that countries like Norway and Saudi Arabia with high HDI have managed their petroleum resource revenue better than a country like Nigeria with low HDI.
Whiles Ghana, Norway and Saudi Arabia made progress in terms of HDI growth from 2000- 2011, Nigeria retrogressed in its HDI efforts. From2000-2011, Ghana averagely grew by 1.66%, thus a figure higher than the world average, Norway and Saudi Arabia grew by 0.29% and 0.55% respectively within the same period. This means that if Ghana continues its efforts to invest in human capital development, then it could move from medium (0.541) to high. The table below shows the human capital trends in Ghana, Nigeria, Norway and Saudi Arabia.

Table 10: Human Capital Trends, 1980-2011

	1980	1990	2000	2005	2009	2010	2011
Ghana	0.385	0.418	0.451	0.484	0.527	0.533	0.541
Nigeria	0	0	0	0.429	0.449	0.454	0.459
Norway	0.796	0.844	0.913	0.938	0.941	0.941	0.943
Saudi Arabia	0.651	0.693	0.726	0.746	0.763	0.767	0.77

Source: United Nations HDI 2011

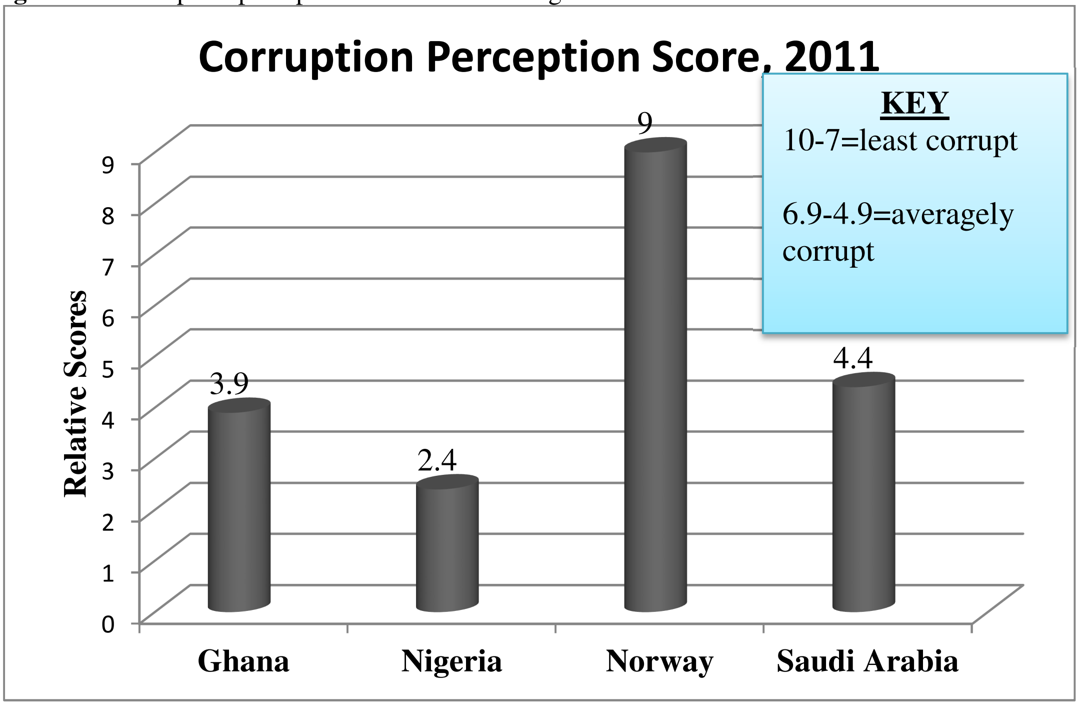
Figure 12: Human Capital Development trends in Ghana, Nigeria, Norway and Saudi Arabia



Source: the author with data from the United Nations HDI, 2011

The figure above shows the HDI performance of the various countries from 1980-2011. The figures could not be obtained in Nigeria for 1980, 1990 and 2000. From the above analysis, it is clear that Ghana, Nigeria and Saudi Arabia do not need strong men; they need strong institutions and effective governance. Another indicator used for measuring institutions is Corruption Perception Index (CPI) as illustrated below.

Figure 13: Corruption perception as an indicator of good and effective institutions



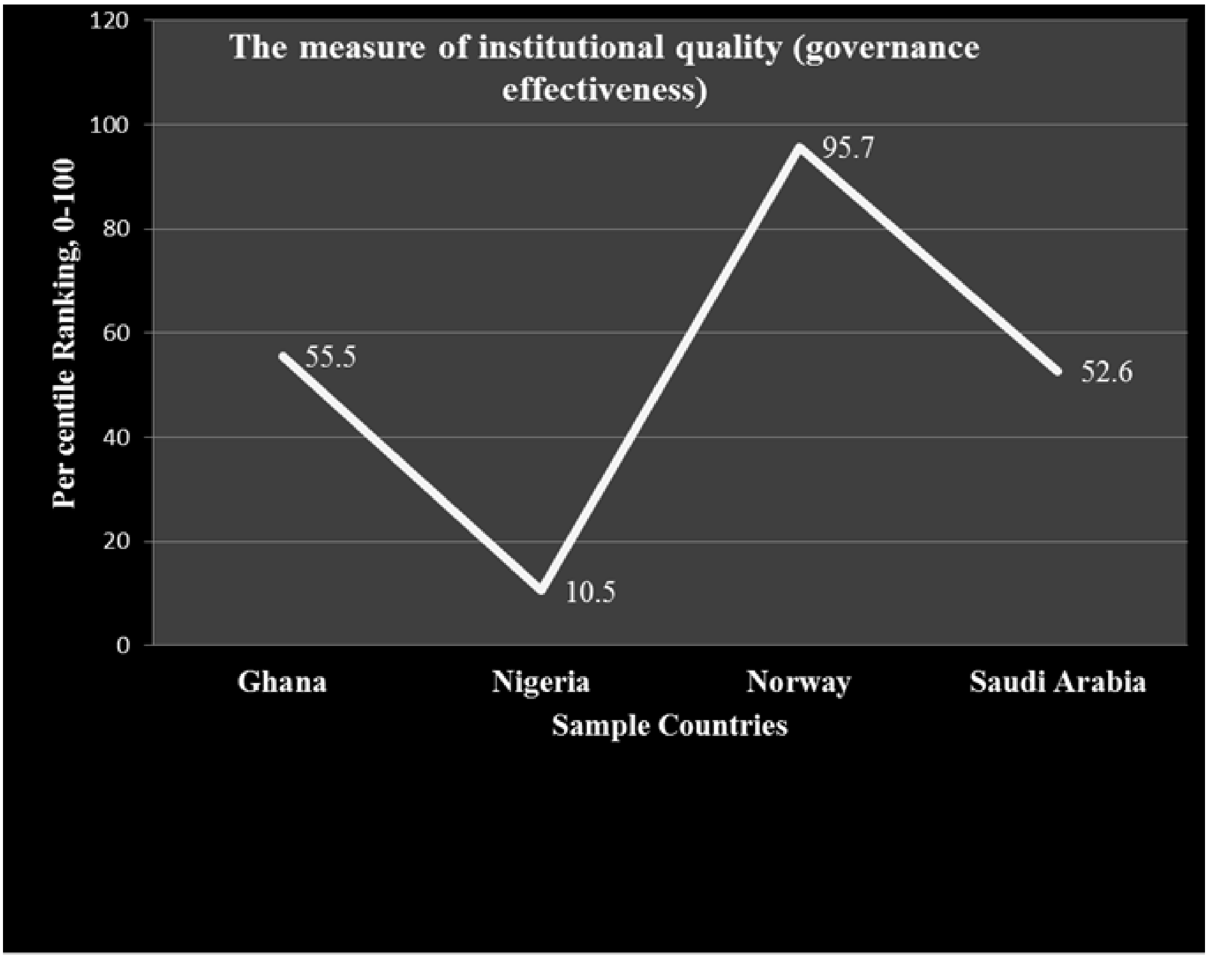
Source: the author with data from CPI, 2011.

Corruption Perception as a measure of institutional quality figures are obtained from the Corruption Perception Index, 2011. The score for each country is 0-10. **0** signifies very or highly corrupt and **10** means that the country is clean or least corrupt. Out of 183 countries collated, Nigeria ranks 143 with a score of **2.4**, which again is below world average. Norway scores **9.0,** Saudi Arabia**4.4** and Ghana **3.9.** Apart from Norway, the rest of the three countries could not make the average score of **4.9.**

Another important issue worthy of noting is the quality of political systems in the sample countries. Norway, unlike Ghana, Nigeria and Saudi Arabia, has had a stable democratic system, free or unrestricted media, and leaders that are accountable to the people, and not like General Sani Abacha and the King of Saudi Arabia who amassed oil wealth to the detriment of the masses. Norway has an impartial and a consensus oriented parliamentary system that helps to plan for long term development goals (Eifert, et al, 2003). Unlike African politics, the government in power or the majority does not see anything good about the opposition (minority). Parochialism and partisanship are the hallmarks of Nigerian and for that matter African politics. When there is a change of government in the case of Africa, the new government abandons any project started by the previous government and starts a new agenda all together. Norway has had a series of change of government and none of the changes have affected their national development agenda.

Unfortunately, the change of government in Africa is like change of almost all the top and middle managers of these institutions because the new government comes with its own people to work with. Until there is a paradigm shift in African politics to concentrate on a sustainable national development agenda, African institutions will not be strengthened so long as change of governments continues. The US president (Barrack Obama, 2009) captured this when he says…… "*In the 21st century, capable, reliable and transparent institutions are the key success. Strong parliaments, honest police force, independent judges, and independent press, a viable private sector and civil society are the things that give life to democracy because these are the things that matter in people's everyday life…..*"The legal system of Norway (a combination of customary, civil and common law traditions) is also a contributory factor to its success story. The figure below illustrates the institutional quality (good governance) of the sample countries.

Figure 14: Measure of institutional quality (good and effective governance)



Source: the author with data from the United Nation HDI, 2011

The institutional literature also demonstrates that high levels of institutional capital (good governance) which is a function of human and social capitals (the 2 caps) and participation made it less probable for a country like Norway to find itself in the devil's excrement. In the UNDP Working Paper, 2011, institutional capital is synonymous with good governance. It is against this background that the percentile ranking of the sample countries is analyzed to indicate the effectiveness of their governments and institutions.

4.1 Human capital

A critical analysis of the figures in **table 8** illustrates why Norway is a model of success when it comes to sustainable management of oil and gas resources. Saudi Arabia is within a good range, Ghana is in the lower medium whiles Nigeria is at the bottom, an epitome of failure. Statistics in **figure 5** show that a country with a low HDI ranking is synonymous with high GNIPC. As shown above, Norway ranks number 1 with the highest GNIPC of US$85, 380 and Nigeria again scoring 156 and US$1180 for HDI and GNIPC respectively. Though Ghana has not performed well, it has a better rating relative to Nigeria in terms of HDI and GNIPC correlation. Ghana score is 0.541: US$1, 240 for HDI and GNIPC respectively, whereas Nigeria is 0.459: US$1, 180 for HDI and GNIPC for the same time period. Ghana's relative performance in this regard could be as a result of her relative democratic credentials i.e. Ghana adopted the democratic system of governance before Nigeria; 1992, 1999 respectively.

The human capital in Ghana and Nigeria are limited especially in the latter which can be attributed to the prevailing oil curse in Nigeria, and this can be a big threat if not tackled could lead to the oil curse in Ghana. Furthermore, because of low literacy and low standard of education in developing countries, and the resultant limited HC, implies that there are few people who can hold the government accountable. The institutional literature highlighted data of limited human capital within the various institutions. The literature measures human capital in the sample countries using HDI. Ghana's relative limited human capital (0.541) could lead to Ghana being eluded of its quest to sustainably manage and develop its petroleum resources. Let it be quick to add that limited human capital in this sense does not mean the people of Ghana and Nigeria do not have the ability to learn, rather it is used to indicate that the pool of knowledge and skills of the people is not developed enough to face the challenges associated with petroleum resource revenue management. For Ghana to manage her oil resources prudently, it must therefore endeavor to develop her human capital across government institutional machinery. For instance, the Investment Advisory Committee requires the capacity to carry out their responsibilities.

4.2 Social capital

Social capital is yet another important element of petroleum resource revenue management institutions which can affect oil revenue management. There is generally lack of trust between the masses, the civil society, the media and the government especially in Nigeria as evident in their rule of law, voice and accountability and corruption perception. The ties between the politicians, government officials and their cronies tend to propagate destructive institutions such as corruption, favoritism, and violence as a means for registering political dissent in 2010 tends to be high in Ghana (52.4%), Nigeria (96.2%), and Saudi Arabia (64.2%); (World Bank, 2010).

The literature reveals that the relationship between the media, civil society, the opposition and the government (democracy) in Ghana, Nigeria and Saudi Arabia indicate an absence of bridging social capital i.e. the negative sense of the dichotomy between 'us and others'. Lack of social capital in Ghana and Nigeria is not surprising because of the institutional history of these two countries compared with Norway and Saudi Arabia. Ghana and Nigeria were both colonized and administered by Great Britain; the two nations were ruled by 'others'. This institutional history is said to have influenced their social capital development where the masses do not see themselves as part of the government.

The latest update on the Worldwide Governance Indicators (WGI) was provided by Kaufmann et al (2010). The indicators measure the institutional quality of the sample countries based on the six dimensions identified earlier in this paper. The effectiveness of each indicator ranges between **0-100** whiles **0**-means weak and **100** signifies very strong. Nigeria's improvement in regulatory quality and control of corruption is traceable to their choice to end the military reign and start democracy in the second quarter of 1999. Nigeria performs retrogressively on the rest of the four indicators (rule of law, government effectiveness, political stability and absence of violence and voice and accountability). Political violence still continues to persist in Nigeria. Good or effective governance is reflected in the quality of public institutions, the quality of the civil service, and the quality of policy formulation and implementation all of which are dependent on human capital development of a nation (Kaufmann et al, 2010). Apparently, with the exception of Norway and Saudi Arabia who have improved on their governance effectiveness from 2000 to 2010 from 94.1, 46.3 to 95.7, 52.6 respectively, Ghana and Nigeria reduced in the governance effectiveness by 0.04% and 30% respectively within the same time period because of increasing poverty.

The study also discussed issues that have been raised in the literature and which may be helpful to Ghana. Different levels of human and social development present different outcomes from the management of petroleum resources. The analysis suggests that developing countries such as Ghana, Nigeria among others should use their petroleum resource revenues to fund basic needs such as education, health services, food and water and sanitation and infrastructure. Saudi Arabia which is in the development ladder could use its oil revenue to transit the economy through research and development and investment in the human capital development and democracy ethos.

Social capital is critical for institutional development. Low social capital for example, through the incessant exclusion of women or political oppression, human and social capital development cannot take place. The uprisings that characterized North Africa and the Middle East in 2011 indicate that, *advances in agate economic social outcomes that are not accompanied by public participation and protection of human rights, are not sustainable* (UNDP, 2011).

4.3 Corruption

Fundamental to prudent petroleum revenue management are issues of accountability and responsibility. Institutions are instituted to help mitigate the challenges associated with many sectors of governance including petroleum revenue management; however, until measures are put in place to ensure accountability, transparency and responsibility, petroleum revenue management institutions in Ghana, Nigeria and Saudi Arabia will forever remain weak**.** Holding politicians and decision makers accountable and responsible is the duty of civil society and the media; unfortunately, these countries with the exception of Norway suppress the media through voice and accountability. The challenge in Ghana, Nigeria and Saudi Arabia oil and gas sectors is how to enforce accountability and responsibility.

The analysis shows that corruption is an issue in Ghana, Nigeria and Saudi Arabia. For Nigeria, to the extent that some underpayments to and deductions from the Federal Account (FA) is deemed illegal and unconstitutional, yet the practice still persists (Iledare et al, 2010). It is also claimed that the former president General Sani Abacha embezzled about US$40 billion of which about 90% came from the oil revenue during his military regime in the 1990s (Bainomugisha et al, 2006). For Ghana, corruption is potentially a problem for the astute management of petroleum revenue. The institutional revelation of corruption in Ghana, Nigeria and Saudi Arabia is scaled to bad governance where the institutions can further be weakened.

Corruption perception in Ghana and Nigeria can be said to be an institutional legacy of their colonial masters (Great Britain). Corruption, nepotism, favoritism and collusion started as early as the colonial era, and to have people at the 'top' doing you favors was common in Ghana and Nigeria during the colonial rule and has been carried through to present day where people offer gifts to get contracts and other favors rather than based on merit.

Whiles corruption as a strong destructive institution is fading out in Norway, losing grip in Saudi Arabia, being frowned upon in Ghana; it is yet to lose its grips in Nigeria. Corruption is a two way traffic i.e. the giver and the recipient. High levels of corruption in African oil producing countries such as Nigeria can be blamed on two internal factors and one external factor. The corruption in Nigeria's revenue management institutions can be attributed to ethical and poverty issues. Whiles the external factor comes from the IOCs who provide financial inducements to politicians who, in turn, extend contracts and other favors to oil people in a vicious cycle of 'you scratch my back, I scratch yours' type of behavior (Bainomugisha et al, 2006). According to Economist Intelligent Units Democracy Corruption Perceptions Index for 2011, Nigeria and Saudi Arabia both have low scores in managing the petroleum resource revenues accrued due to corruption. Stunted growth, stifled production (since petroleum revenue makes it easier to purchase things instead of to produce them), and an oil political and economic oligarchy in Nigeria may be attributed to effects of corruption. With this kind of corruption levels in Nigeria, it goes to buttress the point that the politicians and bureaucrats exercise their power and discretion over the petroleum resource revenue for the private gain of their families and cronies at the expense of the masses and still go with impunity because the rule of law is ineffective.

4.4 Lessons Ghana can derive from Nigeria, Norway and Saudi Arabia

The discovery of oil and gas resources in Ghana in 2007 offered her a unique opportunity to learn from other countries i.e. some being oil cursed and others model of success. The Ghanaian government has since 2007 made frantic efforts to escape the oil curse. Ghana has designed institutions that will manage her petroleum resources based on international best practices. The Petroleum Revenue Management Act (Act, 815) of 2010 is Ghana's model for sustainable management of petroleum resource revenue. However, other institutions such as the BoG, Ministry of Finance and Economic Planning (MFEP), the Investment Advisory Committee (IAC), the Ghana Revenue Authority (GRA) are also important. Managed by these institutions, Ghana's petroleum revenue in theory may be managed sustainably. These institutions constituted, however, are not tested in this regard, irrespective of any potential strength they wield; they cannot ensure sustainable management of Ghana's oil revenue without:

Good governance and effective institutional framework; effective petroleum revenue management rests on strong and effective institutional framework. Much of the literature on the oil curse points to the direction of institutional weakness (lack of rule of law, bad governance, corruption, poor human and social capital development) as the major cause of the oil curse especially in Nigeria (UNDP, 2011). Norway's success record is not attributed to a single factor; rather a set of policies and frameworks that worked together coupled with effective institutions (UNDP, 2011) that Ghana can emulate.

Transparency and accountability; it is important for Ghana to learn that oil curse cannot be escaped, and mismanagement of petroleum revenue cannot be avoided without transparency and accountability among its oil revenue management institutions. Transparency and accountability are seen as crucial to tackling challenges of corruption and mismanagement of petroleum revenues. Ghana has to strengthen the institutional capacity of its revenue management institutions through capacity building and in-service training programmes as well as its media to report incidences and rumors of corruption and make further inquiries to corroborate such claims. Media discussions of petroleum revenue management issues are important and need to be encouraged in Ghana, so that Ghanaians can take the government to account.

It is also important for Ghana to understand that there is nothing inherently cursed about oil as many perceive. To sustainably develop and manage her petroleum resources and revenue, Ghana has to invest in the human and social capital of her institutions. The literature illustrates that it will be extremely difficult if not impossible to prudently manage huge inflows of oil revenue without the requisite human capital in place. Ghana's HDI score of 0.541for 2011 means that a lot needs to be done in this direction. The literature also authenticates Nigeria's oil curse as a factor of limited human capital development (0.459 HDI, 2011), and affirms Norway's success story of quality human capital development through her institutions.

All in all, the malady of the oil curse is not just simply an economic issue. The role of institutional factors cannot be over emphasized in determining whether Ghana can escape the oil curse or not. It is clear from the literature and the conceptual framework developed that, effective or ineffective institutions are a function of participation, human and social capitals and that Ghana, Nigeria and Saudi Arabia do not have effective and vibrant institutions to sustainably develop and manage their petroleum resource revenue. However, all hope is not lost, great potential exists that especially Ghana can utilize, this is discussed in detail in the conclusion and recommendation session. For now, it is important to point out that the stock of human and social capitals as well as participation is crucial to establishing strong and effective oil revenue management institutions. Ghana will be at the core of overcoming the oil malady and ensuring sustainable development and management if she takes clues from Nigeria, Norway and Saudi Arabia by enforcing participation, accountability, responsibility, transparency, good governance and investing in human and social capitals of its petroleum revenue management institutions such as the BoG, MFEP, IAC and the GRA.

The chapter concludes that the role of public participation through decision making, human and social capital in making an institution effective and strong cannot be over emphasized. While human capital helps to strengthen institutional choices and framework, participation and social capital ensure trust and all inclusive decision making. The analysis also finds out that apart from Norway and Saudi Arabia who have the right human capital in place, Ghana and Nigeria are yet to make that bold step. The CPI is said to be high in Ghana, Nigeria and Saudi Arabia. Ghana, Norway and Saudi Arabia have good governance.

Ghana has a unique opportunity to learn from others. Ghana's revenue management institutions need to be transparent and accountable to the people of Ghana. From South Korea to Singapore, history has shown that countries thrive when they invest in their people and in the right infrastructure. With strong institutions and a strong will, Ghana, Nigeria among others can live their dreams of sustainable resource revenue development and management.

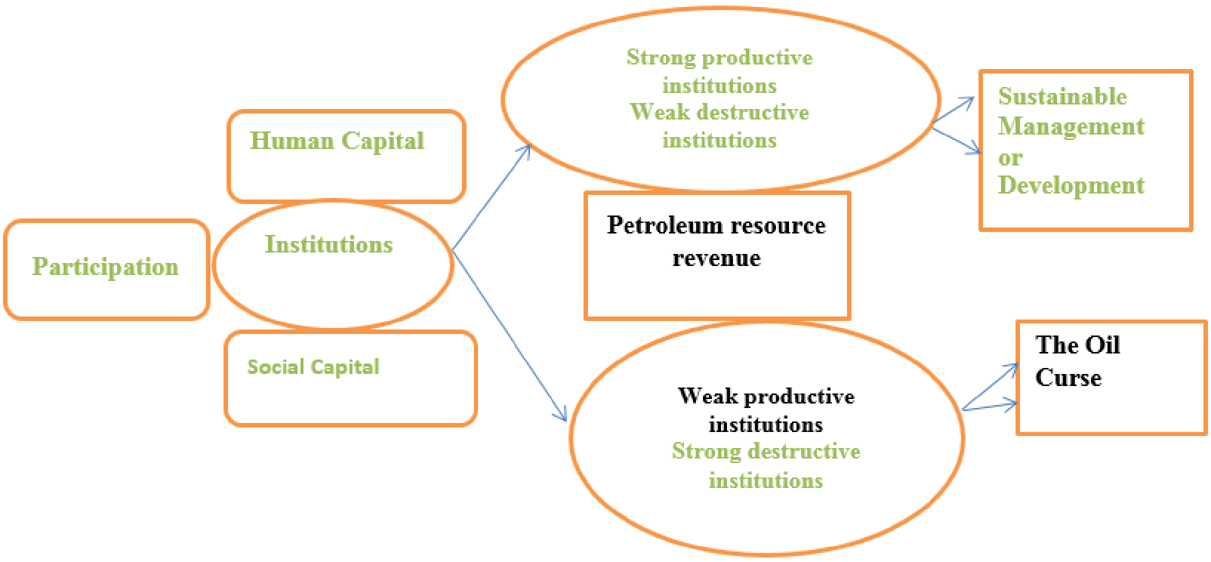
CHAPTER FIVE

5.0 Conclusion and recommendation

Managing petroleum resource revenue and turning it into a sustainable treasure is a challenging issue. The study explores the role of institutional factors in the sustainable development and management of petroleum resources in Ghana, Nigeria, Norway and Saudi Arabia. The study started with an introduction, problem statement, objectives of the study, the methodology, definition of terms and concepts and the contribution of the work to knowledge on the institutional aspects of the oil curse. Academic literature was extensively reviewed among such issues covered included the definition of institutions as the rules of the game that influence human behavior in society (North, 1990) as used in the study. Institutions are either formal or informal. A framework was developed to illustrate the relationship between institutions and oil wealth. The framework distinguishes two outcomes when hydrocarbons are discovered and developed in a nation thus the oil either becomes a blessing (sustainably developed and managed) or a curse (corruption characterized with mismanagement). The framework identifies human and social capital couple with public participation as significant ingredients for sustainable petroleum revenue management.

The framework also presents that when a country has strong productive institutions such as transparency and accountability and weak destructive institutions like corruption, the petroleum wealth will be managed wisely. Conversely, weak productive institutions and strong destructive institutions will result in the oil curse. The framework is shown below

Figure 15: The framework for understanding the relationship between petroleum resource revenue and institutions



It is also found out that the quality of institutions that precede the discovery of oil resources play a major role in determining whether that country can escape the oil curse or not. A blend of weak institutions and oil resources results in the oil curse. The importance of institutions is also highlighted as they serve to check the predacious conduct of bureaucrats and politicians in oil producing countries. The fundamental objective of every institution is to reduce selfishness and unreasonable behavior by individuals in the society. Institutions also determine how oil revenue and responsibilities are assigned among the various actors.

Good and effective institutions are not easy to measure. There is no one generally accepted standard measure of institutions. To be able to do this the study used the United Nations HDI, WGI, and GNIPC among others. The study adopted these because they are easy to obtain and widely accepted. The HDI measures the GDP, life expectancy, literacy rate and educational attainment among the various countries. HDI also measures the human capital development. WGI as a measure of good and effective institutions deals with issues of good governance, quality of regulation, control of corruption, voice and accountability and political stability and absence of violence. The tables below indicate the relative performance of HDI, and WGI among the sample countries. This study contributes to knowledge on the literature of the institutional challenges of petroleum revenue management especially in Ghana.

Figure 16: Human Development Index as an indicator of good and effective institutions

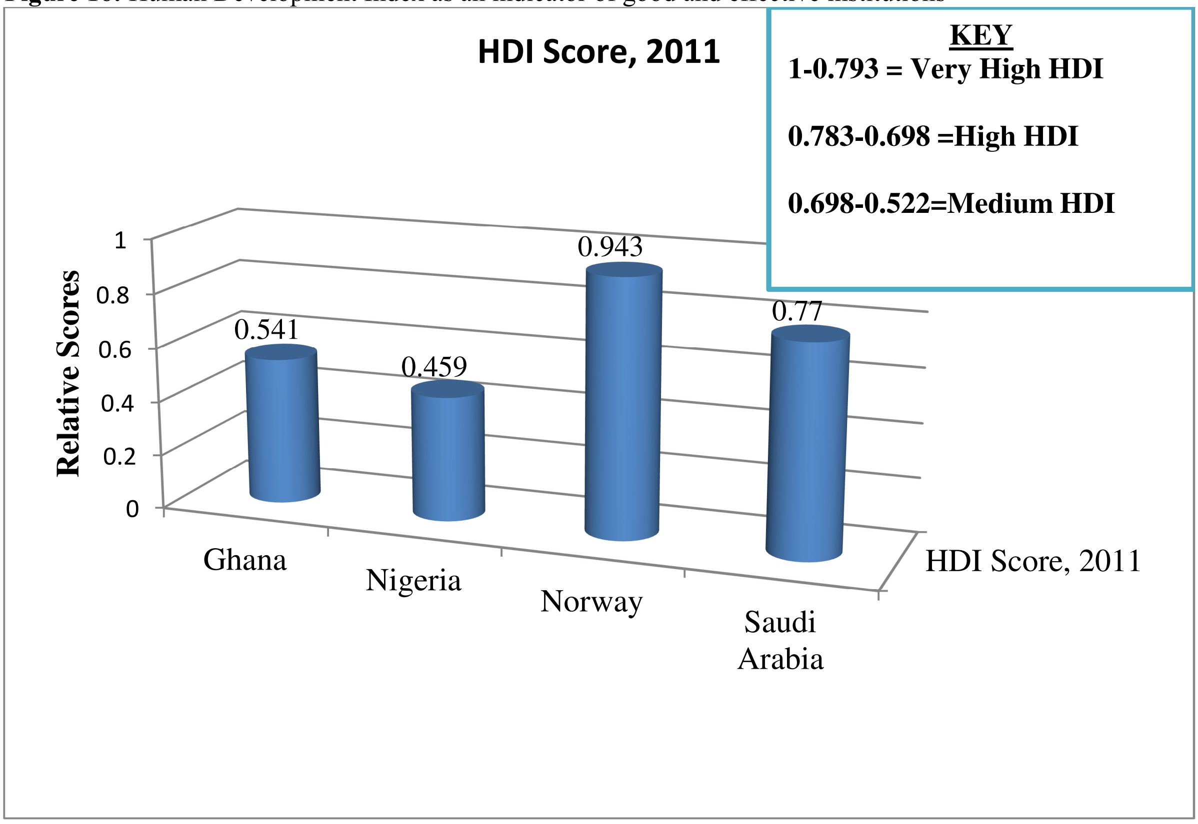
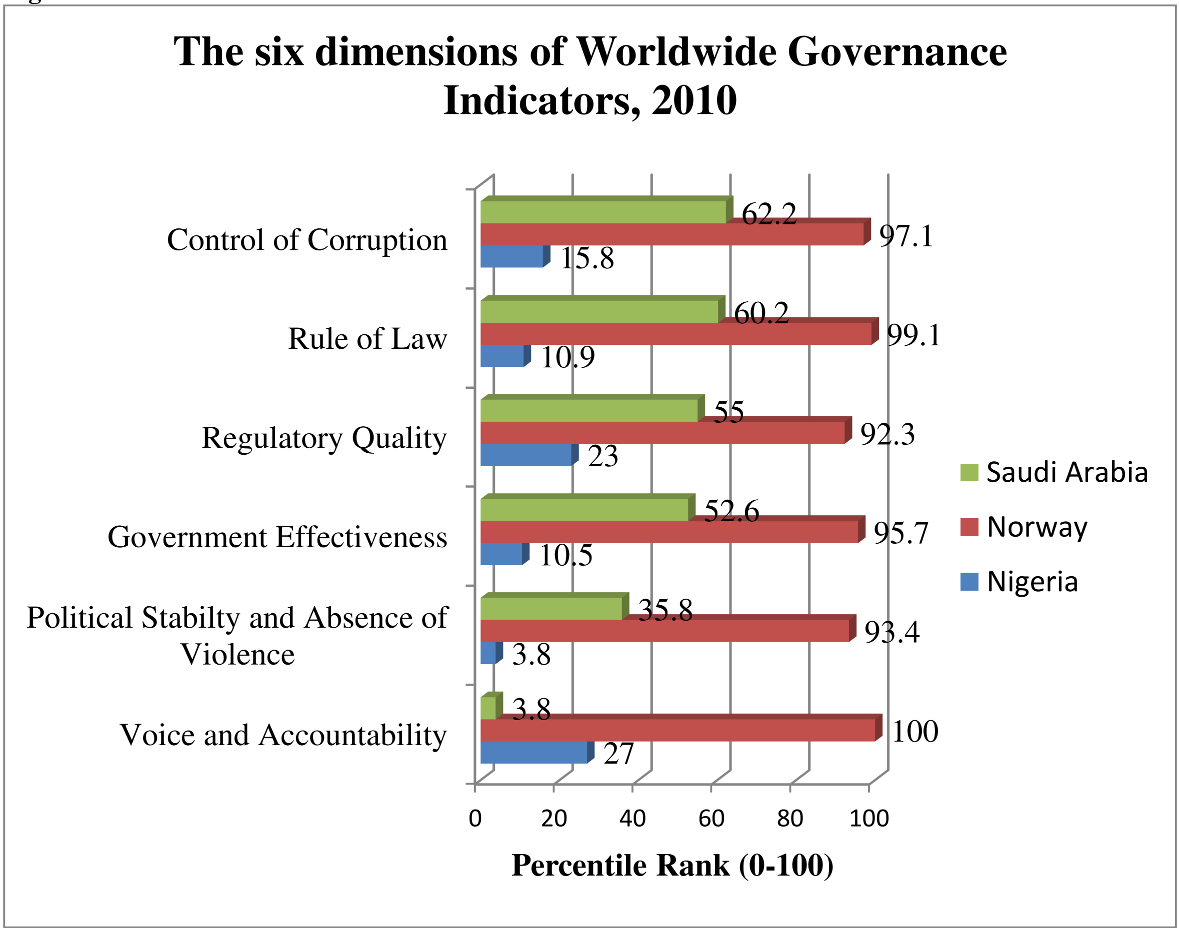


Figure 17: The six dimensions of Worldwide Governance Indicators



A careful analysis of the literature on the oil curse unearthed the conventional notion of the institutional aspect that the petroleum wealth affects institutional quality. In countries like Equatorial Guinea, Gabon, Nigeria; an inflow of oil windfalls led to corruption, conflict and petroleum revenue waste. Yet, some countries like Canada, Norway, US among others; institutions were less affected by the inflow of oil windfalls. The institutional pre-requirement seemed to be a crucial factor in escaping the oil curse.

Petroleum revenue management is also affected by the quality of institutions. Strong destructive institutions and weak productive institutions militate against the sustainable development and management of petroleum revenues, whereas, strong productive institutions support the sustainable development and management of petroleum resources. The distinction between cursed institutions (corruption, conflict and revenue mismanagement) and those institutions that are cursed as a result of petroleum wealth needs to be drawn. Sadly, people (politicians and other minority groups) who benefit from destructive institutions are likely to work towards sustaining them. Transparency and accountability (strong productive institutions) can be enforced to counter corruption (destructive institution).

The framework developed in figure 3 shows that participation, human and social capitals are important determining factors of institutional quality and thus necessary for sustainable development and management of petroleum resources. Low levels of human capital (HDI) especially in Ghana and Nigeria imply that the skills, knowledge and competences needed to manage oil revenue require development. Pessimists say that if human capital is not developed, Nigeria will continue to mismanage its oil revenue through corruption, and Ghana will sooner than later finds herself in the 'devil's excrement'.

Social capital also affects petroleum revenue management. The trust between the civil society and government is important in managing oil revenues. Social capital however, can have negative connotations. For example, the social capital (trust) between friends and family members can lead to corruption, favoritism and nepotism. With the limited human and social capital among the civil society, it will be difficult for the civil society to participate meaningfully in oil revenue management decisions, hence it will be impossible to build and maintain productive institutions in such a situation. Apparently, these are issues of concern not only for Ghana, Nigeria and Saudi Arabia, but also all oil producing and exporting countries.

The study also identifies the petroleum revenue management institutions in Ghana, Nigeria, Norway and the Kingdom of Saudi Arabia. For Ghana, the petroleum revenue management institutions are contained in it a Petroleum Revenue Management Act (Act 815, 2010). The institutions established include; Ghana Revenue Authority (GRA), who collects and accounts for all petroleum revenues that are due the Republic of Ghana, the Bank of Ghana (BoG) in charge of daily operational management of the petroleum account, the Ministry of Finance and Economic Planning (MFEP) who is responsible for revenue management and investment decisions in consultation with the with the Investment Advisory Committee (IAC) and the IAC recommends and advises the minister of the MFEP on the investment strategies of the Petroleum Funds (PFs). Nigeria in 2000 planned to restructure its oil and gas industry institutions in order to decouple management and commercial institutions from the policy making institutions, but failed. This restructuring exercise was attempted two times (2000 and 2007) by the two former presidents; Olusegun Obasanjo and the late Umaru Musa Yar'Adua respectively. Nigeria's oil revenue management institutions include; the Federal Inland Revenue Services (FIRS) collects the corporate tax, Nigerian National Petroleum Corporation (NNPC) manages Nigeria's government participatory interest in the petroleum exploration and development activities, while the Department of Petroleum Resources (DPR) collects signature bonuses and royalties on behalf of the government and are paid into the Federal Account (FA) located at the Central Bank of Nigeria (CBN). It is discovered that some underpayments are being made into the (FA) and that the Federal Government of Nigeria makes some deductions from the FA which are deemed illegal and unconstitutional. In Norway, the functions are that the Ministry of Petroleum and Energy manages the petroleum resources with the Norwegian Petroleum Directorate as its administrative subordinate. The tax mobilization lies with the Ministry of Finance and Petroleum and the Petroleum Tax Office ensures that the right amount of revenue is collected and paid into the petroleum account. One fundamental feature about the Norwegian institutional framework is that institutional roles are clearly defined. Saudi Arabia has a unique system. The Supreme Council for Petroleum and Mineral Affairs (SCPMA) is the sole manager of Saudi Arabia's petroleum wealth. It collects and designs strategies as to how the oil revenue should be managed. The Ministry of Petroleum and Mineral Resources and Saudi Aramco only play policy and commercial roles. The SCPMA is composed of members of the royal family and the leaders of the government. While some countries like Ghana, Norway and Saudi Arabia manage their petroleum resources at the central level, Nigeria contrarily decentralizes its petroleum resource management.

The study presents a unique opportunity for Ghana to learn. Ghana's plans to ensure sustainable oil revenue management are theoretically and potentially possible. The Ghanaian government has designed institutions as indicated above (BoG, GRA, IAC, and MFEP) under the PRMA to manage her oil revenue based on international best practices. The PRMA also established two petroleum funds; Ghana Stabilization Fund (GSF) and Ghana Heritage Fund (GHF). GSF is aimed to sustain the public expenditure of the economy in times of revenue shortages whether as a result of oil price falls or adverse production changes. The object of the GHF is to provide an endowment fund for the sustainable development of petroleum resources for future generations through strategic investment in foreign assets even after the petroleum resources are completely depleted. The petroleum revenue collected by the GRA is deposited into the petroleum account at the BoG and 30% of excess revenue in each quarter of the year is channeled to the GHF for overseas investment.

Any critical recommendations will have to be rooted in a meticulous analysis of the economic and political conditions in each of the sample countries. Sustainable development or management means that the needs of both the present and future generations are met. The petroleum funds (GHF and GSF) are designed to ensure intergenerational equity.

However, the literature explored shows that the institutional weaknesses in Ghana, Nigeria and Saudi Arabia may deny especially Ghana of sustainable development and management of oil revenue. The apparent lack of human capital in Ghana and Nigeria needs to be addressed with a sense of urgency. Until the challenge of human capital is tackled across the government institutional machinery, sustainable development and management will elude Ghana. This however, takes time and poverty cannot wait. In the short term, Ghana and Nigeria can use foreign advice and support policies to address the challenge of sustainable development till the required human capital is developed.

What else can be done to improve petroleum revenue management in Ghana, Nigeria and Saudi Arabia where political competition and institutions are rudimentary? The concept of 'Good Enough Governance' by Grindle (2004) can be employed. The idea is that Ghana, Nigeria and Saudi Arabia should pursue improvements in their governance in ways that are feasible and possible to their specific context rather than trying to replicate the so called best functioning models from a country like Norway. This involves creative pursuit of incremental reforms that do not challenge the deeply rooted or entrenched interests of bureaucrats, politicians and other minority groups all at once but rather bring together some key stakeholders and constituencies for change over time instead of a grand bargain (a strategy that reconfigures many institutional interactions at once); (Thurber et al, 2010).

How will an incremental reform look like in Ghana, Nigeria, and Saudi Arabia? First of all, reforms should concentrate on the continued disclosure of realistic information about the oil sector in their respective countries, and the capacity and work of civil society groups and other Non-Governmental Organizations focused on transparency and accountability in the petroleum sector must be supported and strengthened (Thurber et al, 2010). In terms of petroleum revenue management, the efforts of the Nigerian Extractive Industries Transparency Initiative (NEITI) have over the years been disappointing. Notwithstanding, in terms of data or information on hydrocarbon activities in Nigeria, there abounds a lot of information for the general public through the NEITI. It is however, important that this fundamental data collating function be sustained even in the light of turbulent and flagging political support and protest from affected parties. Thurber (2010) and colleagues further admit that that the success factors of the Norwegian oil administration rest on their focus on the collection and dissemination of information on oil operations on the Norwegian Continental Shelf as well as clearly defined functional roles of institutions.

Also, the reforms to be made to current institutions in their respective oil and gas sectors should focus on changes that are concrete or realistic and can be sustained as opposed to changes that are indeterminate and comprehensive. It is saddening that even the best-conceived institutional blueprints cannot turn Nigeria's oil and gas sector into that of Norway in one fell swoop. However, recognizing the context dependence of oil reform will help countries like Ghana, Nigeria, and Saudi Arabia to undertake reform options that are concrete, realistic and that produce measurable and sustainable improvement rather than a 'dispiriting trail of dashed hopes'.

The tenets of EITI must be adhered to through government commitment to address issues of corruption, favoritism and nepotism. The literature showed that mechanisms to ensure transparency and accountability are required in Ghana, Nigeria and Saudi Arabia. The various governments should adopt the policies of 'Publish What You Pay' and 'Publish What You Earn' mechanisms to enhance transparency and control of petroleum revenues. This will help create public confidence and trust that petroleum revenues are openly and transparently managed, thus breaking the yoke of oil revenue as government secrecy which results in mismanagement and embezzlement by politicians (General Sani Abacha and the King of Saudi Arabia) which can lead to conflict. With transparency and accountability coupled with participation by the civil society, productive institutions can be built and strengthened.

Even now, Ghana cannot talk about sustainability because the revenue is not even enough to service the current generation, let alone leaving some for future generations. It is important to point out that the institutional challenges in Ghana are not as a result of the oil wealth because Ghana discovered oil in 2007 and started production in the last quarter of 2010. Ghana's institutional curse is historical. However, since the curse is not permanent, the oil wealth presents an opportunity for Ghana to correct the influences of the past and strive towards building and strengthening strong and healthy productive institutions.

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