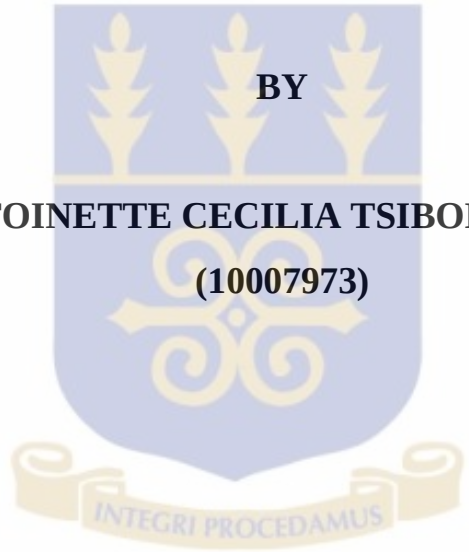
UNIVERSITY OF GHANA

INSTITUTIONS AND SOCIOECONOMIC CHANGE IN TWO OIL AFFECTED DISTRICTS IN GHANA



BY

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DECLARATION

I, Antoinette Cecilia Tsiboe-Darko, the author of this thesis titled **Institutions and Socioeconomic change in two oil affected districts in Ghana** do hereby declare that this work is entirely mine and that neither the whole nor part of this work has been presented for another degree elsewhere.

Signature..... Date……

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We, the undersigned supervisors, certify that this is an original work we supervised the candidate to produce. The thesis meets the required standards set by the University of Ghana for the award of a Doctor of Philosophy degree.

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DEDICATION

'I lift my eyes up to the hills. Where does my help come from? My help comes from the Lord, the maker of heaven and earth'

Psalm 121: 1

This work is dedicated to the glory of the Almighty God by whose grace and favour I have come this far and to my best friend and wonderful husband, Thomas Jojo Tsiboe-Darko for his support, advice, encouragement and constant love through all the years.

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ABSTRACT

While some studies support the growing body of evidence that countries endowed with natural resources are cursed, others are of the view that they have been blessed. One major explanation common to such studies is how institutions determine if resources would be a curse or a blessing. Ghana discovered oil in June, 2007and in November, 2010 produced her first oil in commercial quantities. Through a comprehensive legal framework, Ghana assigned roles to institutions to avoid the oil curse. This approach puts concentration on resource development at a macro level and tends to neglect smaller socioeconomic issues especially in the resource regions.

Using a quantitative survey of households in two 'oil affected districts' and a qualitative interview of institutions in the oil sector activity, this study determines the links between the role of institutions in the oil sector and socioeconomic change in oil affected districts.

The study agrees with findings in literature that most institutions in the oil sector activity have roles which are concentrated at the national level. Within the communities of the two districts, fear is low whilst expectations are high about the oil activity. Socioeconomic changes that have occurred in households are strongly linked to predominant economic activities.

The study concludes that socioeconomic change and institutions are linked positively but indirectly through perceived institutional contributions. Other household attributes of importance are linked to these perceptions on institutions. It is recommended that the strong determinants of perceptions of institutional contributions such as age, savings, employment status, level of education and socioeconomic change should be considered in

formulating effective policies on institutional links which target the development of communities in oil affected districts.

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LIST OF ABBREVIATIONS

ABFA	Annual Budget Funding Amount
ABSA	Annual Budget Spending Amount
ACEP	African Centre for Energy Policy
API	American Petroleum Institute
ASM	Artisanal Mining Sector
AWDA	Ahanta West District Assembly
BOG	Bank of Ghana
BOST	Bulk Oil Storage and Transportation
BP	British Petroleum
CF	Consolidated Fund
CHPS	Community Health Providers
CLS	Community Land Secretariats
CSO	Civil Society Organizations
CSRM	Corporate Social Responsibility Movement
ECG	Electricity Company of Ghana
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
FCUBE	Free Compulsory Universal Basic Education
FES	Friedrich-Ebert-Stiftung
FGD	Focus Group Discussion
FPSO	Floating Production Storage And Offloading

GACL	Ghana Airport Company Limited
GDP	Gross Domestic Product
GHAPOHA	Ghana Ports and Harbours Authority
GHC	Ghana Cedi
GHEITI	Ghana Extractive Industry Transparency Initiative
GLSS	Ghana Living Standards Survey
GMA	Ghana Maritime Authority
GNPC	Ghana National Petroleum Corporation
GPRTU	Ghana Private Road Transport Union
GRA	Ghana Revenue Authority
GREL	Ghana Rubber Estates Limited
HND	Higher National Diploma
IAC	Interim Advisory Committee
ICGF	Integrated Coastal and Fisheries Governance
IFC	International Finance Corporation
IMF	International Monetary Fund
IOC	International Oil Companies
ISSER	Institute of Statistical, Social and Economic Research
JHS	Junior High School
LAP	Land Administration Project
LCC	Local Content Committee
LCP	Local Content Policy
LEAP	Livelihood Empowerment Against Poverty

LI	Legal Instruments
MPLA	Peoples Movement for the Liberation of Angola
NLCB	National Local Content Board
NDPC	National Development Planning Commission
NHIS	National Health Insurance Scheme
NORPALM	Norwegian Oil Palm Plantation
PCA	Principal Component Analysis
PIAC	Public Interest and Accountability Committee
RPCU	Regional Planning Coordinating Unit
SIF	Social Investment Fund
STMA	Sekondi Takoradi Metropolitan Assembly
TC	Takoradi Central
TEN	Tano Enyira and Ntomme
UNITA	National Union for the Total Independence of Angola
WRCC	Western Regional Coordinating Council

CHAPTER ONE

INTRODUCTION

1.1 Background

The purpose of this study is to determine the links between the role of institutions in Ghana's oil sector and socioeconomic change in two oil affected districts in the Western Region of Ghana. In the wake of Ghana's discovery of oil in commercial quantities along the Western coast of the country, the Western Region of Ghana has undergone socioeconomic changes (Obeng-Odoom, 2014; Yalley, Atanga, Cobbinah & Kwaw, 2012). The capital of the region, Sekondi-Takoradi, has been labelled 'the oil city' with the promise of becoming the hub of a booming oil industry in the country and in the West African region (Obeng-Odoom, 2012). Six out of the twenty two districts in the Western Region along the coast have been identified as the districts most likely to be affected by the oil activity. This identification stems from the fact that the districts are geographically located along the western coast where the oil resource is found.

Socioeconomically, they are also the districts most likely to undergo all the changes, whether positive or negative, that will come with the exploitation and production of oil. Expectations are very high for the developmental benefits the oil will bring to the districts, more so than to the region and the whole of Ghana (STMA, 2013).

These expectations are not unfounded. The development of oil in Africa has brought visible positive benefits to oil producing African countries. It is estimated that 65 percent of the increasing export revenues in oil producing African countries between 2000 and

2005 was from oil (IMF, 2006). These increased revenues were a significant source of funds for infrastructural development as well as had substantial impact on the principal debt indicators of these oil producing countries. In other words, it facilitated the reduction of their external debts. Principal amongst these countries are Angola, The democratic Republic of Congo, Equatorial Guinea, Gabon and Nigeria (IMF, 2006).

Many studies have shown that irrespective of these benefits, there are some negative manifestations which set in soon after countries experience initial positive benefits of their resource discovery. Primary amongst such negative manifestations were increased poverty rates, lowering standards of living, degeneration of other principal economic activities, overdependence on the newly discovered resource and, in some cases, conflict in resource regions within the countries (Ross, 1999; Karl, 1997). These negative manifestations have been linked to the quality of institutions in resource endowed countries (Mehlum, Moene & Torvik, 2006a; Ploegg, 2010).

The institutions and the resource management hypothesis have several dimensions discussed in the literature. The discussions range from the lack of a properly established rule of law, to corruption, authoritative systems of governance and underdeveloped financial systems (Pessoa, 2008). Furthermore, institutions are being described as either grabber friendly or producer friendly, where the former is associated with a weak rule of law and corruption and hence dwell more on the retention of the revenues from the resource. The latter on the other hand are more interested in using the revenues as investments in the production of goods and services which benefits their citizens (Mehlum et al., 2006a).

There are also other authors who have deduced the quality of institutions as only a medium through which the effect of resource abundance is felt. They have found that there is an indirect link between resource abundance and human welfare, which operates through the quality of institutions in the resource endowed nations. The socioeconomic benefits to be derived from resource exploitation to a large extent depend on the links made by institutions managing the resource (Bulte, Damania & Deacon, 2005).

There are also studies which employ the concept of institutions and yet do not have a unanimous definition of the term itself hence employ divergent views in its application (Hodgson, 2006). A commonly used definition of institutions was given by North (2009). This definition has become the basis of a lot of analyses on the role of institutions. It defines institutions as 'the humanly devised constraints that shape human interaction'. By this definition, institutions exist to structure human choices and behaviour. They are however created by humans themselves to provide a framework for their interactions. Institutions can also evolve over time. There are institutions which are built on written rules and regulations and others which rely on unspoken codes of conduct which often border on issues of morality (North, 1990; Knight, 1992).

The establishment of the institutions to guide and conduct human interaction is often created through organizations, groups or bodies. These organizations in the translation of rules and regulations have become the symbols of institutional authority in every society, also referred to as social institutions (Scott, 1987). Institutions themselves cannot stand alone. They depend on the actions of individuals, groups, actors, agencies and organisations for their interactions and existence. Through these channels institutions are translated to reality.

Institutions in this study are recognised as the channels or systems through which the rules of the oil sector have been established and embedded to structure interactions (Hodgson, 2006). These systems are identified through the legal framework as the state and non-state institutions which structure interactions in the oil sector. The institutions within this framework of rules and regulations provide legal guidelines for the activities of the oil sector. Through these institutions the oil sector has been directly and indirectly assigned roles and responsibilities.

1.2 Oil Development in Africa

Ghana is a new entrant in oil production. Traditionally, Africa's main oil reserves and production has been in Libya, Nigeria, Algeria, Angola and Sudan. More discoveries have been made in other countries as technology improved over the years. In the past twenty years in Africa, it is estimated that as the rate of discovery of oil reserves increased by 25 percent and gas by over 100 percent. The production of oil on the continent is expected to continue to rise at an average rate of 6 percent per annum in the coming years (AfDB & AU, 2009. www.afdb.org). In line with this, British Petroleum (BP)'s current review of the world energy supplies indicates that Africa's total oil production has been averagely consistent in the last five decades (BP Report, 2013).

Fortunately the rise in production is met by a high demand as global energy needs continue to rise. It is estimated that the level of development in terms of economic and social progress in every society is strongly correlated with its energy consumption per unit of the individuals that make up the society. As societies develop their energy needs also expand. There is hence a continuous demand from the western world, and strong

emerging economies like China, India and Brazil will always feed the demand for oil and gas (Wetherill, 2010).

Africa will play a part in satisfying this demand because again two-thirds of the world's proven supplies of oil from the Middle East face restricted access. These nations have preference for state sovereignty in their oil development. The bulk of resources in these countries are nationalized. Investors from especially the western world have for decades had challenges entering into these resource development sectors. The chunk of proven reserves in these nations continue to experience a slow rate of investment from external sources. Africa on the other hand, has been developing her newly discovered oil resource at a very fast pace because of the interest in developing her economies (Frynas & Paulo, 2007).

Again the high demand of crude produced in Africa is because crude from the region has been labelled 'light sweet crude' by the index developed by the American Petroleum Institute (API index). This index is used in determining the hydrogen sulphide and carbon dioxide content of petroleum. It describes Africa's crude as having a high API index. This implies it contains a lower percentage of hydrogen sulphide and carbon. Light sweet crude is highly sought after by the refineries of the world as it gives better distillates like liquefied petroleum gas, naphtha and gasoline. In addition the refining costs are lower (Frynas & Paulo, 2007).

Ghana in the latter part of 2011 began earning revenue from its oil resource. Estimates from the International Monetary Fund (IMF) predict that by 2030, the country would have earned US$ 20 billion from oil exploitation (World Bank, 2009). Judging from the

euphoria and expectation which accompanied the commercial oil discovery evidenced in a statement made by the then president of the country John Agyekum Kuffour 'With oil as a shot in the arm, we are going to fly', many people are eager to see the benefits of the oil for all Ghanaians.

Investments in Ghana's oil sector were accelerated by the comprehensive legal framework which provided an enabling institutional environment and hence production of oil which commenced almost three years after initial commercial discovery was adjudged very fast. This fact also emphasises earlier statements made on the increasing demand for oil resources in Africa. There is however an on-going debate that centres on what Ghana has done to help her avoid the occurrence of a natural resource curse in its oil sector development (Arku & Arku, 2011).

Aside this there is also evidence that often times the development of natural resources tends to neglect the development of the resource regions (Ikelegbe, 2005; Mahler, 2010).Whereas in Nigeria, the exploitation of oil in the Niger Delta region has resulted in social and political problems in the resource region, in Angola's it has caused the marginalisation of the Ovimbindu populations (Le Billon, 2001). On the contrary, in Canada, Alberta has attained tremendous benefits in the education and social welfare of its people (Arku & Arku, 2011).

In the Western Region of Ghana, close to where the oil resources have been found offshore, there are about 600 communities in six coastal districts of the region. These districts have been referred to as 'oil affected districts' due to their proximity to the oil

activity. They are Jomoro, Ellembelle, Nzema East, Ahanta West, Shama and Sekondi-Takoradi.

The region is also known to be endowed with several other natural resources of extractive and in-extractive nature. This has propelled the growth of numerous economic activities such as fishing, farming, lumbering and mining and a strong trade and service industry in some communities of the region.

Some studies have shown that the development of some extractive resources such as gold in the region and other parts of Ghana is said to have led heavily to the marginalisation of the communities where the resource was exploited (Tschakert, 2009). Such conditions add to the general belief that the oil resource of Ghana may lead to the marginalisation of the affected districts (Bell & Memba, 2010). It is worth investigating the mechanisms which have been put in place to ensure that the resource region shares in the development of the oil resource (Obeng-Odoom, 2014).

1.3 Problem Statement

The worry with Ghana's oil development is at two levels. At the national level there is the fear of the resource curse and then at the community level there is the fear that the resource development will not create the forward and backward linkages which can benefit the local economy. Ghana commenced oil production in November, 2010 and by the end of 2011, total oil receipts formed 5.9 percent of domestic revenue and 1.2 percent of GDP. By 2012 this figure had increased to 6 percent of domestic revenue and 1.4 percent of GDP.

Theory on the development of natural resources presupposes that if the institutions established to manage the resource, and all the revenue generated from it, perform their roles efficiently, then the resource curse will be avoided. The benefits of Ghana's oil endowments will then result in development which will reach all citizens of the country.

Some research conducted on oil developments shows that in some oil producing countries, oil revenues initially result in tremendous developments and economic growth rates double. As time goes on, the increasing growth rates are not sustainable and there is evidence that eventually a negative relationship develops between the rate of exploitation of the resources and that of the rate of growth of the economy. While the growth rate of resource exploitation increases, economic growth rates decrease (Sachs & Warner, 1995). The term 'Resource Curse' was coined to describe this characteristic negative relationship between the two growth rates which occur over a time period (Auty, 1993).

Further research work on the resource curse, shows the phenomenon is typically associated with natural resources such as oil. Oil rich states that are said to have experienced this resource curse include Angola, Sudan, Nigeria and Congo DR in Africa; Mexico in South America (Gylfason, Herbertsson & Zoega, 1999; Sachs & Warner, 1995; Auty, 1993; 2001; Stijins, 2005). In all these countries, their resource boom later resulted in a curse instead of a blessing and economic and political development was seriously affected (see Table 1.1).

Table 1.1 Some Manifestations of the Resource Curse in four African countries

Country	**Nigeria**	**Angola**	**Equatorial Guinea**	**Chad**
Year of first Discovery	1958	1990	1990	1995
Average production (000bopd)*	2,000	780	190	N/A
Manifestations	Poverty, Kidnapping, Sabotage, Ethnic conflicts, unrest	Poverty, Civil-War, Dutch disease, Rent seeking, Oil enclave	Poverty, Disease, Political instability, Wealth in the hands of few elite, Oil enclave	Poverty, Autocratic Rule and low human development indicators
Explanations	Institutional quality	Division/ Institutional Weakness left by colonists	Corrupt institutions	Complex project design, Institutional independence
Source:	Karl (2005);Fryn as(2004)	Billion (2001); Ferriera (2006)	Frynas (2004);McSherry (2006)	Pegg (2006; 2009)

*A standard measurement of oil production which means thousands of barrels of oil per day

Table 1.1 summarises some traditional oil producing countries in Africa and the manifestations of their resource curse. These discussions of the curse and the associated socioeconomic burden it lays on the resource endowed countries has become a cause of worry as Ghana joins the oil producing nations. Till date there are spill-over effects of oil led conflicts in some of the countries that experienced the curse. In others, negative manifestations such as high poverty rates and low level human development indicators are still prevalent (Sala-i-Martin & Subramanian, 2003).

The occurrence of the curse has been found to be significantly related to the quality of the institutional structures that exist in these nations (Mehlum et al., 2006; Sala-i-Martin &

Subramanian, 2003). For instance in the Chad- Cameroun pipeline impasse, one of the institutional lessons learnt was that there were limits to the transparency of the institutions. Secondly, the institutions carrying out monitoring and evaluation depended on government for subsistence. Withholding their funds therefore easily crumbled their capacity to properly monitor and evaluate government spending and use of the oil revenue (Pegg, 2009).

It is for this reason that Ghana has chosen a path in its oil development with emphasis on the role to be played by institutions through the establishment of a comprehensive legal framework. One problem, though, is, that the role of institutions in Ghana's oil sector tend to focus a lot on issues of revenue management and the avoidance of the curse (Obeng-Odoom, 2014). The transparency of properly set up laws and bodies to monitor revenue collection, spending and accountability is of key importance. However this use of transparency alone is being criticised as inadequate. It has to come along with other measures for success to prevail (Kolstad & Wiig, 2008). The success stories of Sao Tome and Principe, Norway and Alaska in oil development are purported to be based on solid laws and strong institutions. There are also other factors which should come to play with these. Though these are the ideal examples Ghana can follow and hence the establishment of its strong laws and institutions. There are other links which are needed for the institutions to effectively create benefits for Ghana's oil (Bell & Memba, 2010; Bell & Faria, 2005; Cavnar, 2008).

An in-depth look at the laws and institutions shows that a great deal has been overlooked in the creation and implementation processes of the laws. This is why the laws are still being continuously revised. There are undisclosed complexities in the distribution and

power sharing in the roles of the oil sector institutions. Conclusions on foreseeing the success or failure of the oil sector cannot be attributed to the laws and institutions alone. It is advisable then that more research is carried out on Ghana's institutional approach to developing its oil (Obeng-Odoom, 2012; 2014).

At the local level, studies of institutions indicate that they provide an environment which comes with a lot of uncertainties. Institutions influence phenomena, and are socially embedded at all levels of the economy. Groups and classes of people who are in all sectors of the economy experience the benefits and challenges of institutions differently. Most often the mode of interaction between institutions and society is a function of the interpretation of the varied rules and regulations institutions are made to establish (Mehta et al., 1999).

Several studies have been conducted in some communities in the six 'oil affected districts'. One of such studies on the impact of oil activity on the livelihoods of women in a fishing community in Cape Three Points in the Ahanta West District concluded that there are challenges likely to be faced by women. This could eventually lead them to resort to inappropriate income earning activities.

In summary the study finds there has been a gradual decrease in fish catch which has resulted in lower incomes being earned by women. Their inability to find jobs in the oil sector since they lack the requisite skills will further worsen the economic and social burden they carry (Boohene & Preprah, 2011). The study does not investigate the role of institutions and links to the challenges being faced.

Another study, that discussed the implications of oil activity for regional and local development, projects that a greater part of the Western region, especially the capital Sekondi-Takoradi is likely to experience massive transformation from the oil activity (Obeng- Odoom, 2013). Sekondi-Takoradi, the capital city of the Western region, also called the 'oil city', has seen increasingly fast developments in infrastructure and a lot of services. Again no mention is made of any links between the institutions created to manage activities in the sector and the changes taking place.

Many people have expressed their fears about increasing rents and the high costs of land in the region. Land prices, for instance, are said to have doubled in the capital of the Western Region (Sekondi-Takoradi) where demand increased after oil discovery. This was partly due to the need for warehouse construction for storage of oil infrastructure, for workshop facilities and for accommodation for both oil rig and office workers (Yalley & Ofori-Darko, 2012).

The Corporate Social Responsibility Movement (CSRM), in partnership with the Friedrich-Ebert-Stiftung (FES), a Non-Governmental Organisation, held a National Forum to discuss the Impact of Oil Exploration Activities on Fisheries in Ghana in March 2009. Amongst the major stakeholders were the Government, Companies involved in oil extraction, Traditional Authorities, Fisher folks and Civil Society Organizations.

At the forum some of the major socioeconomic effects expected from the impact of the oil activities that came to the fore, were loss of livelihoods, especially in fishing; flooding by migrants for jobs thus increasing the unemployment rate in the region, inflation, that is increasing prices of items such as accommodation, food, leisure, increasing social vices

such as commercial sex work, drug abuse, crime and the health implications from pollution.

The greater share of petroleum and mining sectors of most African countries have fallen victim to a situation where people found in the region close to the resources do not benefit from it. Very few linkages develop between the resources' development and the local economy (Ackah-Baidoo, 2012). In Ghana, for instance, many studies conclude that mining has a dismal track record in poverty alleviation and contribution to positive socio-economic change, especially in the resourced regions. This is because institutional development has failed to have links at the local levels. The authorities at national levels were hence overburdened with responsibilities (Heuty & Aristi, 2009).

The Western Region of Ghana is still closest to the oil activities and is documented as having its capital Sekondi-Takoradi become an 'oil city' as it experiences rapid socioeconomic changes. However, the detailed aspects of the change have been glossed over. The above then implies that a lot of questions remain unanswered in the discussions on the 'resource curse avoidance' path Ghana has chosen in its oil development. What is the role played by the institutions in the implementation of Ghana's oil sector rules and regulations? Again in the implementation of the rules and regulations how are the institutions interacting with societies to ensure different groups and classes benefit from the resource exploitation? Finally does the role being played by institutions ensure that there are links between them and the growth of the communities which are in the resourced region?

A relevant aspect of this growth is to know how communities in affected districts of the Western Region have experienced the socioeconomic change and the link between this socioeconomic change and the role played by institutions in oil sector activity.

1.4 Research Objectives

The main aim of the study is to determine the role of institutions in Ghana's oil activities and if this role is linked to socio-economic change in communities of two of the six oil affected districts in the Western Region of Ghana. The specific objectives are:

1. To explore the role of institutions in the oil sector of Ghana.
2. To investigate the knowledge, expectation and fears existing amongst people in communities in affected districts about oil activities.
3. To explore the socioeconomic (wealth) change(s) in selected communities in two of the 'oil affected districts'.
4. To identify the links between the role of institutions in the oil sector and the socioeconomic change in communities in two of the 'oil affected districts'.

1.5 Justification of the Study

This study will contribute to the discussions on fostering links between institutional roles and oil sector development in Ghana. The study lays emphasis on the regions closest to the resource discovery. Ghana's oil is currently offshore in the Western Region. The first oil production field referred to as Jubilee is located 60 km away from the coast of this Region and straddles two main concession blocks, Deepwater Tano and West Cape Three Points. Actual field operations are therefore offshore. Following the discovery, major construction works involving deep-water drilling rigs and the creation of oil and gas production wells connected to a Floating Production Storage and Offloading Vessel

(FPSO Kwame Nkrumah) were permanently installed. In addition other offshore fields in the same region have also been discovered and on-going construction works indicate they have great potentials for more oil and gas (Tullow, 2011).

Aside this, major discussions concentrate on the provisions and benefits oil will bring to Ghana. It is necessary to investigate and add to these discussions the actual benefits the resource can also bring to communities in oil affected districts. Some studies carried out in the wake of the oil discovery made predictions on the changes taking place in these communities. Similar studies of other oil producing countries tend to agree with the findings of these studies. For instance, work carried out by Olusegun (2009) discusses how oil activity caused incomes to rise for men in regions close to the activity resulting in the commercialization of sex by women who were without jobs in the Niger Delta Region.

There have also been discussions which focus on the nation's economic and political status and its relationship with other nations such as the US which are also seen as a positive step in our resource development (Cook, 2010). Information on the broad spectrum of the activity is not yet known and the concentration on the national level analysis dominates most reports. These debates centre on the worsening poverty levels, the inequalities, corruption and dictatorship occurring at the national level, as is often found in most literature on resource curse analysis.

There is a whole range of questions and answers to be discussed. The study seeks to address some of these questions. These include arrangements and implementation of the laws by various institutions as well as the cultural influences that shape how events turn out. It is these issues which determine the success or failure of policies and the

management of the natural resource. This way the complex processes and their essential links can be understood within their respective environment.

A lot happens between the blessing and the curse of the resource exploitation. It is a combination of many issues some of which are unfolding. In an attempt to use the avoidance of the curse approach some of these issues lacking extensive research need to be looked at again to help formulate policies. More research is necessary in supporting what has been conducted. It has been said in some studies that an important aspect of this is to conduct research in communities and households in resource regions (Obeng-Odoom, 2010; Ploegg, 2010).

The contributions from studies carried out in the wake of oil discovery are significant in the discussion of how oil activity is transforming the lives of Ghanaians. This research builds on the legal framework in discussing the roles it gives to institutions. It creates a network of the roles using the flow of funds, flow of information and the hierarchy of command. This also provides a picture of the linkages between the roles from national, through regional, to district and community where socioeconomic change is analysed at the household level. This will serve as a reference point for further studies in the oil industry.

1.6 Structure of the Thesis

The thesis comprises nine chapters. The first chapter discusses the background to the study, the research problem, objectives and the justification of the study. The second chapter gives a history of oil development in Ghana. It discusses the legal framework that has been put in place to guide oil exploitation and production; to collect and spend oil

revenue and then to enhance the future of Ghanaians in the sector by encouraging their participation.

In the third chapter of the thesis, the literature on natural resource development in other parts of the world, especially Africa provides examples of the 'resource curse thesis' and some resultant social, political and economic manifestations in countries that have experienced it. The explanations given for the occurrence of the curse is also discussed. There is also evidence that other countries have managed to escape the curse. The theory chapter ends with a conceptual framework for the study. Chapter Four gives account of the methods used in collecting and analysing the data for the study.

The findings of the study begin in Chapter Five. The key institutions mandated to perform functions in the oil sector and how they are networked are presented. Chapter Six discusses the knowledge, expectations and fears of respondents about oil activities. Chapter Seven talks about the socioeconomic change in oil affected districts and Chapter Eight determines the links between institutional roles and socio- economic change after 2012.

The concluding chapter, Chapter Nine, presents the summary and conclusions of the study. Policy recommendations are made based on the key findings of the study. For the oil sector these can benefit all Ghanaians and help avoid the known manifestations of the resource curse.

CHAPTER TWO

OIL DEVELOPMENT IN GHANA

2.1 Introduction

Ghana's oil activity is known to have started decades ago. This chapter gives a history of the developments leading to oil discovery in commercial quantities. It is divided into three sub chapters based on three eras of oil production in Ghana. The first era is the pre-colonial time, the second the post- colonial during which initial discoveries were made. In this time changes occurred with the establishment of the Ghana National Petroleum Corporation under Ghana's then military government. This was also the time when a legal framework was first enacted to guide activities in the sector. The second sub-chapter discusses the acquisition of seismic data which enabled the GNPC to market and sell the country's oil potential to get more investors in the sector. This took place during the second era but with Ghana under a democratic rule.

These investors facilitated growth in the sector by bringing in capital and new technology. The third era is when oil was eventually discovered in commercial quantities and it begins in 2007. The third sub chapter follows with a discussion of the current legal framework guiding activities in the oil sector.

2.2 Early Oil Discovery and Production in Ghana

Oil first showed up along the coast in the Western Region of Ghana in the 19th century. Traces of oil were found in the form of seepages. The then colonial administration was possibly more interested in other viable extractive industries such as gold, diamond and bauxite while very little happened with oil activity during this time. There are debatable

reports that there was some form of commercial drilling of oil in a small community in the Jomoro district of the Western Region of the country (Nkrumah, Aklorbortu & Suazo, 2008).

From 1896 to 1903 the activity in the sector picked up and companies like West Africa Oil made attempts to discover oil. These attempts were not successful. Others such as '*Societe Francaise de Petrole'* now Elf / Total joined in the search for oil offshore Ghana's coast. At independence in 1957, the search continued with more companies joining. Limited success was however achieved in all these attempts hence very little activity characterised the industry.

The 1970's came with better times as oil exploration and production began off the coast of Saltpond in the Central Region. This Saltpond field was located about 13 kilometres off the shores of Ghana and was discovered by the Signal- Amoco Consortium. It was estimated that this field had a potential up to 45million barrels. There were also other discoveries following Saltpond, but none developed into a production field.

In 1983, The Ghana National Petroleum Corporation (GNPC) was established with the passing of PNDC Law 64. This law empowered and gave objectives to GNPC to undertake exploration, development, production and disposal of petroleum. GNPC could by this law acquire any property it needed to engage in petroleum activity of any kind in so far as the cost of acquisition could be defrayed by the Corporation. Prior to this the Minerals Act 1962 (Act 126) was used in the petroleum industry, but had limited use and jurisdiction.

Another law, the Exploration and Production Law (PNDC Law 84), was passed in 1984 and then the Petroleum Income Tax Law (PNDCLaw188) followed in 1987.These new laws helped to increase intensity in petroleum activity and to separate it from the mining sector.

The establishment of GNPC meant that Ghana should benefit from the technology transfer in the petroleum sector. Training of citizens of Ghana and the development of prerequisite skills in the petroleum sector was assigned to GNPC. It had significant powers specified by the law and could form subsidiary companies in and outside Ghana. GNPC was also given the mandate to enter into contracts and agreements with individuals or firms in and outside Ghana so long as the final objective was in the interest of developing the petroleum sector for Ghana.

In their bid to promote exploration and production of oil in Ghana, GNPC had subsequent agreements with some foreign firms. Some of these, during the early years, joined the search for oil. They included Petro Canada International, which was situated in the Tano Basin, and Diamond Shamrock in the Keta Basin. Despite the persistent efforts, the wells did not yield any commercial quantities. There was some success though and this gave hope. Tano, for instance, produced about 6,900 barrels of oil per day (bopd) for a short while.

The ownership of the Saltpond Field was also transferred to GNPC. Average daily production reached a peak of 4,800 barrels per day. GNPC later partnered Lushan International of Houston and Eternit Universal of Nigeria in 2000 to manage the field. By this agreement, finance was available to rehabilitate and enhance production levels. The

agreement was further re-negotiated in 2002 by the government, and this resulted in the creation of the Saltpond Offshore Producing Company which now markets the oil from the field. There are two main production wells and current average production rates are at 5,500 barrels per day. (GNPC, 2010).

2.3 The Commercial Discovery of Oil in Ghana

Ghana is endowed with four major sedimentary basins as seen in Figure 2.1. They are Tano- Cape Three Points, Saltpond, Accra- Keta and the Voltaian basins (GNPC, 2010). Part of the Keta and Tano basins are onshore while the Saltpond basin is offshore. The three offshore occur more to the southern part of Ghana. Nineteen wells have been drilled in the Saltpond Basin and 12 in the Accra- Keta Basin.

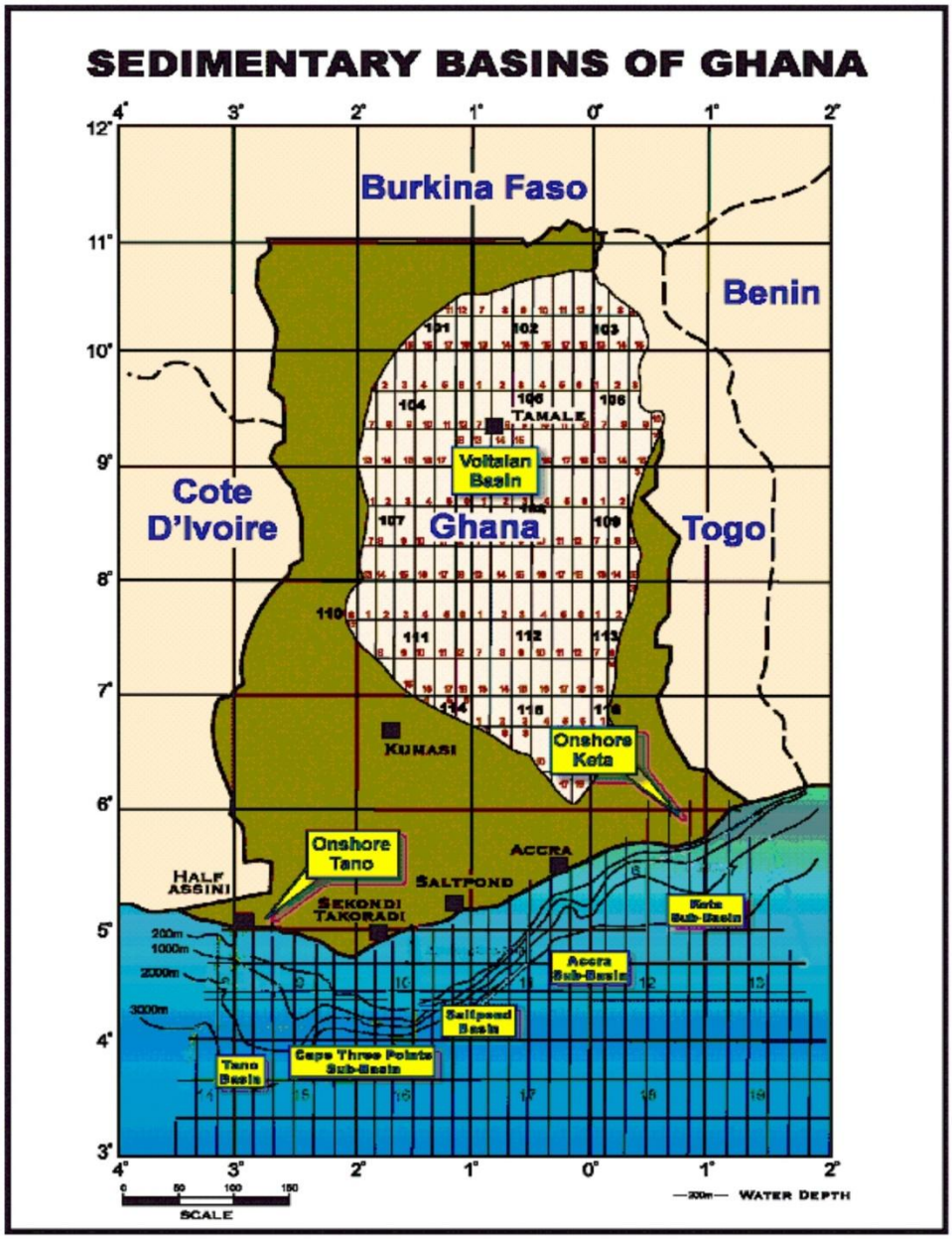
With contemporary improvements in technology, data acquisition on all basins gradually increased, especially after the European Union funded a high resolution radiometric data and time domain electromagnetic survey over parts of Ghana in 2006. Further acquisition of 2D reconnaissance seismic data[1] made Ghana's hydrocarbon potential more attractive for investment.

Subsequently exploration activity increased especially in the Tano, and Cape Three Points Basin where oil was being produced at the time in very small quantities. This basin always had a strong potential for further discoveries in larger quantities. In 2004, GNPC formed a consortium with Kosmos Energy, Tullow Oil, Anadarko, Sabre Oil and the E. O. Group for the exploration of the West Cape Three Points block. This consortium

[1]Seismic data allows oil and gas companies to obtain a clearer picture of the subsurface rock structure and other geological properties within the earth's crust. Currently there are technologies to collect 2, 3, and 4 dimensional seismic data which is even more likely to improve the accessibility of petroleum resources (*www.loga.la/flash/HS/kevinhillSUSpdf1/08/2013).*

discovered significant oil and gas deposits first through the Mahogany-1 well in June 2007 then later in the same year in the Hyedua-1 well. Continuous efforts have yielded more positive results since the 2007 discovery.

Figure 2.1 Map of Ghana showing the spread of the Sedimentary Basins



Source: www.gnpc.org.com

The Deep water Tano and the West Cape Three Points blocks were unitised as one field. This field is named Jubilee to commemorate the fiftieth anniversary of Ghana's independence and started production in November 2010. The field is approximately 60 kilometres offshore Ghana's Western Region (with varying distances from other points). It has up to 17 wells all connected to the Floating Storage and Production Vessel (FPSO, Kwame Nkrumah). Production rates are to reach a peak of 120,000 bopd eventually. Jubilee has potential production totalling almost 800 million barrels of oil.

Petroleum is a general term referring to both oil and gas resources, though this study focuses only on Ghana's oil resources. Ghana has discovered oil and gas in commercial quantities. The sector is characterized by a division of activities in the value chain referred to as streams. From exploration to the development and production of petroleum activities are referred to as upstream. This stream is highly intensive in capital accumulation and as such limited with restrictions and notable investors who can be found in other oil producing countries.

In Ghana, the upstream sector comprises GNPC and its partners namely the International Oil Companies (IOC's) such as Tullow Oil, Kosmos Energy, Anadarko Petroleum, Hess Petroleum and Vitol Energy. There are also others yet to acquire licenses for exploration and subsequent production. Petroleum activities between the well- head and refinery to transportation and storage are referred to as midstream. This is even more limited and the only notable company is the Bulk Oil Storage and Transportation Company limited (BOST).

Downstream activities are characterized by the refinery, sale and consumption activities of petroleum products. This stream is described as the key to the economy. About 70 percent of Ghana's energy needs are met and developed at this level. It has witnessed tremendous developments even before the country's commercial discovery of petroleum, as many Ghanaian owned oil companies have joined the sector. It is hoped then that current commercial discoveries will provide even more impetus for further growth in the sector and that Ghana can eventually become an oil hub in West Africa. Downstream petroleum is also seen as a visible opportunity to create wealth for more citizens through better employment.

From the investors' point of view, with a high capital intensive industry such as the petroleum industry, lower risks imply lower interests on borrowed capital. The total of $3 billion investment in Ghana's offshore Jubilee development was a composition of financing from fourteen commercial banks, two private equity funds and the International Finance Corporation (IFC). The IFC's support for Ghana's oil development totalled $215 million through approval of loans for the main investors in the industry, Kosmos Energy and Tullow Oil.

Assurances in the Ghanaian environment are streamlined so key investors have a guaranteed market share and a steady flow of revenue in order to pay off their loans. The Tweneboa Field currently in the appraisal stage, with a potential of up to 1.4 million barrels of oil is next in line as an oil production field (www.osec.gh).

Ghana has been said to have experienced one of the fastest developments in the oil world from its discovery to production stage as compared to other African countries where oil

has been discovered. Oil finds occurred prior and about the same time period in Uganda, Kenya, Liberia, Sudan and the Gulf of Mexico. A favourable fiscal regime and negotiations as well as stable political climate encouraged massive and fast investment in the sector.

2.4 Oil Production, Revenue Management and Local Content in Ghana's Oil Sector

The operational strategy being employed in Ghana's oil sector is not peculiar to this country alone. Soon after commercial discovery, the country sought the help of other countries such as Norway to assist in putting together a legal framework which now guides exploration, production, collection and utilisation of revenue and participation of Ghana's citizens in the sector. It is mandatory that best international practices are employed in the pursuance of petroleum exploration and production for all interested partners. Regional Councils, District Assemblies and Traditional Authorities were involved in the enactment of the laws of the sector through stakeholder discussions, and this makes them relevant institutions to be discussed in the activities of the sector.

To begin this era of commercial discovery in 2010, a new Petroleum Exploration and Production Law modified from the old exploration and production law of 1984 was passed. To prevent contentions on previous laws, this new law superseded all other provisions of previously used laws in petroleum activity.

Ghana in accordance with the accepted practice has a law to manage the collection and use of the total revenue from taxes, royalties and sale of its share of the crude being produced. This law was approved in April 2011 after a lot of consultation and stakeholder discussions. The main objective of the Petroleum Revenue Management Act (PRMA)

was stated as ’to effectively provide guidance to a transparent and accountable collection and use of petroleum revenues’.

The concept of Local Content is to make available the range of benefits Ghanaian citizens can obtain either through direct or indirect participation in the value chain of the oil sector. It involves the direct employment and training of Ghanaians, buying and using Ghanaian goods and services for the sector and the indigenization of the technology and skills being used. The Local Content Policy Framework of Ghana targets at least 90 percent local employment and in country spending in the oil and gas value chain within ten years of the start of every petroleum license or contract.

Participation on the other hand refers to the level of Ghanaian equity in the petroleum sector. Here the target is five percent equity for Ghanaian contractors and 10 percent for sub-contractors. This means five percent indigenous Ghanaian ownership for every petroleum agreement is mandated for contractors and 10 percent for sub-contractors in the oil sector.

Aside the laws created specifically for oil activities in Ghana, there are also other general laws which have become relevant for oil activities after commercial quantities were discovered. Amongst these are some national laws on environmental management, aquatic resource management, maritime laws, international laws which operate across many borders and traditional laws of society which have ancestral origins. The majority of these laws have relevant sections which can be referred to as an indirect part of the legal framework. Some of these have also undergone modification by amendments to the original in the form of Legal Instruments (LI). The laws are then employed where

necessary to serve as a further guiding instrument for oil sector activity for operators in the sector to adhere to.

One of such is the Environmental Protection Law 1994 (Act 490) of Ghana enforcing environmental policy legislation in Ghana. This law requires that before the start of every project in the oil sector, an Environmental Impact Assessment (through the Environmental Assessment Regulations of 1999) is provided by the concerned party to ensure that the right compliance procedures are being practiced. A permit or license is then issued when approved before commencement of the activity.

The Fisheries Act 625 of 2002 provides regulations for the management of aquatic resources. Section 92 and 93 of this act prohibits the pollution of water and its subsequent effect on aquatic resources. Hence a prior notice of the likely effects of any activity other than fishing before its commencement must be carefully assessed and a report submitted on this to the Fisheries Commission. Any person, government agency or organisation seeking to enforce the conservation and protection of aquatic resources has the mandate to do so by this law. There are also penalties in the event that the law is breached.

Several Laws on the conservation of water also have relevance for the oil industry as it involves offshore activities. These are the Water Resources Commission Act 522 of 1996, Water and Sewerage Act 310 of 1965 and the Oil in Navigable Waters Act 236 of 1964. This last law also supports the prevention of oil pollution in all waters of Ghana. All territorial waters of Ghana both at sea and inland are protected by this law from the discharge of oil or any oily substance. Labour laws, laws on human rights, on child

labour on women's rights, vocational training, health and safety are all applicable in the oil sector.

Several international treaties and conventions have been made a part of the legal framework. Prime amongst these is the Extractive Industry Transparency Initiative. The concept behind the formation of this institution, now adopted by many countries endowed with natural resources, is to help reduce the levels of poverty in these countries by ensuring that the revenue collection and utilization are done in a transparent manner. In 2003, Ghana adopted the rules of this body organization and later set up a secretariat to ensure the promotion of the activities.

CHAPTER THREE

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

3.1 Introduction

This chapter provides a discussion of the various aspects of the literature on the links between institutions and natural resources. It begins with a look at the various definitions of institutions. Institutional change is discussed as a part of understanding how institutions evolve and some factors which affect their establishment. The discussion continues by explaining why institutions have been recognised as an essential part of the discourse on natural resource development. A lot of the emphasis on their importance is then traced to development theory and the beginnings of the resource curse thesis.

The socioeconomic position and changes in some oil producing countries caused the evolution of schools of thought on natural resource development. Through this evolution, various accounts have been given on natural resource development and the resultant socioeconomic changes experienced by the endowed nations, and these characterise literature. Central to these explanations is the role of institutions in determining the ability of the endowed nations to successfully develop their natural resources to result in positive socioeconomic change and benefits for their people.

The ‘natural resource curse thesis’ has become central to the development literature on natural resources. Four key explanations for the occurrence of the curse as seen in the literature are discussed in this chapter. These are the terms of trade argument, the crowding effect also known as ‘Dutch Disease’, the neglect of education or human capital and the occurrence of civil wars.

The chapter recounts the criticisms against some works on the resource curse. In the concluding part there is a discussion of actual examples of socioeconomic change in two oil producing countries. The review concludes that no single factor can alone explain the resource curse phenomenon (Bainomugisha, Kivengyere & Tusasirwe, 2006; Karl, 1997).

3.2 Institutions and Natural Resource Development

The link between institutions and the development of natural resources has several dimensions in the literature. Some works have explained that both success and failure in natural resource development depend to a large extent on how new institutions incorporate existing institutions and work for the benefit of all citizens. They emphasise the need for institutions to be functional and operate at national and local levels for a proper participation of all that are concerned in the management of the resource (Tumussime, Vedeld & Gombya-Ssembajjwe, 2011).

There has also been an assumption that there exists a simple direct 'one size fits all'relationship between institutions and the development of natural resources and this is wrong. Importance must be given to the complexities introduced by uncertainties and opportunities presented in different environments. A necessary part of the livelihoods of people involved in developing the resource in combination with the approach being practiced is very often overlooked. It is through a basic understanding of the type of institutions being discussed that a clearer picture and an understanding of the links come to light (Mehta et al., 1999).

Agrawal and Perrin (2009) define institutions as 'humanly created formal and informal mechanisms that shape social and individual expectations, interactions and behaviour'.

Institutions could also be formal or informal (North, 1990; 1992). Formal institutions are established and communicated through official channels, whereas informal institutions are socially shared rules, usually unwritten, created, communicated and enforced outside of officially sanctioned channels. Although such a distinction between institutions is necessary, it has been criticised as being problematic (Hodgson, 2006). This is because informal institutions then have more acceptability and persistence in a given population than the formal rules (North, 1990; 1992). Again formal institutions sometimes derive their legitimacy from non-legal rules as inexplicit norms tend to be better understood by society (Hodgson, 2006).

Another debate in understanding institutions has been to find if it is the actors which influence structures or vice-versa (Hogdson, 2006; Wegerich, 2001). One school of thought posits that institutions constrain human behaviour by setting clear boundaries on actors' choices (North, 1990). Another concedes to the role of actors in the shaping of institutions (Scott, 2005). It is also possible to treat the two as complementary, so that structural rules aid human agency in institutional analysis. Institutions can then be viewed from both the actors and the structural perspectives in time and space (Wegerich, 2001).

There are also no static procedures for establishing institutions. Change is therefore an unavoidable part of every institution. In exploring the factors which cause changes in institutional set-ups various sources of pressure can be identified. These are the functional, the social and the political pressures. The three pressures give attendance to an equally important aspect of institutions' 'deinstitutionalization'. This term refers to a process by which institutions appear, weaken and disappear. It provides a broader

understanding of the context under which changes occur in institutions (Scott, 2005; Dacin, Goodstein & Scott, 2002).

Functional pressures are more about the performance of the institutions. These pressures refer to their role and level of importance. If the institutions are very necessary for the survival of the state, they tend to become powerfully established institutions which do not disappear. The political pressures stem from changes in the ideologies of the authorities which drive institutions. These are the issues of governance and the type of government machinery and administration being used which either causes some institutions to grow whilst others disappear. The third type of pressure is socially oriented. It refers to the various groups evolving with different beliefs and practices which can cause changes in the institutional existence. The belief that certain practices should be abolished within a particular society is a pertinent example (Dacin et al, 2002).

The link between institutions and natural resources sees institutions as the totality of rules, regulations, circumstances and authorities associated with the resource. This approach emphasises the quality of institutions as a focus of the discussions on its links with natural resource development. Institutional quality becomes dependent on the total political, economic and social structures employed in the exploitation of the resource, the management of the revenue and the resultant development experienced (Mehlum et al., 2006; Tornell & Lane, 1999).

However within the economic and social structures, the domineering force of politics is often noted to prevail (Acemoglu, Johnson & Robinson, 2004). The advice then is for countries to pursue institutions which promote transparency and accountability so these

nations benefit from resource booms, since such institutions then help alleviate the eventual corrupt tendencies of politicians. The use to which politicians put revenues from resources determines the final benefits of resource exploitation. Positive growth occurs when resources interact with good institutions and negative growth when the reverse process occurs (Mehlum et al., 2006).

Two schools explain how the interaction occurs. One school, which concentrates on the concept of rent seeking, focuses on the distribution modalities made by governments of resource rich countries in the division of the revenues from the resource. When institutions enforce distribution modalities which only embark on accruing the revenues from the resources without any attempt to increase productivity they are referred to as 'grabber friendly institutions'. Such institutions do not promote economic growth. On the other hand, if they embark on collecting revenue from resource exploitation while they pursue keen producer friendly activities, then there is more efficient use of revenues leading to increased economic growth (Mehlum et al., 2006; Kolstad & Søreide, 2009).

The second school of thought is referred to as the patronage models. If the ruling government is represented by politicians seeking to secure their position by re-election, then patronage is important to them. They will therefore conveniently allocate state resources to secure the votes of the mass of the population, if there are no institutions to protect the discretionary use of the resource revenues. The opposite happens when there are institutions in place which protect the country against the abuse of public resources by their governments (Kolstad, 2009).

Other aspects of the relationship between institutions and natural resources alternatively analysed institutional quality through a computed index. This index is based on a combination of various institutional marks of quality, namely the control of corruption, of government effectiveness, political stability, regulatory quality, rule of law, voice and accountability and bureaucratic quality. Two groups of countries were then identified from the computed index, labelled as those with good institutional structure and those with bad institutional structure.

Countries with good institutional structure such as Norway and Canada had positive relationships between petroleum abundance and economic growth. On the other hand, those said to have weak institutions such as Nigeria, Congo, Venezuela and Argentina exhibited negative relationships between petroleum abundance and economic growth (Mohsen, Mehrara, Alhosseini& Bahramirad, 2008).

This index approach for analysis on institutional quality is also supported by earlier works on the natural resource curse phenomenon (Sachs & Warner, 1997). In this study, five sub-indexes which were politically structured were used in the analysis. These were the independence of institutions to make laws or to deliver interference- free justice, how corrupt government is, risks of expropriation by governments and also the risk of governments in rescinding their decisions on finished contracts. The institutional quality index was related to growth at all levels of analysis. Every unit change in the index resulted in a change in growth per annum (Sachs & Warner, 1997).

One other function of institutional quality mentioned in relation to natural resource management is sustainability. If institutions ensure that revenues from natural resources are invested for present and future generations, then it can ensure more sustainability in

resource development. This concept used in Atkinson and Hamilton (2003) is emphasized in Gelb (1988) and in Gelb and Grasmann (2009). Resource revenues generated in the absence of effective institutions to monitor and manage are often used by national governments to support their political agenda (Deacon & Mueller, 2006).

Nevertheless, there are some limitations to the discussed role of institutions in ensuring the efficient development of natural resources. In the earlier works on the natural resource curse phenomena when certain controls are put in place for the interaction between resources and growth, the role played by institutional quality is not a significant explanation of the low economic growth rates observed. In this case other factors such as the Dutch Disease are then seen to explain the occurrence of the curse (Sachs& Warner, 1997).

This limitation is said to happen from the analysis of institutions and the natural resource curse where the quality of institutions alone is the measure. Though quality relies on a computed index of the several factors, it is said to be often biased, concentrating on politics and economics. Other aspects such as social institutions, which cause differences in interactions, such as ethnic and religious backgrounds, are then neglected (Pessoa, 2008).

Additionally the type of resources being exploited has also been seen to modify the institutional links. Several studies indicate that countries with point source resources tend to be more influenced by economic and social divisions as well as institutional quality than those with diffuse resources. This argument on the type of resources shows that some resources encourage more rent extraction while others are associated with conflicts resulting in rebellion and greed (Beaulier & Initiative, 2003; Isham, Woolcock, Pritchett,

& Busby, 2005). Even within the criteria of these point resources fuel is proven to be more prone to corruption than the ores and metals (Kolstad & Søreide, 2009).

Other works on the institution and natural resource development nexus take the political economy approach. The debate centres on an analysis of the importance of political and economic institutions. Economic institutions influence the sets of choices individuals are able to make. They are responsible for the distribution of the resources. However it is the political institutions which determine how effective the economic institutions will be (Acemoglu et al, 2004).

Economic institutions, such as the protection of property rights, can be overthrown by political institutions and this will result in a redistribution of resources in the society. This is not to say that they directly determine economic outcomes. They rather channel the incentives of political leaders to choose and implement the right or wrong policies. When political institutions are strong, they tend to exert constraints on the politician who is hoping to be re-elected. In this case the right economic institutions which benefit the citizens are preferred. When they are weak, then the individual politician can make their own choices which often do not benefit all citizens (Acemoglu, Johnson & Robinson, 2004).

Within the divide between the roles played by political and economic institutions, other studies have emphasised the role of local institutions. These institutions are said to enhance more sustainable development. They are also important for the mobilisation of local resources. Local institutions differ in type and there are various forms and levels of their existence. There are those that function only at the community level, such as the

traditional rulers who handle conflict resolution, and then the divinities and deities who take care of mediation and spirituality. There are also some local institutions that determine ownership patterns of the resources. In African societies especially, such local institutions are necessary in the dialogue on the institutions and resource development (Mowo, Adimassu, Catacutan, Tanui, Masuki & Lyamchai, 2013).

Through an effective working of all these institutions, Botswana is said to have achieved its rapid and continuous development. Firstly, in Botswana political and historical factors induced by strong institutional set ups and good macro-economic policies encouraged a broad based participation of local institutions thereby not allowing the resource rents to be misused by the people in power. Chiefs and cattle owners who formed the core of local institutions developed a strong interest in economic institutions and hence the protection of property rights of investors in the nation's resources. To this end, Botswana achieved continuous economic growth and become a success story amongst developing countries endowed with natural resources (Acemoglu, 2003; Sarraf & Jiwanji, 2001).

3.3 Theory on Natural Resource Development

It has been argued that the idea of natural resources leading to rapid growth can be traced to a time in the 1980's when a popular view emerged that natural resources were necessary in propelling industrial growth in developing countries (Pessoa, 2008). This in turn could change their 'developing or underdeveloped' state to a developed one. So prior to the main discourse on the actual resource curse thesis, some arguments in the 1980's did state that huge and diversified natural resources were an advantage for growth oriented economies. This was seen to be the cause of development in Australia, the

United States and Britain who had varied natural resource endowments (Rostow, 1961 as cited in Rosser, 2006).

The proponents of this idea saw natural resources as a means to foster industrial development by opening the domestic markets of the countries endowed with them and providing investible funds for the expansion of industries (Drake, 1972, 1980 as cited in Rosser, 2006). A central part of this was a five stage development model for countries embarking on a rapid growth and development agenda. At the third stage of the model, Walter Rostow proposes that an important pre-condition was the possession of a natural resource for take-off. Countries such as Australia, United States and Britain had achieved rapid economic development by having natural resources to enable their take off (Rosser, 2006).

Alternatively there have been less supported opposing views, that natural resources are not always beneficial and that they put developing countries at a disadvantage. This was because developing countries relied heavily on the revenues generated from their exploitation. The main idea of their argument centred on the fact that not all natural resource development resulted in economic growth or development. In other words, there are many instances of countries whose attempts at developing their natural resources did not result in the expected growth (Auty, 1990; Gelb, 1988; Sachs & Warner, 1995, 1999; Gylfason, et al., 1999).

Revenues from these resources made countries become almost totally dependent on trends in the global economy and the international market conditions existing for that commodity. This subsequent idea was known as the Prebisch-Singer hypothesis of 1950, which is also the basis for the 'terms of trade' concept, was based on a centre-periphery

argument on the type of elasticity of goods demanded from the periphery by the centre and vice-versa. Prebisch deduced there was a tendency for terms of trade to decline for primary commodity exporters who were at the periphery and whose goods had lower demand elasticity (Baer, 1962).

Prebisch's work was criticised to have centred too much on unfavourable terms of trade for developing countries, especially Argentina. Later the argument gained recognition, when after many years primary resource exporters, irrespective of their comparative advantage could not achieve the desired economic growth unless government intervened with industrialization (Davis, 1995).

The importance of natural resources in the 1980's changed as empirical evidence on the occurrence of the phenomena and a rejuvenation of the resource- induced or driven economic growth occurred. In-depth discussions with comparisons of countries endowed with similar natural resources yet differential growth and development deepened. Through the various efforts to analyse and explain this differential growth, three types of development patterns were identified (Auty, 1993).

There was a first group of countries who after discovering abundant natural resources initially experienced fast growth, but eventually ended up with low and stagnant economic growth. A second group of countries followed that, often with similar resources as the first, consistently experienced tremendous and continuous economic growth rates. Finally a third group existed who without any natural resource endowment experienced continuous growth and development equalling the second group even within a lesser time period (Auty, 1993).

The term Resource Curse was then used in describing the occurrence of this slow growth even with the development of natural resource wealth. Auty (1993) who propounded this idea advised that there should be a concentration on four key conditions as a prelude to fast, equitable and sustained economic growth once a natural resource is discovered. Once these conditions exist, with or without natural resources, a nation can achieve the growth needed for it to move to a higher development stage. The four conditions are: relative equitable access to land and primary education; effective markets and public accountability; an open trade policy; and competitive diversification to give resilience to shocks (Auty, 1993).

Auty (1993) also found that the four conditions may still not guarantee successful resource exploitation and hence proposes a fifth but very essential condition for growth with or without natural resources. This condition is the existence of a developmental state that has to have two key characteristics. It has to be independent and possess enough power to pursue a well-planned economic policy which can improve the well-being of its citizens in the long run. This type of state, he noted, is commonly practised by the group of countries that have developed without any natural resources, though there are some exceptions. In contemporary literature these states are referred to as the 'Asian Tigers' (Auty, 1993).

Auty also recognises that for these countries, there is often intense pressure from the majority of the people for whatever resources are in existence resulting in a more efficient use of these and an even distribution of the benefits obtained to all citizens. In addition, the state has no resource rents to extract and concentrates on the growth of human and social capital in the absence of other forms of capital. These characteristics

exhibited by some resource poor states in the 1980's showed that higher growth records can be attributed to developmental state practices.

South Korea is an example of a nation which pursued this practice. After a decade of reform in South Korea, pressure for wage increases from an already labour intensive manufacturing sector caused diversification to a more competitive chemical and heavy engineering manufacturing sector which paid better wages for labour. The economy was also protected against external shocks associated with over- concentration on one manufactured product. This rapid industrialization resulted in faster urbanization and higher wages, more savings and further investment in the manufacturing sector (Auty, 1994).

This outward oriented approach to industrialisation curbs the excesses and wastage in labour by enhancing skills and encouraging diversification. This in turn sets in motion an economic circle, eventually resulting in significant growth in per capita Gross Domestic Product (GDP). Combined with positive social trends, democracy and the sustenance in economic policy, this approach ensures that growth accelerates consistently (Auty, 1994)

On the other hand there are some resource rich countries that for a long time have consistently relied heavily on primary products. . These resources have been constant earners of revenue and rent. The move towards industrialization to earn alternate income is slow. As growth comes slowly, the state resorts to trade policy closure to protect infant industries and hasten industrialization which might trigger economic growth. The virtuous economic circle which can result in higher savings, higher investments and a higher GDP per capita growth rate, has not occurred and hence economic growth has

been short lived (Auty, 2001). Auty, in both cases. does not give complete recommendations as a remedy to avoiding the curse. Even the fifth condition to his analysis presents two models of industrialisation and how one brings faster economic growth than the other. The contributions of the analysis of the occurrence of the resource curse he makes are, however, valuable sources on understanding the curse. They are recognised as the basis for most arguments underlying the comparative analyses of the economic growth rates of countries engaged in natural resource exploitation. There is still no doubt, though, that more is being added to the literature on the resource curse continuously (Davis, 2011).

Another pragmatic discussion of the works on the natural resource economic growth discourse finds evidence for the existence of a true negative relationship between resource abundance and growth especially amongst a group of developing countries. The study uses economic growth rates of 97 countries between 1970- 1989, and finds that the economies of countries with a high ratio of natural resources tend to grow less rapidly than the scarcely resourced economies. This negative relationship between natural resource existence and economic growth was further tested and proven to exist even after several factors thought to influence the phenomena and growth were introduced (Sachs & Warner, 1995).

A further analysis gave Sachs and Warner more important information for their work. They for instance find that countries that are open to trade grow faster that those with closed economies in the period. All this information provides a better platform for understanding the whole resource curse and economic growth relationship (Sachs &

Warner, 1995).Their work, though very influential in the whole natural resource versus economic growth discourse, is also criticised.

Firstly, their use of ratio of primary exports to national income as a measure of natural resource growth has been seen as an inadequate measure of resource abundance (Stijns, 2005). This measure has been interpreted as being closer to resource dependence and not the amount of the resource being developed per se. Secondly, their contributions, just as Auty's, do not point to a remedy for the curse and hence further research has been carried out on their findings (Davis, 2012; Brunschweiler, 2008).

3.4 Understanding the Occurrence of the Resource Curse

A multidimensional approach to understanding this theory of natural resources can be used as a synthesis which then unifies the various explanations given in the literature on the occurrence of the curse (Bulte et al., 2005:Frankel & Frankel, 2010).

3.4.1 Terms of Trade and Volatility

The terms of trade argument in the natural resource curse development as discussed previously is a positive reflection of work done on the role of resources in achieving economic growth. These ideas from the Prebisch-Singer hypothesis of the 1950's were heavily criticized at the time, but later turned out to be relevant and informative. At the time, the lack of statistical data on other countries made proof of the ideas difficult to substantiate. Britain's net barter terms of trade which was used as evidence in this work on terms of trade were heavily criticised. Later works with more statistical evidence have given credence to Prebisch's work (Spraos, 1980).

The terms of trade instability is also found to negatively affect growth in other studies. Data on fourteen sub Saharan African countries from 1980-1995 including Ghana show that there are relative effects of better terms of trade on growth rates. These countries sampled are also seen to be inundated with the highest concentration of primary producers and hence are more likely to exhibit trade volatility which is very important to economic growth. The link here is that a better real exchange rate subsequently induces more investment in the export trade sector which then hastens growth in the economy. Volatility in terms of trade is hence likely to impact negatively on the growth of economies (Bleaney & Greenaway, 2001).

While crude petroleum prices are very inconsistent making natural resources such as oil highly volatile, food, ores and metals are more stable in comparison. Returns from exports of oil can cause unstable development projects, especially where it accounts for a great share of total exports. This is because volatility has been found to be determined by levels of dependence on particular export commodities, on the terms of trade, on institutions, on the rule of law and on the level of development of financial systems. Countries with shaky financial systems tend to have very volatile exchange rates. Further it is asserted that landlocked countries have a higher risk of volatility than countries near a waterway (Van der Ploeg & Poelhekke, 2009; Van der Ploeg, 2011).

3.4.2 The Crowding Out Effect of Natural Resources and Dutch Disease

Generally, the term ‘crowding out effect’ describes the channels through which natural resource accumulation can erode other forms of capital formation relevant for economic growth. These channels are numerous and work against the processes and mechanisms needed for growth to occur. Together the processes and mechanisms are called activity

'x' and it is the activity 'x' which stimulates economic growth. So by crowding it out, natural resources end up crowding out economic growth (Gylfason, 2001; Gylfason et al., 1999).

The crowding out and eventual dependence on the new revenue generating sector linked to the natural resource discovery causes Dutch Disease to occur. The term Dutch Disease started in the late 1950's and 1960's in the Netherlands as its name implies. It was fuelled by the discovery of the Groningen Gas fields in the Netherlands. The real exchange rate of the Dutch Guilder appreciated following the increase in gas exports after its discovery. So for every unit of gas exported, more units of imported goods could be obtained, making gas more profitable to invest in. Soon there was an over concentration in the gas industry creating a new sector at the expense of other export sectors (Gylfason, 2001).

Since the new sector depends a lot on external market conditions for its growth, it is often subject to exchange rate volatility. This reduces revenues being earned if external demands and prices fall. In the meantime the more tradable sector of the economy which is less subject to the exchange rate volatility has been crowded out or neglected, with investment and resources being directed to the new sector during the initial boom (Gylfason, 2001).

Consequently, economic growth slows and previously growing sectors decline in the long run. There are some opposing views which conclude that the effects of the Dutch disease are not the explanation for the resource curse. For them, there is no direct causality effect between the occurrences of the two phenomena. So even though Dutch Disease is sometimes likened to the resource curse, and may sometimes be an aspect of the resource

curse, it is concluded that as was the case of the Netherlands, there can be Dutch Disease without a resource curse (Davis, 1995).

3.4.3 The Neglect of Education and Development of Human Capital

A third common explanation, also an aspect of the crowding out effect of natural resources, is the neglect of education and the development of human capital during periods of resource boom. Highly skilled and innovative labour force in the productive sector stimulates better economic growth. This is because human capital is an integral part of the growth engine. When the demand for goods of this sector rises, as happens after the discovery of a natural resource, it crowds out the manufacturing activities, and the level of skilled manpower also drops. When human capital stops growing there is no motivation for initiation and creativity. This adversely affects the growth rate in the long run, since advancement in technological innovations and ideas slow down and subsequently productivity also falls (Atkinson & Hamilton, 2003; Gylfason, 2001).

More empirical research within the new growth theories continues to emphasize that anything which improves efficiency stimulates growth, and therefore arguments of less skill in primary occupations and hence slow growth is still debatable (Stijns, 2001). In recent times agriculture, for instance, has become highly mechanized, fishing computerized and the demand for technically skilled drillers in the oil and mining sector has increased. It is still worrying, though, that even with this, there are still low levels of education amongst the majority of persons who are engaged in these primary occupations in the developing world (Gylfason, 2001).

High investments in training and education still lack in many developing countries. Some studies indicate that there is lack of positive correlation between resource abundance and levels of education in resource rich countries. The reasons claimed previously are constraints in government expenditure. As a causal factor then, if the expenditure is addressed by the increasing revenue, then resource abundance should produce higher investment (Gylfason, 2001; Birdsall & Subramanian, 2004).

3.4.4 Civil War

The scarcity and abundance of natural resources have been seen to be both the cause and result of civil war. The question can be asked whether there are other factors that make a country prone to civil war? Definitely it cannot always be the existence or non- existence of natural resources. In a study to determine the more statistically significant factors associated with civil wars, ethnicity, religion, per capita income, geographic location, colonial factors and oil, amongst other factors, are used. Per capita income is strongly significant in a statistical and substantive sense. Countries in the lower income percentile have a higher possibility of an outbreak of civil war than those in the median and highest percentile. Even when this is translated to ethnic wars the same condition holds. The issues of tribalism and religion do not have the effect level of growth has on the occurrence of war (Fearon & Laitin, 2003).

Interestingly, ethnic diversity and religious differences are not very significant statistically. There are some studies where religion is introduced, given the consideration that most oil producing countries are in the Middle East and North Africa where there are less religious differences. Even then the effect of oil still remains stronger, indicating the

importance of natural resources and even further the type as an underlying cause of a lot of the tension experienced in regions where it is found (Fearon & Laitin, 2003).

As pioneers of this debate, Collier and Hoeffler (1998) use Sachs and Warner's approach to measure growth and obtain evidence suggesting resource growth is fuelled by war. They conclude that it is rather the type of resources countries possess that determines the occurrence of civil wars. Proponents of the resource curse argument further explain that the type of resource tends to have a deterministic effect on the occurrence of the curse.

As Ross (2006) puts it 'mineral producing countries have the highest risk of violent conflict when they have low income levels; when they produce oil or other deep shaft minerals'. These mineral resources are referred to as point resources. Point resources, as opposed to diffuse resources, are resources that are concentrated and can be extracted from a narrow geographic or economic base. Such resources include oil, other fuels and mineral resources. Diffuse resources on the other hand are spread thinly in space over a larger area and are not concentrated in a particular space. Agricultural products and food are pertinent examples of diffuse resources. The arguments of the occurrence of the curse stems from the observation of the differences in the relationship between the factors which hamper economic growth and the type of natural resource (Fearon, 2004, 2001; Ross, 2006).

In conclusion, resources such as oil which are point resources are consistently found to have significant association to the development indicators, but there are no significant relations found for the diffuse resources. Countries which have oil have a higher chance

of a civil war occurring than those with fertile lands. Greed and rebellion sparked by deep grievances and social injustices are a major cause of these conflicts (Wick & Bulte, 2009).

The identification of this connection also has a link to the resource and institutions nexus. Countries with the so called point resources tend to be dominated by governments who promote sectional interests at the expense of the majority of their citizens. Oil discovery is purported to lead to weaker institutions; to cracks in the ability of the state to govern its people fairly (Collier & Hoeffler, 2002).

All these counter arguments are still not seen to fully explain the variations in the growth rates of countries endowed with similar resources such as the low of Venezuela and Nigeria, as opposed to the high of Norway and Canada who are all oil producing countries. The institutional dimension is argued as offering more support than the other explanations of Dutch Disease and civil wars which cannot stand alone and be analyzed across board.

Analyses should therefore embrace politics and economics and summarise all other influencing factors being discussed as way to offer a better explanation for understanding the varied relationship between resources and growth in different parts of the world (Acemoglu, et al, 2004; Robinson, Torvik, & Verdier, 2006).

3.5 The Oil Curse and Socio- Economic Change in some African countries: Are institutions the cause?

The various ideas on the resource curse theory have evolved from the study of actual resource development experiences of countries endowed with natural resources and how their existing political and economic structures have either hindered or accelerated their growth performance. The focus has been to provide from the experiences of these countries suggested paths for other countries endowed with the same natural resource to follow. This is also because the type of natural resource endowment has been proven to matter following all the research and analysis surrounding the resource curse discourse (Davis, 2011 ; Ramsay, 2011; Kolstad, 2009 and Karl, 2005).

The development trajectory of each country bestowed with natural resources tells a story (Isham, et al., 2005; Papyrakis & Gerlagh, 2004). Till date the Nigerian economy depends heavily on its oil revenue. Petroleum was discovered by Shell BP in 1956. By the 1960's oil production had commenced. Between 1970- 1999, the petroleum industry generated about 231 billion US dollars in rents. This figure when translated into income per member of the population is 1,900 US dollars for every man, woman and child. Yet per capita income during this period fell from 264 US dollars to 250 US dollars (Ross, 2003).

Again from 1970 to 2000, Nigeria's poverty rate (defined as the level of people living on less than a dollar a day) rose from 36 percent to almost 70 percent. In population terms this implies an increase from 19 million people to 90 million people (Sala-i-Martin & Subramanian, 2003). Meanwhile the new oil revenue began to show in the Nigeria's

economy and government. Oil annually produced over 90 percent of export income. In 2000 the figure was 99.6 percent of export income, making it one of the world's most oil dependent countries. Government spending rose from 8.4 percent of GDP to 22.6 percent of GDP from the early seventies to mid-seventies. By 1978 it dropped back to 14.2 percent of GDP (World Bank, 2002).

Total average economic growth has not exceeded 1 percent in Nigeria despite what has been earned from its oil exports (Oyefusi, 2007). Comparing this to Botswana, a non-oil dependent country in Africa, average growth in per capita GDP since 1965 has been 7 percent annually. Diamonds, Botswana's main natural resource endowment, contributes 70- 80 percent of governments export revenue and 50 percent of budgetary revenue (Fosu, 2011; 2012).

Focusing on the resource curse and its associated explanations, a comparison is made on the stunted institutional development which resulted in weak governance in Nigeria as compared to Botswana's good institutions (Fosu, 2011). This resulted in rent seeking, corruption and plunder among other negative practices which prevented Nigeria from experiencing the expected economic growth with recurring effect on the resource regions. Whereas Botswana had developed its institutions before the discovery of diamonds, Nigeria had immature institutions which enabled waste and corrupted the institutions (Sala-i- Martin & Subramanian, 2012).

The comparative existence of the levels of institutional quality in these two countries shows that whereas Nigeria has experienced the civil wars elaborated earlier, Botswana has no evidence of major civil conflicts since attaining independence. Investment in

human capital in Botswana also far outweighs that of Nigeria indicating the importance of better health and education for economic growth (Fosu, 2011).

There is definitely an undisputed link in the oil, conflicts and the institutional set up of Nigeria, especially when compared to the Botswana's success story. However, there are also other factors linked to institutions which are not only political, but social as well. The recurring violence in oil- rich Delta Region has been on-going for many years. Before independence there were fights from the people of this region for their disadvantaged position which was a clear picture of social injustice and deep grievance which fuelled to some extent the rebellion and conflict. In 1960, at independence and after oil discovery tension continued and heightened in the region culminating in the Biafara Civil war between 1967 and 1970. The reasons for this war in numerous studies is reported to be the struggle for political power coupled with ethnic differences but above all intensified by the fight over the distribution of oil rents. (Jorre, 2012).

Better institutions could have resolved and strengthened the ethnic differences which initiated instability in the resource region, and Nigeria has since modified its oil governance institutions (Frynas, 2000). The question remains on how the harm that has already been done can be corrected. Are there remedies for environmental damages caused by the oil spills and acid rain from the gas flaring and the stripping away of mangroves for gas pipelines which have destroyed fish and other aquatic life of the swamps? What will finally be the escalating anger and violence that the years has reaped especially amongst the youth of the Delta communities? And finally can there be an all-

encompassing solution which reduces the corruption, sabotage and greed for oil wealth? (http://ngm nationalgeographic.com).

The stark difference in the developments in regions of Nigeria where oil is being exploited and produced as compared to the regions without the resource is another cause for worry. Out of the 36 states of Nigeria, nine make the Niger Delta Region also known as the oil producing regions. This region has a total population of 27 million originating from several ethnic minorities. The whole area is crisscrossed by water bodies and mangrove swamps on which the people in the region depend for sustenance. Poverty and educational levels are still below the national average after decades of oil exploitation, reported the Niger Delta Development Commission in 2004.

About seventy percent of the 1,600 communities in the Delta region lack access to clean water. There is little access to electricity and most of the roads are not passable. Medical facilities are in short supply, schools are in bad shape and worst of all there is massive environmental degradation from the on-shore exploitation of oil. Major economic activities supporting the livelihood of the majority are fishing and farming. The natural ecological system which supports these activities has been adversely affected by the years of oil activities which have resulted in oil spills, frequent fires from flaring, pollution and deforestation.

This increased poverty is evidence of the socio- economic changes that occurs in immediate communities where the oil is discovered. Violence till date is associated with this resource region. There is persistent hostage taking of workers in the industry, oil pipeline vandalism and human rights violations and government intervention with force

and brutality to protect shared interests resulting in the subsequent and periodic loss of lives. The loss of revenue is also insurmountable. There are assertions that since 1999 till 2004, the government lost well over US$6.8 billion in oil revenue as a result of the lack of peace in the resource region (Akpan & Akpabio, 2003).

Substantial evidence linking the degradation of the environment from which people obtain their livelihoods to oil activities is not avoidable. There were 4,875 oil spills between 1976 and 1996 and almost 77 percent of these were on this land. The youth in most communities are the main perpetuators of the violence which they see as a way of disrupting oil activities and making their voice heard (Akpan & Akpabio, 2003).

This is not to say that all has been negative with the Nigerian oil industry and that the people of the Niger Delta owe all their problems to the exploitation of oil resources. It is reported that some natural changes in the environment over the years as well as the effects of overfishing and a scarcity of arable lands worsened by seasonal flooding and erosion that has also contributed to the plight of the Delta communities.

Nigeria is not an island in this misery created by its oil resources. As the world's fourth largest valuable diamond producer and second to Nigeria in oil production in Sub Saharan Africa, Angola is ranked the fifteenth most undeveloped country in the world. It also has poor health indicators and the worlds' second lowest under- five mortality rate. Production soared to 780,000 barrels per day and has an even higher potential from 2015 as huge finds have been made in recent years. Yet Angola's natural resource sector remains an enclave with very little forward and backward linkages (Ferriera, 2006; Billion, 2001).

The bulk of oil revenues almost thirty years after independence were used in funding military actions which was needed to consolidate the position of the Peoples Movement for the Liberation of Angola (MPLA), the ruling political party. Some also assert that there was a division in the resources of Angola as the main opposition political party The National Union for the total Independence of Angola (UNITA) controlled the diamond regions of the country. These two parties engaged in what can be described as one of the longest civil war in African history resulting in the death of tens of thousands of people. The war which started with revolutions against the ruling Portuguese to attain independence continued in 1975 after independence, now it was between the MPLA and UNITA, as they struggle fiercely for power and control of resources till 2002.

Fortunately Angola's oil resource is offshore and hence, even though more than half of this is found in the Cabinda region, environmental damage as in the case of Nigeria has not been given a lot of attention. The resource region is however undeveloped and oil wealth has scarcely improved the welfare of the people in this region. The oil sector especially is capital intensive and employs few nationals. There are also the effects of Dutch Disease and rent seeking which have affected all productive sectors of the country making it almost 100 percent dependent on imports. The International Monetary Fund (IMF) cautions that what is needed is commitment. In a similar vein, Hammond (2011) suggests that sound economic management without social and political commitment which works in serving the interests of the people as a whole will not help in avoiding the resource curse.

The argument supporting resource driven growth persists since Botswana and Norway still continue to exist as pertinent examples of nations that have achieved remarkable levels of development for their people through natural resources. There are also the 16th 17th and 18th century success stories of Australia, the US and Britain who are said to have developed as a result of their natural resource endowments including gold, coal and iron. These success stories, though of different resource endowments, have similarities which can be adapted by other countries in their natural resource development.

Changing to other regions of the world, an elaborative study which compares the modalities of several resource rich nations, notices that in Kuwait and Saudi Arabia, for instance, control of resources is dominated by the government and their relatives. This implies rents accrued will only be limited to those in that circle. This diverts some resources from being used for national development.

These countries rank high in GNP and GDP per capita ratios and their poverty rates are low. Their laws on gender equality and human rights have also caused them to be labelled as developing. Again this is related to the existence of appropriate institutions. It is believed that if a proper and ideal institutional change does not take place very soon in these countries, the economic development occurring will be overtaken and eroded by the other social aspects of development which remain a task for them to achieve (Birdsall & Subramanian, 2004).

A similar situation occurs in the new emerging economies that once belonged to the Soviet Union until 1991 when they attained independence. The petroleum exporting economies of Azerbaijan, Kazakhstan and Turkmenistan have had very low scores on

human development indicators showing that their resource has not resulted in higher socio- economic change for the people of these regions. Spending on education has not increased very much and has been cut down in Turkmenistan, for instance. Health care expenditure has also suffered cut backs in all three economies. Meanwhile it is suggested that though there is growth in economic activity, more of private sector investment should be encouraged. Clearly all the three countries need strengthening of their institutions to create avenues for channelling some of their resource revenue into investment opportunities for their people to provide more stability and sustenance for their economies (Kalyuzhnova & Kaser, 2005).

Heavy criticisms are still made on the measure of economic growth as not being able to actually capture actual growth (Frankel, 2010). Others say alternate indicators such as per capita mineral wealth and total natural resource wealth are better measures. There is proof that the use of export data also yields similar results (Sala-i-Martin & Subramanian, 2003). Atkinson and Hamilton (2003) alternatively move from export data and use the ratio of resource rents to GDP to show both positive and negative economic effects in natural resource abundance.

There are also extreme cases where different results are obtained. A study which uses World Bank measurements of resource abundance regressed on economic growth during the 1970 to 2000 period finds that as resources grow, so does economic growth. It concludes that there is no negative relation between resources and economic growth but rather a significant positive relation. It implies there is no curse of natural resources. Such rare cases, though, only prove that the measurement and the type of resources used in

various analyses can sometimes causes variations to occur in the results obtained (Brunnschweiler & Bulte, 2008).

Issues such as the varying sizes of natural resource endowment or its abundance tend to affect the choice of appropriate and acceptable measures used in various studies. Nevertheless the size, measure and abundance of resource have now been seen as additional factors to explain the differential economic growth of resource rich countries. Hence the need to better understand an analysis of the theory of resource development using the institutional dimension still remains feasible (Gylfason, 2001).

3.6 Conceptual Framework

A summary of the reviewed literature on the development of resources tells that the links between resources and institutions is a result of many associated factors. Even more important is the fact that the examples of the African occurrence of the curse exhibit a blend of factors some of which are country specific. It is likely then that the natural resource curse has a more contextual origin and will differ from region to region.

Predicting the occurrence of the curse or a remedy for it is therefore an argument which can be made only on the basis of past evidence and even this is avoided by the proponents of the theory (Davis, 2011). Certain central factors, namely the crowding effect, terms of trade, level of human capital development or education, civil wars and the quality of institutions have evolved all through the discussions in this chapter.

Figure 3.1 is a framework summarising the concepts which describe the relationship that exists between institutions and socioeconomic change in natural resource development. Eventually, the ultimate aim is for the interaction of institutions and natural resources to

result in positive socioeconomic change. This positive change is the blessing desired by the endowed nation while negative socioeconomic change is the curse to be avoided. This change is the outcome of factors specific to every resource region.

The framework of this thesis is divided in four parts. The first part puts forth the macro factors seen as important in the reviewed literature. The second part introduces the institutional link, also a macro factor, which is the focus of this study. The third part brings in the micro factors which are more localised and apply to the study area. Then the fourth part describes the resulting socioeconomic change which is either positive of negative.

This framework is an adaptation of the sustainable livelihoods framework created by Scoones (1998 and 2009). Though the original framework concentrates on micro level issues it is expanded to cover the macro issues of resource development. The micro issues are seen in this study to be the important link to ensuring that institutions in natural resource management bring positive socioeconomic change. Thus the role of institutions recognised as the all-encompassing explanation is the focus of this study. The institutional environment controls access to the natural resource. Referring to the sustainable livelihoods framework (Scoones, 2009) the institutions represent the capabilities that enhance the probability that every community will benefit from natural resource exploitation.

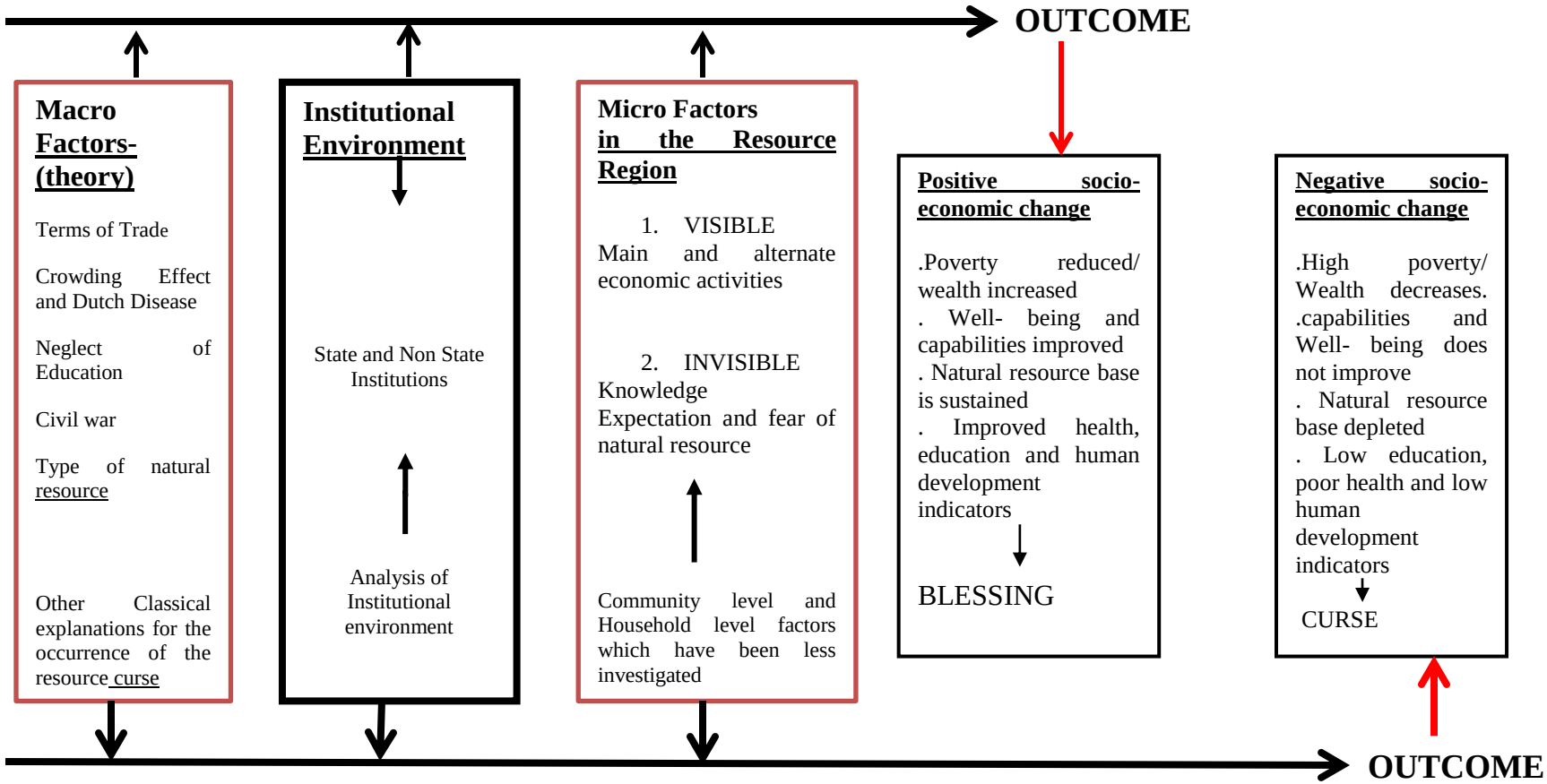
Institutions in this study as shown in the framework are classified into state and non-state, which have direct and indirect interactions. They comprise a mixture of national and traditional interconnected institutions that have been given direct and indirect roles in oil

sector activities. The analysis of the institutional quality centres on a functional approach which looks at the strengths in the flows in information, the authority and the funds of the institutions to effectively manage the resource.

The micro factors are contextual factors which may differ from region to region and these influence the outcome of the resource exploitation. These micro factors in the study include the dominant economic activity or occupation of the resource region. These are the fishing, farming and trade and service activities. It also includes the perceptions of the people in the resource region about the development of the resource. In this study the perception is also represented by knowledge, expectation and fear of oil activities. The knowledge expectation and fear represent the vulnerability situations in communities. If there is higher knowledge symbolizing better understanding, well managed expectations and less fear, then these factors reduce vulnerability.

The combination of the micro and macro factors in the right institutional environment will result in an outcome which is either positive or negative. This change is manifested in reduced poverty levels and increased wealth amongst others in the resource region. It is the blessing desired by all resource endowed nations. On the other hand, where manifestations are the increased levels of poverty, lower wealth and reduced total well-being then there is threat of a resource curse which must be avoided.

Figure 3.1 Framework on Institutions and Natural Resources



Source: Adapted from the Sustainable Livelihoods Framework (Scoones, 2009)

CHAPTER FOUR

THE STUDY AREA AND RESEARCH METHODOLOGY

4.1 Introduction

Chapter three discussed links to the resource curse thesis and the manifestations of the curse which emphasised the curse in resource regions such as Nigeria's Delta Region. This chapter provides a description of two out of six oil affected districts in the Western Region which were chosen as the areas for conducting the study. The discussion focusses on the economic activities and other demographic and socioeconomic characteristics of the districts. The chapter describes the methods of data collection beginning from the sampling design, the target population and various qualitative and quantitative instruments which were used. A final part of the chapter explains how the data was analysed to address each objective. The chapter ends with an examination of the limitations of the study design.

4.2 Physical, Demographic and Socioeconomic Characteristics of the Study Area

The study was conducted in two oil affected districts in the Western region of Ghana. This region is geographically located in the south western part of the country. It covers about a tenth of the total land area of Ghana. The southern part of the region borders the Gulf of Guinea where Ghana's major oil discoveries lie. About 75 percent of the region is in the rainforest belt of Ghana and has an average rainfall of 1,600mm per annum.

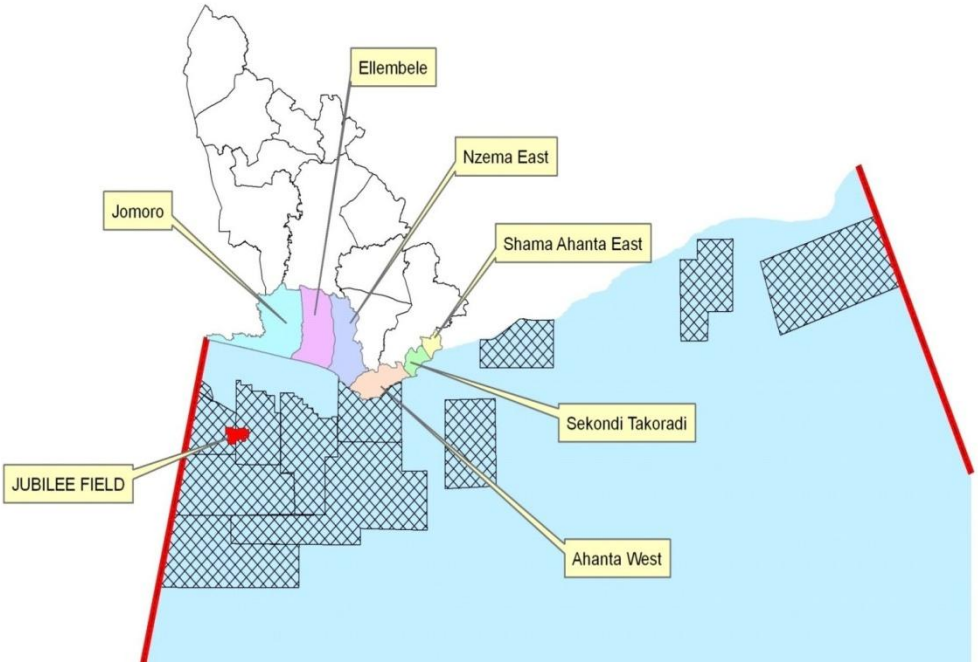
The region is vastly endowed with a majority of the natural resources of Ghana. Amongst the many mineral resources, the Western region possesses gold, bauxite, manganese and iron. Cocoa, rubber and coconut are also major cash crops grown on a large scale in the region. There is evidence of the varying resources as most households engage in economic activities such as mining, lumbering, fishing and farming (www.ghanadistricts.com).

The Western Region has a total of 22 districts. The administrative head and capital is the twin city, Sekondi-Takoradi. According to the 2010 population and housing census report, the region had a total of 2,376,021 persons in 2010 as compared to the 2000 figure of 1,924,577 persons. This is indicative of the increased population in the region within the last ten years (Population and Housing Census Report, 2010). The population of the region is noted to have increased over the last 40 years (1970- 2010) by over 300 percent. The populations are unevenly distributed across the districts. Sekondi-Takoradi Metropolitan has the highest percentage (23.5percent) of the region's population. There are five major ethnic groups in the Western region. These are the Ahantas, the Nzemas. the Wassa, the Sefwis, the Aowins and the Fantes (GSS, 2000).

Six out of the 22 districts in the Western Region are found along the Western coast bordering the Gulf of Guinea. These districts are Jomoro, Ellembelle, Nzema East, Ahanta West, Ahanta East and Shama. With the discovery of oil in June 2007, the districts have been classified as 'oil affected districts' by the major stakeholders in the sector which includes the government, international oil companies and civil society. It is recognised that as oil activity increases in the region, the future economic and general livelihoods of people in these districts could be greatly influenced .

Figure 4.1 is a map showing the six oil affected districts of the Western Region. Ahanta West District and Sekondi-Takoradi Metropolis representing a district and metropolis respectively were chosen as the study areas for comparative purposes. This approach will unearth the likely differences in the socioeconomic changes the study seeks to investigate.

Figure 4.1 Map showing the Jubilee Field and the Oil Affected districts in the Western Region



Source: CERGSIS, University of Ghana, 2013

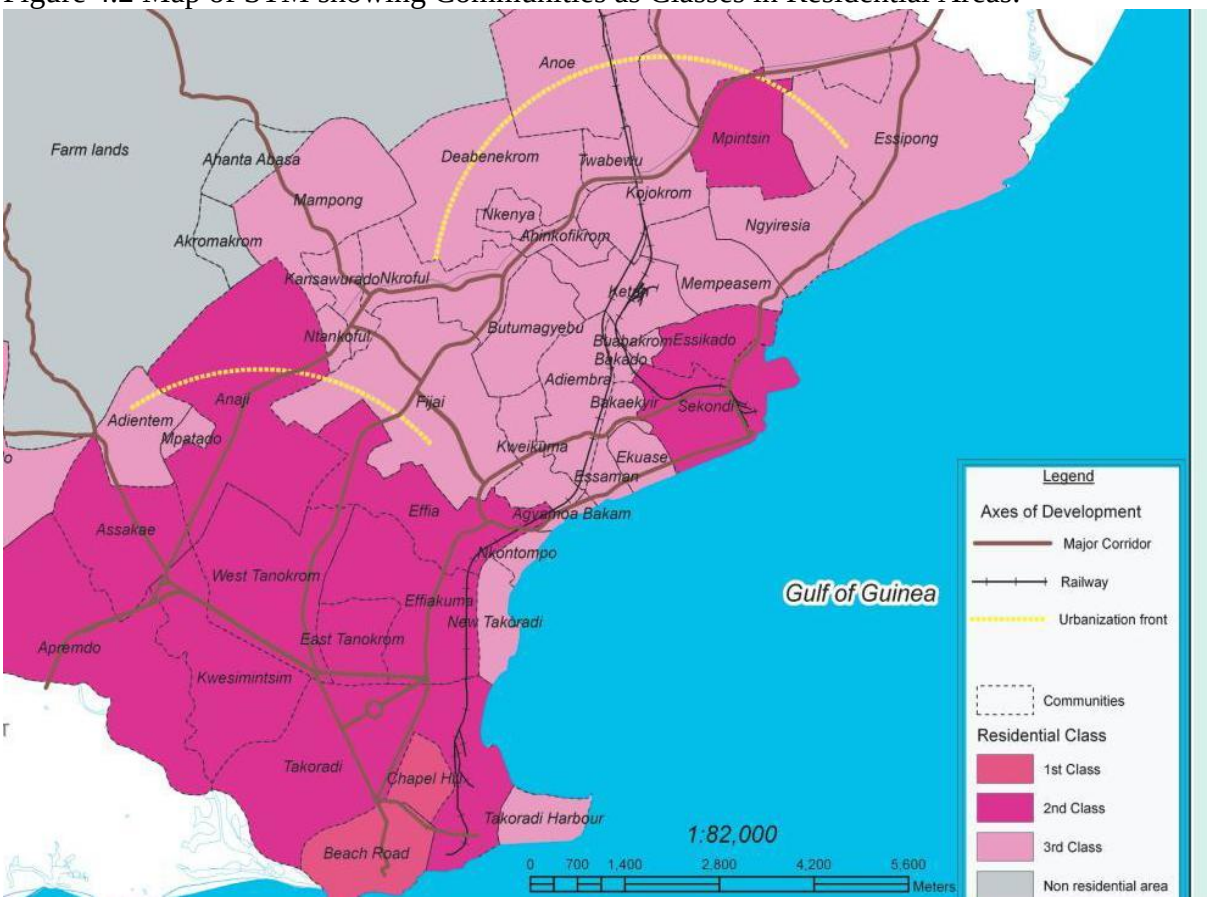
Sekondi-Takoradi is the only metropolis out of the six oil affected districts. It also is the administrative capital of the Western Region. As a result of the high urbanization in the metropolis it has become the hub for the oil activity in the region. Sekondi-Takoradi Metropolitan Assembly (STMA) has 48 communities with major economic activities as fishing, farming, lumbering, trading and service (STMA Report, 2010).

The Ahanta West District was until 1999 part of STMA. It is also a district well recognized in the region as having a host of economic activities. Predominant amongst these activities is farming (palm oil and rubber), fishing, lumbering and trade and service and in recent years mining. The district is reported have the majority of its communities to be rural.

4.2.1 The Sekondi-Takoradi Metropolis (STM)

Figure 4.2 shows a map of the distribution of communities in the Sekondi-Takoradi metropolis grouped into classes of residential area.

Figure 4.2 Map of STM showing Communities as Classes in Residential Areas.



Source: STMA City Spatial Development Plan, 2013

According to the central Business District Plan (2009/2011), the metropolis is made up of a Central Business district, administrative areas, planned residential areas, newly developed areas as well as farmlands and a long stretch of the coastline of the country. The metropolis has forty eight settlements or communities and is divided into classes of residential areas. First class residential areas are located on lands which were mostly state owned. These areas are served with good infrastructure. Population densities here are also low. The second class areas are found in the suburbs of the metropolis and population densities are relatively higher. The third class is more densely populated and constitutes the indigenous settlements poorly served with social amenities.

Economic activities in the metropolis are mainly industry (19.1percent), agriculture including fishing (21percent) and services (59.9 percent) including that from traders. Industrial activities include a host of small scale establishments such as creative and craft industries and large ones such as Takoradi Flour Mills, GHACEM and some timber processing industries. Crops produced in farming communities include palm oil, cassava, maize, cocoyam and plantain. STMA reports (2010) indicate that there has been an influx of people into the metropolis in search of jobs after the oil discovery.

The service sectors offer a lot of employment opportunities in the metropolis. It also boosts trading activities. Telecommunication growth has resulted in the increased number of telephones, accessories and prepaid card sales from which a host of people earn a livelihood. The transports and rail sectors also support the growth of trading activities. Besides this the hospitality industry in the metropolis boasts of world class hotels and restaurants which also contribute to the trade sector (Sources: STMA Reviewed Medium

Term Development Plan 2013, STMA Community Business Development Plan 2010-2011 and STMA City Spatial Development Plan, 2013).

4.2.2 Ahanta West District (AWD)

Figure 4.3 is a map of the Ahanta West District showing some of the larger communities in the district including the study communities Ewusiejoe, Agona Nkwanta and Dixcove. AWD is endowed with significant natural resources and hence is of economic importance in the regions development. AWD is recognised as a large producer of rubber, coconut and palm oil. Aside this, the district has minerals including gold and manganese. Numerous other economic activities are also found in the district with fishing and farming as the major ones. There is also tourism development which needs boosting with the beaches and forts in the district giving potential to the growth of this sub-sector.

AWD has 122 communities. The majority of these are rural with a greater share of the district's population residing in these rural communities. Urban communities include Apowa and Agona Nkwanta. More than sixty percent of the population is engaged in agriculture. Processing of agricultural products, especially oil palm, cassava and rubber is also undertaken in the district. The major food crops produced include cassava, plantain, maize and yam. The major cash crops are rubber and palm oil. The Ghana Rubber Industrial Estate (GREL) and the Norwegian Palm Plantation (NORPALM) are found in AWD. There is also some form of livestock production but on a small scale.

Figure 4.3 Map of Ahanta West District showing some Populated Communities

Source: Ahanta West Reviewed Medium Term Development Plan (2010).

Farmlands still operate under the 'Abunu' and 'Abusa' system with ownership acquired through families, clans and lineages through the matrilineal inheritance system. Services are skewed in favour of the district capital and so is trade in the absence of any other important market facilities. The Ahantaman Rural Bank and the Agricultural Development Bank headquartered in Agona Nkwanta provide the whole district with banking services. Aside these there are several micro financial institutions which offer credit facilities to small and medium scale enterprises in the district.

Transportation alternatives are limited in the district with only 15 percent of roads paved with asphalt, limiting the continued growth of the district. Communications is strong in the capital Agona Nkwanta with all the telecommunications networks operating and fuelling trade and services in this sector. Unlike STM, hotels, restaurants and other

hospitality service providers are concentrated only in the coastal communities of Busua and Funko and are engaged in tourism for income generation. These services are absent in the interior communities of the district. The roads and supporting infrastructure to properly develop these services are also lacking.

4.3 Approach to Data Collection

A mixed method approach was used for the study. Data was collected over a seven month period from September, 2012 to March 2013, using key informant interviews from target institutions and individuals and a household questionnaire survey of 400 households from six communities.

4.3.1 Sampling Methods

The sampling for the study was done at several levels in the collection of institutional and socioeconomic data. These are the national, regional, district and the community levels. Data from state institutions were collected at national, regional and district levels. Non-state institutions were at the community level. The sampling technique for data collected from the state and non-state institutions involved a combination of purposive and snowballing techniques. Purposive sampling was done using the legal framework of the oil sector which stated the key institutions that had been assigned with responsibilities. These key institutions provided names of other institutions also involved in the activities of the sector.

At all levels, the target people were heads or assistant heads of institutions, public relation officials or persons with knowledge on the institutions they represented. Key informant interviews were conducted to elicit the needed information from the

respondents. The persons interviewed had official roles in the oil sector activity through the creation or establishment of that institution.

Collecting socioeconomic data at the national level was not relevant for this study. Data was collected at the district and community levels. The first stage of the sampling involved the selection of two out of the six oil affected districts in the Western Region. The two affected districts were chosen to reflect two levels of socioeconomic development (Debrah, 2009).

The Ahanta West District also has more rural communities with a majority of the active population engaged in the agricultural sector (65percent), the population distribution is uneven and sparse and the distribution of services is mostly concentrated in Agona Nkwanta, the district capital. Sekondi-Takoradi is a Metropolis with more urbanised communities with the majority of the working population engaged in service, trade and industry. The metropolis serves as an administrative capital for the Western Region and has an adequate distribution of services.

Table 4.1summarises the sampling and targets at each level of data collection.

Table 4.1 Sampling Levels and Stages used for data Collection

Level	**Institutional Data**	**Socioeconomic Data**
National	Selected state Institutions based on legal framework of oil sector	No data collection
Regional/ District	Selected state institutions based on legal framework, WRCC, Metropolitan and District Assemblies	***Stage 1***: Selection of two out of six oil affected districts based on different levels of socioeconomic development.
Community	Selected non- state institutions NGO's/ CSO's, Traditional authorities and opinion groups	***Stage 2***: Selection of three communities in each district based on major economic activities fishing, farming, trade and services. ***Stage 3***: Selection of 400 households in the communities.

At stage 2, three communities were chosen from each of the two districts. Sampling was a combination of purposive and random techniques. At this stage the main economic activities of the communities or the main occupation households were engaged in determined which decisions to make on the choice of study communities. Two fishing communities and two farming communities were chosen by a random sampling procedure from the two districts. The fishing communities were Dixcove and Sekondi European Town in AWD and STM respectively and the farming communities Ewusiejoe and Ahanta-Mampong in AWD and STM respectively. The district and metropolitan capitals were purposively selected to investigate growth in trade and services. These were Takoradi Central in Sekondi-Takoradi and Agona Nkwanta in Agona Ahanta.

Concentration was on fishing and farming communities. The fishing occupation has created a lot of interest and anticipation due to evidence from other oil producing countries suggesting that oil production affects fishing communities in the resource regions. Farming was the second activity of interest in the two affected districts and also in the Western Region. In AWD it is a principal economic activity though recent reports indicate mining is also becoming an important income earner, but in fewer communities.

Stage three sampled households from the six communities. A systematic sampling method was used in selecting these households which were used for the questionnaire survey. The main sample frame was the 2010 population and housing census from the Ghana Statistical Service which was supplemented by data on the possible number of households within each community. The total number of households in the six communities was estimated to be 3,346 based on data from the medium term development plans of the district and the metropolis. With the formula proposed by Miller and Brewer (2003), the overall sample size for the study was estimated from this using the function:

$$n = N / (1 + (\alpha^2) N)$$

Where:

n = sample size

N = Total number of households of in the six communities of STMA and AWD

α = Margin of Error

Thus:

$$n = 376/\{1+(0.05)^2(3,346)\}$$

$$n = 400$$

The sample of 400 households was divided between the six communities on an assumption of even distribution the proportion each community had within the total of the households in all six communities (Refer to Appendix 1)

4.3.2 Institutional Data Collection

Institutions in this study have been defined as the channels through which rules and regulations of the activities in the oil sector are established. The definition was operationalised in two ways. There was a first group of state institutions that played a major role in the oil sector. These were identified through a desk study of the recent legal framework. This framework assigns duties in oil sector activities to the institutions in existence to perform specific functions. There were also other state institutions whose duties by other state laws and legal instruments now gave them indirect roles in the oil sector activity. These were the second group and were pointed (snowball sampling technique) out by the key institutions (first group). The third group comprised non-state authorities or bodies who are assigned with roles in the oil activity directly and indirectly and to some extent have legal and yet unwritten approval in their roles and responsibilities.

The main laws within the legal framework are the Petroleum Exploration and Production Law, The Petroleum Income Tax Law (Act), the Petroleum Revenue Management Law, Petroleum Commission Act and the Local Content Bill. Table 4.2 shows the list of the institutions used in obtaining data.

Table 4.2 Selected Institutions and number of Key Informant Interviews

Name of Institution	Number of interviews			Total
	National	Regional	District/ Metropolitan/ Community	
Ministry of Energy & Petroleum (MOEP)	1	-	-	1
Ghana National Petroleu Company (GNPC)	1	-	-	1
Ministry of Finance (MOF)	1	-	-	1
Environmental Protection Agenc (EPA)	1	1	-	2
Ghana Revenue Authority (GRA)	1	-	-	1
Bank of Ghana (BOG)	1	-	-	1
Petroleum Commission (PC)	1	-	-	1
Western Regional Coordinatir Council (WRCC)	-	2	-	2
Sekondi / Takoradi Metropolita Assembly	-	-	2	2
Ahanta West District Assembly	-	-	2	2
Non Governmental Organizatic (NGO)	1	2	2	5
Traditional Authorities			4	4
Community based organizations			6	6
TOTAL	8	5	13	29

Source: Field data, 2013

At the national level all state institutions interviewed had been assigned specific roles in the legal framework of the oil sector. At the regional level an interview was conducted at the Environmental Protection Agency, a national level institution that had an office involved in oil sector activity. Two other interviews were carried out purposively in the development planning and budget financing departments of the Regional Coordinating Council, also mentioned in the legal framework. In total 14 key informant interviews was carried out from state institutions at the national level (7); regional level (3) and district/ metropolitan level (4).

The remaining key informant interviews were from non-state institutions. Interviews were conducted with the traditional institutions and the Non-Governmental Organisations who had indirect responsibilities in oil activities.

A total of 15 key informant interviews were conducted at the National level (1); regional level (2); district/ metropolitan/ community level (12) for institutional and socio-economic data from the non- state institutions. The interviews discussed the roles they played in oil activities, other economic activities in the communities, problems faced and the general characteristics of the various occupations. Targets for the key informant interviews of the non- state institutions were traditional rulers, elders and leaders of the various occupations. A guide was designed to conduct the interviews (see appendix 3). The key informants are leaders of the fishing occupation (2); assembly men from the farming communities (2) and two market queens.

A Social Network Analysis (SNA) was used as the background for designing tools for institutional data collection as well as for analysis. This SNA perspective in research emphasises structural relations as a key to understanding relationships. Attributes such as the age, gender and values in explaining behaviour of the actors in the network are not as important as the structures within the networks. Physical attributes of the institutions is therefore not a priority. Through the use of SNA the direct and indirect influences posed by one institution on the other can be obtained (Knoke & Yang, 2008).

SNA also allows for the changes taking place among groups, people and organisations to be observed. The most significant benefit of using this method for this study is its ability to provide a tool for linking micro level choices to changes at the macro level. This very important aspect is used in investigating the links between macro level institutional

agendas and micro level community activities. The various actors from the macro to the micro levels and their combined interactions are what make the social network (Knoke & Yang, 2008).

Key informant interviews were carried out to obtain explanations on the responsibilities assigned to each institution with respect to oil sector activity. The key informants were heads, deputies or appointed persons of the heads who answered the questions posed during the interviews (Refer to appendix 2). Regional and district offices of some institutions were also interviewed with a slightly different interview guide (Refer to Appendix 3).

The main tools for collecting institutional data for use in the network analysis was the interview guide, stick on notes, highlighter pens and a large sheet of plain white paper. There was a difficulty in arranging a single meeting of all the institutions at the various levels used in data collection at a central point. This meant that the links had to be drawn primarily from the information gathered with the use of a detailed interview guide. This method proposed by Schiffer and Hauck (2010) allows institutions to indicate their links with each other separately. Interviewees therefore answered questions on their roles, responsibilities and actual functions in the oil sector activity. The functions concentrated on the links with other institutions through the flow of funds, information and authority.

The names of the institutions they interacted with when carrying out their assigned roles and responsibilities by the interviewee was written on the stick- on notes. Each interviewee was given a plain white sheet of paper, the labelled stick on notes and the felt pens. They were asked to place their institution anywhere on the sheet and then place any

other institution which had links with them on the basis of the three flows on the same sheet. Proximity did not imply a close relationship with the institution, but was more prudent in creating a less messy map (Schiffer & Waale, 2008). The felt pens were then used to draw lines which indicated the type of link their institutions had with other institutions. Lines of power, authority or command were drawn in green ink. Lines of financial resources or funds were in red and that of information was in blue. A circle was drawn round the most influential institution in the sector.

4.3.3 Household Data Collection

A household questionnaire survey supplemented by in-depth interviews and focus group discussions was used. Background information on the households was obtained by asking questions on personal characteristics including age, religion and ethnic background. Socially developed characteristics such as level of education, ability to read and migrant status were also used to obtain information as a build up to determining the factors that influence the socio- economic characteristics of households.

Questions on knowledge, expectation and fears of oil activity were answered by household heads in the questionnaire survey, the focus group and in-depth interviews. Knowledge was operationalised as awareness of the existence of the resources discovery, of the institutions guiding its exploration, the consumer products derived from oil and ownership of the resource. It is linked to familiarity and understanding of phenomena or situation either through experience or by association. This working definition was employed in the study. It was used in obtaining information on the little understanding people in the study communities had about oil activity (Alavi & Leidner, 2001: Renko, Autio & Spenza, 2001).

Expectation was captured as an ardent wish in the household survey, in-depth interviews and focus group discussions. Fear was obtained by a simple yes or no fear- response category. A further division on the type of fear was to enable an analysis of what people feared the most about oil activity. These divisions were political fears, economic fears, social fears, environmental fears, cultural fears and medical fears. These types of fear also had categories which were examples gathered from literature (Idemudia & Ite, 2006).

Information on socioeconomic change data was obtained over a five year time period. Data was measured by wealth status and total well-being between 2007, when the oil discovery was first made, and 2012 after the production of oil. This approach referred to as 'before and after' has been used for studies where there is a lack of adequate baseline data and an ideal comparative situation to establish a 'with and without situation'. Data was collected on household assets, living conditions before 2007 and after 2012 and on total well- being (education and health) between 2007 and 2012. The assets and living conditions data was combined to obtain the wealth status of each household.

The wealth status of a household often times determines income being earned as well as savings and other income proximate measures of a socioeconomic position. Other factors such as the educational attainment of children from poor households also link socio-economic factors to the wealth of a household (Filmer & Pritchet, 1999). Dolan, Peasgood and White (2008) indicate that the factors making total well-being can be summarised by seven main groups. These are income, including all the proxies, personal characteristics such as age, socially developed characteristics such as health and

education, how the individual spends their time, attitudes and beliefs, the wider social, political and economic environment and relationships such as marriage.

Data on household perceptions on institutional contributions were collected during the household survey. Three types of institutional contributions are used in investigating the links between institutions and socioeconomic change. These links can be direct or indirect. They are Institutional Contribution to Economic Activity (ICEA), Institutional Contribution to Household Income (ICHI), Institutional Contribution to Community Development (ICCD).

In each of the six communities there were two focus group discussions. The groups consisted of a maximum of ten people and a minimum of six persons in each of the communities. The discussion lasted for a maximum of ninety minutes. The selection of the members of the group was done with the help of the assembly man and opinion leaders in the communities.

In-depth interviews were carried out to elicit information on certain observations made during the questionnaire survey. In Dixcove, one household head was a teacher and gave an insight on the community's issues on education. A focus group guide was used in eliciting information especially targeted at giving more details on the social and economic changes in the communities. The emphasis was on health, education and sanitation.

4.4 Analysis of Data

The methods used in analysing data either quantitative or qualitative varied for each study objective. The explanation of the analysis done is subsequently discussed for each objective.

4.4.1 Institutional Data Analysis

Net-Map, a tool which merges the social network analysis method and simple mapping techniques, was employed in the analysis of institutional data. The institutional data was first grouped and a net map was drawn after discussing a set of roles under each group. The groups represented institutions with direct functions in oil sector exploration and production; revenue management; and local content. Further the other groups that had indirect roles in the oil sector activity were added to create a net- map which summarised the total interactions between all institutions of the study.

The original flows drawn in the individual net maps during the interview was compounded into this single net map. All flows of information between institutions were depicted by blue lines. A flow of funds or resources was depicted in red inked lines and command or authority depicted green ink. Broken lines in brown were used to indicate a desire from a particular institution to have better or improved links between itself and the other institution. The institutions wielding the overall authority is depicted as the tower of influence in the net-map by a black circle drawn around it. This particular institution was decided by each of the other institution as the central authority. These institutions have the most ties and are indicated by the others as the most powerful in decision making.

Institutions are to ensure oil activity does not affect the economic activities and hence the livelihoods of people in the oil affected districts. In this study, this responsibility given to institutions was accessed by the evidence of links between three institutional variables and the socioeconomic change variable. Institutions were captured as ordered dependent variables through perceptions held by households.

4.4.2 Analysis of Household Survey Data

Household survey data was analysed in two parts. Qualitative data gathered during the key informant interviews and focus group discussions in the communities were used to intersperse the descriptive responses and to compliment the quantitative results. Similar themes in the data were put together through the creation of a tally table such as information relating to health; to education; to expenditure and the problems of the various occupations. Central themes, ideas and information which support the quantitative data analysis were then picked from the information. The discussions and conclusions reached were compared on the basis of the economic activities of the communities. These are fishing, farming trade and service.

The quantitative data was analysed using (SPSS) and STATA. The main unit of analysis was the head of household. Some variables were recoded. Descriptive statistics, namely percentages, charts and frequencies and cross tabulations were used in discussing the variables. Simple correlations were also used in testing the relationship between selected household attributes and other variables such as the knowledge, the expectations and the fear of the respondents.

4.4.3 Constructing Wealth Quintiles to determine Socioeconomic Change

One important measure of the socioeconomic position in many works has been the wealth index, an asset based methodology. When constructing a wealth index from a set of variables the most important decision rests on what weights to assign each indicator variable. The simplest way would have been to sum up the indicators each household possesses, but this poses a disadvantage since each indicator is then given the same weight. Alternative weighting methods have been suggested, such as using price information to value items. These methods, though, can at times become cumbersome and involve long and tedious techniques which further complicate data collection.

One way of eliminating this has been to employ the Principal Component Analysis (PCA), a now common statistical tool in research work (Filmer & Pritchett, 2001). When PCA assigns a weight to each initial indicator variable, the weights form the basis for computing the wealth index of the household. The weights reflect the possibility that in a household where certain specific assets are owned there is the likelihood that other assets which either accompany it or go hand in hand with its operation will be owned (Moser & Felton 2007).

The PCA employs correlations between indicators of household wealth to generate a set of uncorrelated principal components. If 10 components are used in the PCA, it generates 10 other uncorrelated components. In each of these 10 components the assets are given an 'eigen value' which is interpreted as the weight. In the weights estimation for obtaining the asset index, the variables must therefore positively correlate with the latent variable and with each other. However, if they do not, the remedy is to interpret ownership of

those assets as a sign of lower wealth. Negative values of estimated wealth are accepted because the estimated variable is ordinal and can either be used as it is or standardized so that they are all positive (Filmer & Pritchett, 2001; Rutstein & Johnson, 2004; Vyas & Kumaranayake, 2006). Each standardized original indicator is then multiplied by its 'eigen value' to arrive at a component score and summed up to produce the household's wealth index (Howe et al., 2012).

The resulting wealth indices obtained for the households were grouped into five parts referred to as quintiles. One represented households in the lowest wealth group and five Households in the highest wealth group. Some surveys have attempted to collect data on assets while capturing the quality and age or the present re-sale value of the asset. The difficulty in this is a reintroduction of the original shortcomings being avoided in the use of a money metric measure. These are the difficulties that would have been faced in this study. The 'before and after approach' being used to indicate change required respondents to recall information. Within this period before 2007 and after 2012, the currency was re-denominated in Ghana from cedis to Ghana cedis. To avoid the complications and unreliable data, assets supported by household living conditions was used in computing the index (Howe et al., 2012).

Another known disadvantage of the wealth index as a measure of socioeconomic position is the fact that it uses a composite score which can only be used in ranking or creating a hierarchy within a given population. Inferences from the results can therefore not be made across a larger population. Income and consumption expenditure which have absolute value are versatile.

There has also been the argument that its construction is often urban biased and it tends to include certain facilities such as access to improved water, electricity supply and a dwelling constructed from modern as opposed to traditional materials. Another caution used in data collection was to record only assets in working condition to avoid ownership of assets which were in a redundant state.

The wealth index has proven to be one of the useful ways of obtaining background data for Demographic and Health Survey surveys and is widely used by many agencies such as UNICEF in their Multiple Indicator Cluster Survey. It has been used to assess the role of wealth status in National Health Insurance Schemes in Ghana (Asante & Aikins, 2008). It is still recognized as one of the best tools available in measuring socioeconomic position, especially in low and middle income countries where reliable data on income and expenditure is often limited and inaccurate (Rutstein, 2008).

A paired test of means (*t*- test) was also conducted on the means of the wealth indices in 2007 and 2012 to determine if there had been significant changes in the socioeconomic position of households.This *t*-test statistic is a t-score (t) defined by the following equation:

$t = [(x_1 - x_2) - D] / SE = (d - D) / SE$

where x_1 is the mean of sample 1, x_2 is the mean of sample 2, d is the mean difference between paired values in the sample, D is the hypothesized difference between population means, and SE is the standard error.

Cross tabulations and the chi square statistic test were used in testing the relationships between socioeconomic change and other household attributes. Spatial differences

existing in the chosen 'oil affected districts' were used in discussing the patterns in socioeconomic change.

4.4.4 Ordered Probit Regression of Institutions and Socioeconomic Change

To investigate the links between socio- economic change and institutions, an ordered Probit regression was carried out. The ordered probit regression is said to be a more appropriate method in identifying the deterministic effect of a selection of variables (independent variables) on an ordered dependent variable. It explains the probable effect of a unit change in the independent variable on the order of the dependent variable. The three dependent variables capturing institutional contributions were modelled separately. Referring to Green (2002), an ordered probit model is specified as follows:

$$y^* = X'\beta + \varepsilon$$

where: y^* is the dependent variable

X' is a matrix of the independent variables

β are the coefficients

ε is the error term which is assumed to be normally distributed

hence y^* becomes one of the three institutional variables namely Institutional Contribution to Economic Activity (ICEA), Institutional Contribution to Household Income (ICHI), Institutional Contribution to Community Development (ICCD). Each institutional variable was ordered as decreasing (lowest), the same (middle) and increasing (highest).

To provide an alternate to the wealth/ status index, a subjective measure of socioeconomic positions was used in the study. Measures like this are said to allow the research participants themselves to rate their own position in the socioeconomic

hierarchy. They have also been argued to capture more of the subtle aspects of social status. It again allows respondents to rank their own overall socioeconomic condition based on a host of factors which reinforce and at the same time contradict each other. The disadvantage is we can never tell if people will rank themselves correctly, especially when the individuals feel they will benefit from ranking themselves lower or higher (Howe et al, 2012).

There is the general risk that a good life constitutes what persons think is desirable to their life. A situation can therefore be created where different perceptions arise as to what constitutes Total Well Being (TWB). To avoid this and to ensure some measure of uniformity, structured measures were used in guiding household heads to decide on their total well-being (Diener, 2000).

Dolan, Peasgood and White (2007) also indicate that the review on the factors influencing total well-being can be summarised under seven main groups. These are income including all the proxies, personal characteristics, such as age, socially developed characteristics such as health and education, how the individuals spend their time, their attitudes and beliefs, their wider social, political and economic environment and relationships such as marriage. All these constitute a part of a person's total well- being.

Three models were estimated for scenario I and three for scenario II. Scenario I used a combination of selected household attributes and the wealth status of households after 2012 as the socioeconomic change measure. Scenario II used the same selection of household attributes and in addition migration status. The socioeconomic change measure

was the perceived level of change in the total well- being of household members between 2007 and 2012. Each group of attributes and institutions had categories to provide clearer outcomes and a basis for comparison. The marginal effects of the variables that were interacted were also estimated to give even clearer conclusions on the interactions.

CHAPTER FIVE

THE ROLE OF INSTITUTIONS IN GHANA'S OIL SECTOR

5.1 Introduction

In Chapter Two a historical account of how the oil sector has evolved in Ghana was discussed. Through this discussion the new laws set to manage the activities of the sector were mentioned. This chapter discusses the role being played by state and non-state institutions and the resultant interactions they have in the oil sector activity. A net-map summarises the interactive pattern formed by the institutions under each group of activities. The three groups of activities are oil exploration and production, collection and utilisation of oil revenue, and participation in oil activity or local content.

The interactions between all institutions in the various groups of activity are put together by creating a single net map. The interactions are then discussed by flows. The flow of information and the flow of resources depict the levels of influence. The greater the interaction, the greater the influence of that institution. The chapter also discusses the influential role of traditional institutions such as chieftaincy, kinship and inheritance in oil sector activity.

5.2 Petroleum Exploration and Production Activities in Ghana

The Ministry of Energy and Petroleum (MOEP) remains the head of the hierarchy of institution established to oversee petroleum activity in Ghana. This ministry has affiliate institutions whose roles have changed since commercial discovery of the resource in 2007. These are the Ghana National Petroleum Corporation (GNPC) which is the national

oil company of Ghana. The other is the Petroleum Commission of Ghana. The main objective of creating GNPC was for it to undertake the exploration, development, production and disposal of petroleum in Ghana. The corporation is hence charged with the responsibility of ensuring all petroleum related activities, including the transfer of technology and training of personnel, is done for the proper development of the sector.

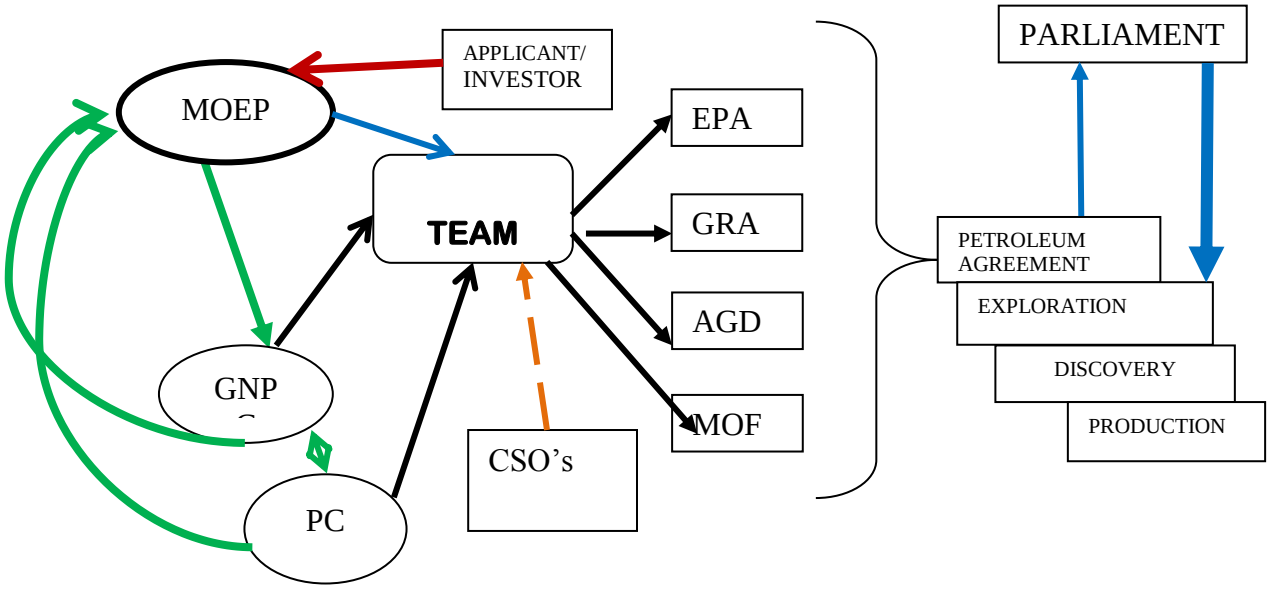
GNPC currently engages in activities in partnership with others. It buys, sells, exchanges and engages in research and development, all in the interest of Ghana's petroleum sector. Before commercial oil discovery in 2007, the institution scored major achievements in petroleum exploration and production activity in Ghana. Any petroleum resource found in Ghana's territories is under the charge of GNPC which looks after it on behalf of the Republic of Ghana.

In July 2011, the Petroleum Commission Law established the Petroleum Commission (PC) for the regulation, management and utilization of petroleum resources and related purposes. The PC was set up as a corporate body just as the GNPC with specific objectives. The PC is now the main regulator of the industry whereas GNPC is the operator (Key informant interview, GNPC, 2012).

PC and the GNPC work hand in hand. Together they solicit for the necessary resources, both financial and technical, from the exploration stage of the petroleum to discovery and production. On behalf of the government and people of Ghana they look for investors by presenting acquired geophysical data which show Ghana's petroleum deposits at oil and gas conferences worldwide. Interested persons are then invited to apply for a 'block' (an area of approximately 685 square kilometres).

This application procedure involves an interaction process between several institutions. A consensus is reached and the application is either accepted or rejected. The interactions are summarized in a first net map in figure 5.1.

Figure 5.1 Institutions and Processes in Exploration and Production



Key: MOEP- Ministry of Energy and Petroleum, GNPC- Ghana National Petroleum Corporation, PC- Petroleum Commission, EPA- Environmental Protection Agency, GRA- Ghana Revenue Authority, AGD- Attorney Generals Department, MOF- Ministry of Finance and CSO's- Civil Society Organisations
Source: Authors construct Field data 2013

In Figure 5.1, when MOEP receives an application from a potential investor it sends it to PC and GNPC for evaluation. The evaluations involve assessments of financial strength, technical track record, proposed work programme and the budget of the applicant. If MOEP is satisfied with the evaluation, they recommend that the applicant be given a chance for negotiating a Petroleum Agreement. MOEP forms a team comprising senior officials from the Ministry of Finance (MOF), the Ghana Revenue Authority (GRA), Justice and Attorney-General's Department (AGD), the Environmental Protection Agency (EPA), the PC and GNPC.

The team's responsibility is to decide if the potential investor satisfies all the terms and conditions. The deep red arrow is the first stage of the process of application which goes to MOEP symbolises a flow of resources coming into the sector. The green arrows indicate the exchange of information in a second stage between MOEP, GNPC and PC. The three institutions constitute the team and invite other members from the other institutions. Black arrows indicate the team members in the evaluation process. However if there is any disagreement during the evaluation or negotiation, the authority of the Minister of Energy and Petroleum is superior to all other institutions, hence the thicker outline of MOEP.

A Petroleum Agreement is negotiated between the accepted investor, the PC, GNPC and MOEP. The Ministry then submits the agreement to Parliament for approval. In parliament a Select Committee exists for the Energy sector which oversees all activities. When approval is received, the investor is issued a licence by the PC and exploration can begin. This interaction is depicted by the blue arrows to and from Petroleum Agreement to Parliament and then to the exploration stage in figure 5.1.

Civil Society Organisations (CSO) have a responsibility in the exploration and production process. Most of them unfortunately do not see this role as a guarantee of transparency on how exploration and production are carried out. They have in line with this criticised the mode of negotiating current Petroleum Agreements as being unconstitutional. There is no open competitive bidding and the key institutions have responsibility in deciding who gets a block and the terms of the agreement. This debate has been heralded by the African Centre for Energy Policy (ACEP). In Figure 5.1 the

weak position held by CSOs in petroleum exploration and production is shown in brown broken lines.

Most significantly, the head of the Ministry of Energy and Petroleum i.e. the minister has the overall superior role and this gives the Minister the power and authority to make further specific regulations within the sector. The argument is that it is not appropriate to concentrate so much power in a single institution whose head is politically appointed (Key informant interview ACEP, 2012).

The implications of this role assigned to a single institution are positive as well as negative. In a political state, as discussed by Auty (2001), authority such as this will promote the pursuance of sectional interests. Investments may then be made in the interests of certain groups and at the expense of the others not favoured by the government in power. Ghana is a political state, and the appointment of the minister is by the government in power which is likely to enhance interests of the ruling party.

On the other hand, the power and authority of the Minister to oversee all the activities of the oil sector ensures discipline. This clear cut role of an overall single authority in the implementation of the functions in a young sector is important. This becomes beneficial when that sector is young and prone to consistent criticism. It helps in making final decisions, especially if government is faced with crucial choices. The quality of institutions, however, has been found to be influenced by the level of constraints on the executive (Fosu, 2013). A single institution with so much power and so little constraint stands the risk of reduction in its quality, whereby absolute power corrupts institutions.

The initial dual role of GNPC was criticized widely as inappropriate and contradictory. The oil companies are the partners of Ghana in its petroleum activity. These partners are referred to as contractors or sub- contractors and they are bound by legal enactments to curtail their actions. They cannot invite third parties directly or indirectly into the agreement without the prior and written consent of the Minister. They also cannot undertake or permit any information obtained by themselves in connection with petroleum operations to be retained or exported. The contractor is also bound to employ Ghanaians who have the requisite skills at various levels of operations, use Ghanaian goods and services, avoid discriminatory practices, plan programmes for training and impart advanced technological skills and know- how in petroleum operations.

The Environmental Protection Agency, as provided by EPA Act 490 of 1994, has a vital role in the oil activity. Though not designed particularly for oil activity, it is the main legal document which gives due credence to the activities of the EPA as an institution in oil activity. The EPA issues permits to license holders in the oil sector after it is satisfied that they have correctly undertaken an environmental impact assessment and have a well-planned contingency measure to deal with accidents and operations which affect the sea.

The Jubilee partners of the current oil production field prior to commencing operations have also had to develop a comprehensive health and safety plan and an Environmental Impact Assessment (EIA), as a requisite part of the project. The EIA is subject to the approval of the EPA before oil activity can commence. Through these documents the partners make a binding commitment in ensuring the best practices which in turn give them more credibility in carrying out their activities.

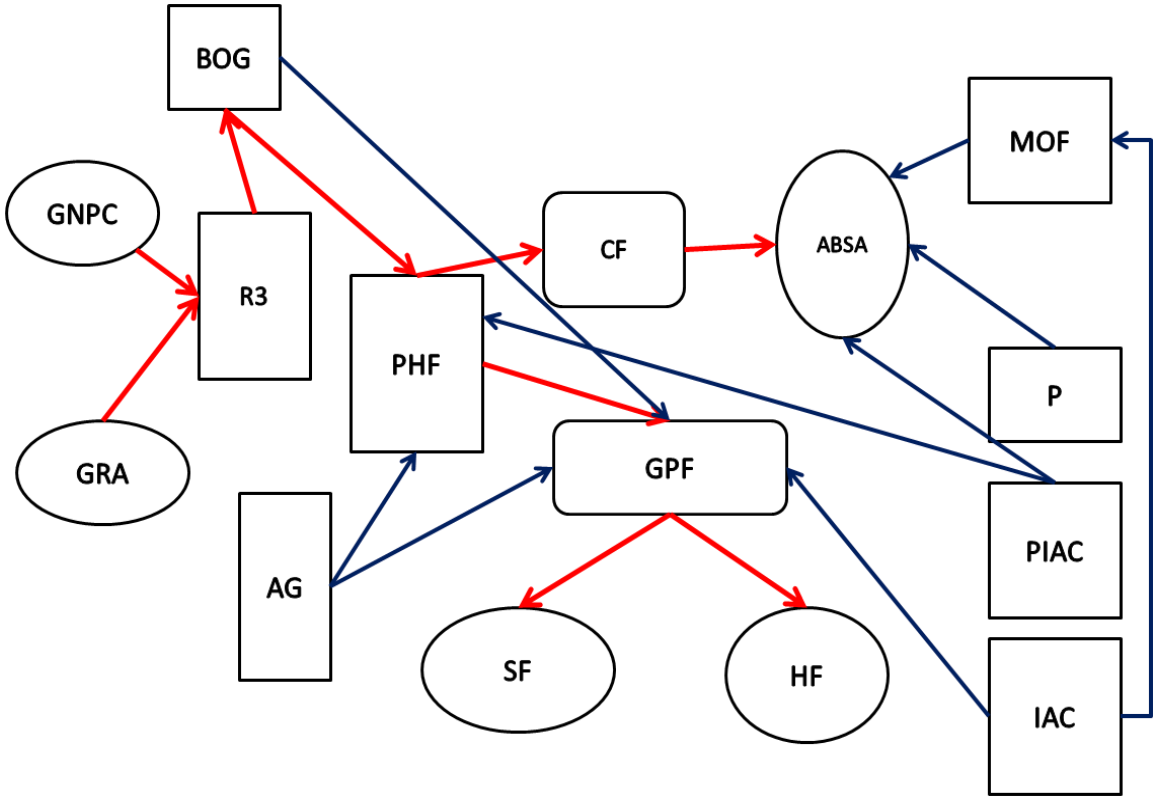
It is the role of the PC to monitor the actions of the contractors. The PC is responsible for environment, health and safety in oil activity. They do this with the help of senior officials from other authorities, most importantly the EPA. Where there is an incidence of such damage, they take the steps and measures needed to ensure that the costs of salvaging the environment are borne by the contractor. Offences and penalties are set for parties or persons who obstruct GNPC, contractor or subcontractor in the exercise of any of their rights and duties.

5.3 Revenue Collection and Management in Ghana's Oil Sector

The Petroleum Revenue Management Act- ACT 815 provides the legal basis for the roles of various institutions and prescribes the modalities to be employed by them. The Act covers the value chain of the collection procedures to the utilization of oil revenue created in line with the best international practice and in compliance with the principles for Sovereign Wealth Funds or the Santiago Principles.

Figure 5.2 is a summary of the division of petroleum revenue into the 'Funds' and the interaction which takes place between the institutions.

Figure 5.2 Division of Petroleum Revenue into the Assigned "Funds"



Key: BOG- Bank of Ghana, GNPC- Ghana National Petroleum Corporation , GRA- Ghana Revenue Authority ,R3-Receipts/ Rents/ Royalties , AG- Accountant General , PHF- Petroleum Holding Fund, CF-Consolidated Fund ,GPF-Ghana Petroleum Funds ,SF-Stabilisation Fund ,HF-Heritage Fund ,ABSA-Annual Budget spending Amount, MOF- Ministry of Finance, P- Parliament, PIAC-Public Interest and Accounts Committee ,IAC- Interim Advisory Committee
Source: Authors Construct field data, 2013

It is ensuring that these conditions are achieved, that the Act establishes distribution channels termed 'Funds' into which the revenues are allocated. Institutions have been assigned with responsibilities to ensure the distribution is carried out as the law prescribes.

In Figure 5.2 all red arrows indicate the flow of revenue between the institutions. The blue lines indicate the flow of command from one institution to the other. It is seen that revenue from oil is collected via three receipts (R3). These are the sales, the royalties and the rents which are then deposited into the Petroleum Accounts. This is disbursed into the

Consolidated Fund (CF) which supports the Annual Budget Funding Amount (ABFA) and the Ghana Petroleum Fund which supports the Stabilisation Fund (SF) and the Heritage Fund (HF).

The Ministry of Finance has superiority in revenue collection and the management of the institutional functions specified by the law. Several institutions with semi-autonomous authority also perform related functions in conjunction with the ministry to ensure the proper management of the revenue.

The first of these is the Bank of Ghana (BOG), the Central Bank of the nation, where a Petroleum Account has been opened. BOG manages the transfers and withdrawals of this account. In collaboration with MOF and as provided by the law, it allocates 70 percent of total revenue coming into this account into a Consolidated Fund (CF). The CF supports the Annual Budget Spending Amount (ABSA) prepared by the Ministry of Finance. The Ministry, using an expected revenue amount termed 'benchmark revenue', prepares a budget which it submits to parliament for approval. Through this, the ministry makes requests for the funds to support the nation's budget once BOG makes the transfer into the CF. The Ministry has the power, however, to propose to parliament that a greater percentage of the total revenue be put in the Consolidated Account and the rest be saved in the Ghana Petroleum Funds.

Alternatively, the remaining 30 percent of the revenue is now deposited in the Ghana Petroleum Fund by the BOG (PRMA, Clauses 19-24). Between these two institutions exists an Operations Management Agreement formulated under the BOG standard for similar investments.

In order to reduce the effect of the huge foreign currency inflows from the oil sector, which would destabilize and devalue the local currency, BOG has opened an Euro clear Account into which all petroleum revenues being earned for Ghana is deposited (Act 815, Section 26-27). Literature asserts the importance of not depositing huge revenues such as this in local accounts as this tends to affect domestic revenue and destabilize the local currency.

Table 5.1 The distribution of Ghana's Oil Revenue into various funds from 2011-2012

Type of Fund	Year	
	2011	2012
Consolidated Fund (Annual Budget Funding Amount (ABFA))	GH¢261,539,420	GH¢516,834,831
Ghana Petroleum Funds	GH¢105,253,361	GH¢45,595,226
TOTAL	GH¢366,792,781	GH¢562,430,057

Source: Ministry of Finance, 2013

Table 5.1 shows a summary of the petroleum revenues earned in 2011 and 2012, the amount put into the Consolidated Fund to fund the budget and the amount put away in the Ghana Petroleum Funds for investments. (Source: Institutional key informant interview, 2013).

The second institution with a key role in revenue collection is Ghana Revenue Authority (GRA). It comprises the Internal Revenue Agency of Ghana, the Customs Exercise and Preventive Services and the Value Added Tax Corporation. Within GRA there are two divisions to manage petroleum related issues. These are the customs division and the revenue collection unit. The former division has a monitoring and evaluation unit which ensures the meters installed on the FPSO to measure production levels are accurate. They also keep track of the daily readings. The revenue collection unit concentrates on the

taxes to be paid from all of petroleum activities. This division has to make the tax assessment and come out with expected tax revenue even before the tax payments are received into the Petroleum Holding Account.

GRA verifies and reconciles the expected and actual tax collected. GRA is under the authority of the Ministry of Finance. The flow of information and the functions are limited to the national level '*There are subdivisions at the regional and district level. However the departments involved in the petroleum tax exist only at the national level'* (Key informant interview, GRA, 2013).

Parliament, the Interim Advisory Committee (IAC), and the Public Interest and Accountability Committee (PIAC) are support institutions in revenue management. As stated before, all proposals by the Finance Ministry are subject to Parliamentary approval. Parliament therefore debates the budget spending amount proposed by the Ministry of Finance.

The PIAC and the IAC are monitoring institutions. PIAC is responsible for monitoring government's allocation of the petroleum revenue into the designated funds and an evaluation of what the funds have been utilized for. This role is in accordance with the provisions of Act 815 sections 53- 55. To do this, PIAC facilitates public debate on the use of the revenue and prepares annual reports for public viewing (Key informant interview, 2013).

The role of the Interim Advisory Committee is to advise the Minister of Finance on the best and safest investment opportunities available for the deposits in the Stabilisation and

Heritage Funds. Internal and external audits are carried out on the accounts and records of the Ghana Petroleum Fund and the Petroleum Account. The external audit is conducted by the Auditor General's department of the governments' machinery. Saving a part of resource rents or revenue for future generations in the form of a Stabilization and Heritage Fund are certainly steps in a positive direction. Norway, Canada and Sao Tome Principe all have Funds that ensure that some revenue from their oil resource has been saved for future generations.

5.4 Local Content in Ghana's Oil Sector Activity

Local Content has been described as the quantum of locally produced materials, personnel, goods and services rendered to a productive activity. It can be measured in monetary terms. Local content aims at deriving maximum and sustainable benefits for the region in which the productive activity is taking place. In the natural resource discourse, local content can occur at any part of the value chain of the activity, beginning from the exploitation of resources to the final point of sale. The concept has been imbibed into policies as a way of providing some of the best possible linkages where all stakeholders benefit from exploitation of the resource.

A policy which contains elements of local content or a Local Content Policy (LCP) is planned with achievable targets, transparency and commitment from all stakeholders. The Ministry of Energy has drafted a LCP for Ghana's petroleum sector activity. The drafting of the LCP for petroleum activities involved a great deal of stakeholder involvement. The stakeholders included various representatives from the regions, parliament, district assemblies other government bodies and traditional authorities in the Western Region.

The ministry confirms, that though not all the varied ideas are reflected in the policy document, an ideal level of consensus was reached on most of the pertinent issues.

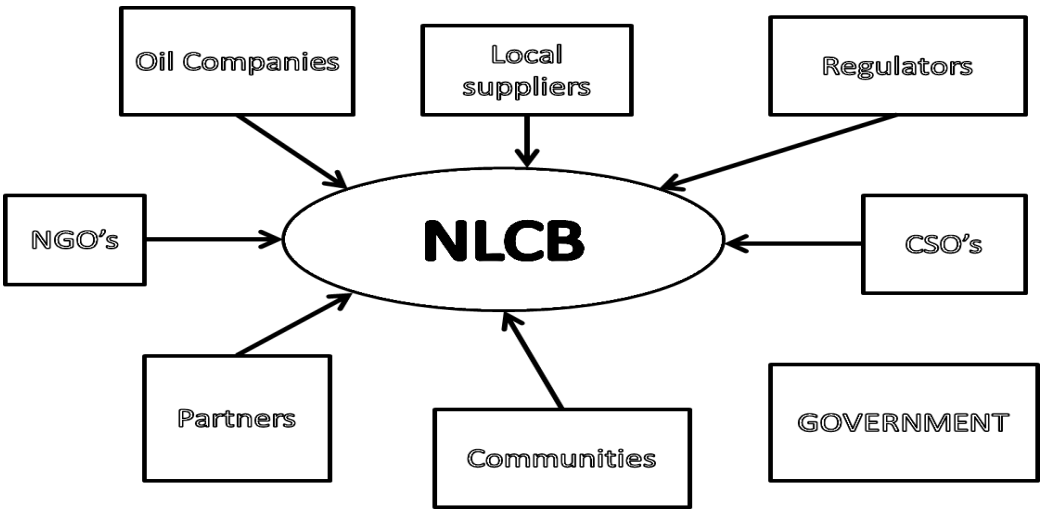
Aside the Ministry of Energy, under the PC a National Local Content Board (NCLB) has been constituted. The NLCB's role is to ensure that there is 5 percent equity for Ghanaians excluding GNPC as contractors or petroleum license holders and 10 percent equity as sub- contractors in the supply of related goods and services to the sector. The aim is a direct involvement of more Ghanaian citizens in the oil sector. The contention is, however, that the Ghanaian operators must possess the capacity to fulfil the requisite conditions that are specified in the application process. This participation of Ghanaians is not transferrable to non- citizens of Ghana unless approved by the NLCB. In line with these women's participation is to be encouraged, promoted and facilitated.

There are other opportunities such as the provision of consumer goods and services that have other targets to be recommended by the NLCB. To make this a reality, government has a role to provide an enabling environment where the opportunities for Ghanaians to participate are better enhanced and also enforceable by law. It is mandatory that services such as banking and insurance should be local. Preference should be given to the use these services if they are competitive in terms of quality, availability and price (even if they are 10 percent more expensive).

The NLCB will identify the key strengths of the Ghanaian workforce, ensure that capabilities are enhanced, skills and technology are handed over, and developments associated with the oil and gas discovery in Ghana are sustainable. It is also the responsibility of the NLCB to ensure that gradually equity percentages increase and the

industry changes from a foreign dominated to one characterised by a local ownership. The NLCB is mandated to publish at all times the opportunities available for Ghanaians to participate in the sector. The NLCB shall receive from every operator in the oil sector a detailed annual recruitment programme for training and recruiting of Ghanaian citizens. The NLCB is however a single institution to oversee and effectively ensure local content in the oil sector. Though not outlined in the law, there are roles to be performed by other institutions for the targets to be reached. These institutions can be described as the pillars of local content which are of vital importance in effective local content implementation. Some of these institutions are shown in Figure 5.4.

Figure 5.3 Participants Needed for Effective Local Content



Source: Adapted from Tullow's Model (Tullow, 2010)

Figure 5.3 represents a model adapted from Tullow's Local Content Report in 2010. Other key institutions have been added. The PC is the regulator for Local Content. The PC is mandated to ensure a local aspect in all operations of the oil companies. It has also to provide them with guidelines on how local content can be achieved. In issuing new and

renewal permits to contractors, the PC can rely on the commitment of operators to local content as yardstick for evaluation.

In conjunction with the Enterprise Development Centre, the PC is promoting the development of enterprises that will meet the demands of the oil sector. This is also to help more Ghanaian companies seek contracts. Though by law the oil companies adhere to what is required, their level of commitment in helping to reach the targets is what is important for the success of the policy. Local suppliers have to register with the PC and have a platform for making complaints on non- awarding of contracts to Ghanaian firms.

The PC is also mandated to coordinate the Corporate Social Responsibility activities in the oil sector. It has in place a community development department which undertakes this role. Their main target has been the communities in oil affected districts in the Western Region. Their major challenge is the inadequate funds needed to tackle the many socio-economic needs of the communities in these districts. The PC also lack the proper database to ensure that they are reaching the communities who have the highest need for assistance.

5.5 Indirect Institutions in Petroleum Activity

With the discovery of oil, Ghana had to adhere to some international rules and regulations as part of a guide to the oil sector activities. This was because the country lacked specific legislation to address particular issues. Again as a member of certain international institution such as the United Nations (UN), there were certain rules which became applicable to Ghana. The majority of these rules and regulations have legal backing. If a country is a member of this organisation it unequivocally enforces these

rules. In this respect there are punitive measures for nation states that may decide to ignore them.

One such was the adoption of the Extractive Industries Transparency Initiative and the establishment of a secretariat to fully handle this responsibility. Ghana Extractive Industry Transparency Initiative (GHEITI) has extended its activities to cover oil activities and has subsequently become one of the watchdog institutions in the oil sector activity. GHEITI monitors the revenues being deposited in the Petroleum Accounts and reports if there are some shortcomings. It publishes the reports of its findings on oil as well as other mineral sector revenue of the country.

From the international level, we can also find some more state institutions whose indirect roles matter in Petroleum activity. Under the Ministry of Defence, the Air Force and the Navy are the recognized institutions responsible for security. In addition, the support of the Police and Fire Service will be called upon when necessary.

The Directorate of Fisheries and the Fisheries Commission under the Agricultural Ministry also have functions linked to the sector's activities. The Fisheries Commission was established in 1980 by the Fisheries Act 625. As an institution its role is to provide a platform to address all issues that are related to the use of inland and marine resources. The institution is under the authority of the Ministry of Agriculture. With the discovery of oil, it has been recognized as an important contributor to the discourses that centre on the perceived effect of the activities on communities engaged in fishing. The commission has a regional office with a single representative under the Agriculture Department in the Ahanta West District office.

The Ghana Ports and Harbour Authority (GAPOHA), the Ghana Airport Company Limited (GACL) and the Ghana Maritime Authority (GMA) all have functions indirectly linked to the activities of the oil sector. Transportation by air and sea is of vital importance to the sector. Frequent movement of personnel, goods, services and other vital resources for the sector depend a lot on the proper functioning and operation of these institutions. The Ghana Maritime Authority is responsible for patrolling and protecting the coastline and waters of the country.

There are also rules and regulations instituted by the district and regional level authorities which cut across the various economic activities. The Western Regional Coordinating Council (WRCC) has had a very little role in the oil activity. WRCC has only partaken in stakeholder discussions and forums and several staff members have participated in training programmes both in Ghana and abroad on how best to ensure oil development benefits the country.

Within the WRCC is the Regional Planning Coordinating Unit (RPCU) created to harmonize and coordinate the plans and programmes of the district planning departments as directed by the National Development Planning Commission (NDPC). This monitoring and evaluating role of WRCC through its RCPU is perhaps the closest function the institution performs in the oil sector. They are in charge of implementing governments' development agenda as mandated by the Local Government Law, 1993 (Act 462). The institution faces financial and human resource constraints in performing its functions.

A key role played at the metropolis and district level is the mediation of conflicts brought to their office for settlement. This has been the case in land disputes and the seizure of fishing boats and nets by the Ghana Navy. The district mainly helps the communities in their economic activities. It embarks on community development projects and at times is involved in the provision of direct income for some households in the communities. It is also the responsibility of the District Assemblies to give meaning to the participation at the local level. Guidance, direction and supervision of local communities to participate in the development programme must be provided by the District Assemblies. This could be an important link to ensuring that local content becomes beneficial to the communities.

A common fund set up by the national government as part of the national budget is provided to cater for the needs of the districts. District Assemblies are also allowed to generate their own funds (internally generated funds). They have also been the main means of communication between the oil companies and the communities in affected districts.

Aside this there are no specific functions or departments created in relation to the oil sector activity. The planning departments of AWD and STMA confirm the presence of a liaison officer from the Jubilee partners who coordinates the social responsibility initiatives linked to development planning.

The development planning office provides the partners with information on the areas needing immediate attention in the district and metropolis. With this information the partners may offer support in the implementation of some projects. There were

complaints in relation to this where some projects not initially coordinated by the district have now become 'white elephants'. Funding to the districts did increase between 2007-2012 especially from NGOs. In STMA this includes support from USAID through the CHF and the African Development Bank through the Social Investment Fund (SIF). The French government through 'Agent Francoise' has also supported a lot of the infrastructural projects of the metropolis.

The district has developed its social services and has a number of basic and second cycle institutions. In addition it has two Senior High Schools and one technical and vocational institute. Health is relatively well provided in the district. The main hospital for AWD is in Dixcove. In addition there are three health centres, eight community health providers (CHPS) compounds and four clinics. The Assembly asserts the fact that the district faces a problem of inadequate staff in the health sector.

The Ahanta West District Assembly reports that it could do with more help in the development of the communities with the new revenue being generated from oil if it is allocated a portion, as is done in the mining sector activities. Currently the assembly reports that it has fifty eight percent of the population with access to pipe-borne water and the remaining 42 percent depend on streams, rivers and other water bodies for water. Dumping of refuse in undesignated places is carried out in most parts of the district. In the rural areas, the pit latrine is the main toilet facility while the urban population has access to flush toilet.

The district acknowledges the presence of vulnerable populations who are being supported by the Assembly and other partner organisations. Child labour is a critical issue contributing to the high school dropout rate in the district. AWD enjoys a host of partnerships with donor organisations such as World Vision International, USAID, Catholic Relief Services and recently Cirrus Oil. It is hoped that with the identified issues of development for the district, policies and programmes will get organised to cater for the needs of the communities.

5.6 The role of Traditional and other Non- State Institutions

The literature discusses the role of local institutions in natural resource management. The study finds that local institutions in the oil sector have not been assigned any formal responsibilities. The role they play is indirect and stems from unwritten and at times unspoken rules, norms and traditions which have been handed down through the generations. Amongst these local institutions, the study also finds that there is a hierarchical system of authority in place. The chief is the head of the traditional institution, and most Akan societies show this similar pattern in their traditional hierarchy of governance. The chief as the head is therefore assisted by a council of elders. All important matters are discussed with this council who also have the power to de-stool the chief. The choice of a chief is determined by this council in consultation with the queen mother. This queen mother is recognized as the spiritual mother of the chief (though not always the chief's biological mother) and is often next in command to the chief. She also takes decisions on matters affecting the community.

The superiority of traditional institutions in the study communities and in the whole of Ghana are is portrayed in several forms through the types of dominant economic activity and the ownership of the resources which drive these activities. The chief's role is thus to protect and use resources in his community for the benefit and welfare of all members of his community. From the traditional leaders the study finds that they have not been assigned formalised roles in the oil sector activity.

On several occasions the traditional authorities confirmed that they initially had been invited to forums to discuss how the activity will take place. The frequency of invitations to meetings and discussions lessened when actual production began. What is gathered then is that initially the opinion and support of people in the communities were sought through their traditional leaders. Secondly the traditional leaders were a necessary part of stakeholder discussions to avoid the criticism of the decisions in the sector being regarded as not inclusive.

One of the major resources controlled by chiefs is land. Chiefs are known to enforce the customary land laws of their communities. In 2003 the role of chiefs in the administration of land in their communities was streamlined under the creation of the Community Land Secretariats (CLS) set up under the Land Administration Project (LAP). To quote ' the LAP aims at laying the foundation for an accountable, harmonious and transparent customary land system from the bottom upon which will then form the bedrock for an enhanced formal land administration in Ghana' (Ubink & Amanor, 2008).

The chiefs thus still hold authority on land even in the face of these new laws and procedures. They however admit that such extensive power on the sea and its resources is difficult. As such they cannot directly engage in oil sector activities. In their opinion, though, since the activity would involve travel from land to sea and also be likely to affect the livelihoods of their citizens, then it would be prudent for them to receive a share of the oil revenue to develop their communities.

It was argued by the households in the communities, though, that it is power and authority handed over to the chiefs on land distribution that have caused alienation to people interested in large scale farming practices and the marginalization of many community people who do not own land. The market value of land determines its price. The households in affected districts complained that land is given to migrants and to persons who will pay money for it instead of to indigenous citizens of the community who would want to use it for farming.

The study also finds that the inheritance system of the societies redistributes some of these resources needed for economic activity. Yet even in such cases, lands which belong to families are still subject to some form of authorization from the chiefs and the statutory land bodies before they can be sold. The chief, in ensuring the welfare of the community, has to identify and name projects which can be undertaken by investors in the oil sector as a corporate social act in the communities of the oil affected districts.

The traditional rulers have made requests to the stakeholders of the oil sector. A lot of these requests have not been met. There is a general perception amongst them that they cannot do much for their communities if the government does not intervene and make

laws regarding what the investors in the oil sector must give to the communities in oil affected districts.

Other non- state institutions such as NGO's recognise the roles of the traditional rulers in the oil sector. They believe they are the platform for mediation between the affected districts and the oil companies. They are engaged in several projects in the communities irrespective of on-going oil activities. They also have an undisputed upper hand in re-enforcing the Corporate Social Responsibilities of the IOC's. One important finding is, that since oil discovery, the level of NGO work in these communities of affected districts has increased substantially, as was corroborated by the assembly members of Agona Nkwanta and Ewusiejoe.

Aside this there is also a Civil Society Platform on Oil and Gas with a majority of the NGO's being a part of this institution. Initially the group was formed as a watchdog in the sector. It now has encouraged local representation and has become a necessary part of stakeholder discussions.

Community based groups who are recognised as informal institutions were found to play a subtle role in the oil sector. In the fishing communities especially, they are used as the medium to communicate activities such as forums to discuss how oil will affect fishing activity. However, the members of these informal groups say they have very little power and have made unofficial contributions to the final decisions of the government and the IOC's. In farming and trade service communities their involvement with oil sector activity is almost non-existent. The concentration of the activities is on the economic activities that dominate the community.

5.7 Interactions between institutions in oil sector activities

The net map in Figure 5.4 is an interaction network that summarises the roles institutions play in Ghana's oil sector. The different types of interaction are shown in different colours. Broken lines of the same colour depict weak interaction reported by the interviewees, and these need strengthening to perform better. The broken brown lines indicate no interaction at the time of data collection; but an expressed desire for interaction by the interviewees.

Interactions are seen to concentrate at the national level institutions and less at the regional and community levels. Local institutions, as the study finds, are not an active part of the decision making processes in the oil sector. The net map also shows that the roles being assigned to institutions do not link them directly to the communities in affected districts. The links between the institutions at this level are more frequent between each other and not with the key institutions that have been assigned responsibilities.

The transfer and exchange of resources, especially funds, is depicted by red flow lines. There is interaction between the Ministry of Finance and every other institution indicating the flow of funds. Institutions such as EPA and MOE depend on the Ministry of Finance (MOF) for their funds. The District and Metropolitan Assemblies also depend on subventions from the national budget. They submit their budget which is then approved by the ministry before funds are released to them for their activities in the communities. There is no flow of funds, information or authority between the communities and any other state institution.

However, there are funds flowing between the other institutions in the oil sector activities. International Oil Companies (IOCs) pay monies to the GRA, to the Bank of Ghana (BOG) and then to the Petroleum Commission (PC). The GNPC also pays money to the BOG and then to GRA. GNPC is funded by the MOF to cater for its percentage share of the expenses being incurred in the development of the sector. Parliament has to approve of all budget allocations to the various sectors as well as the final spending plan of the MOF.

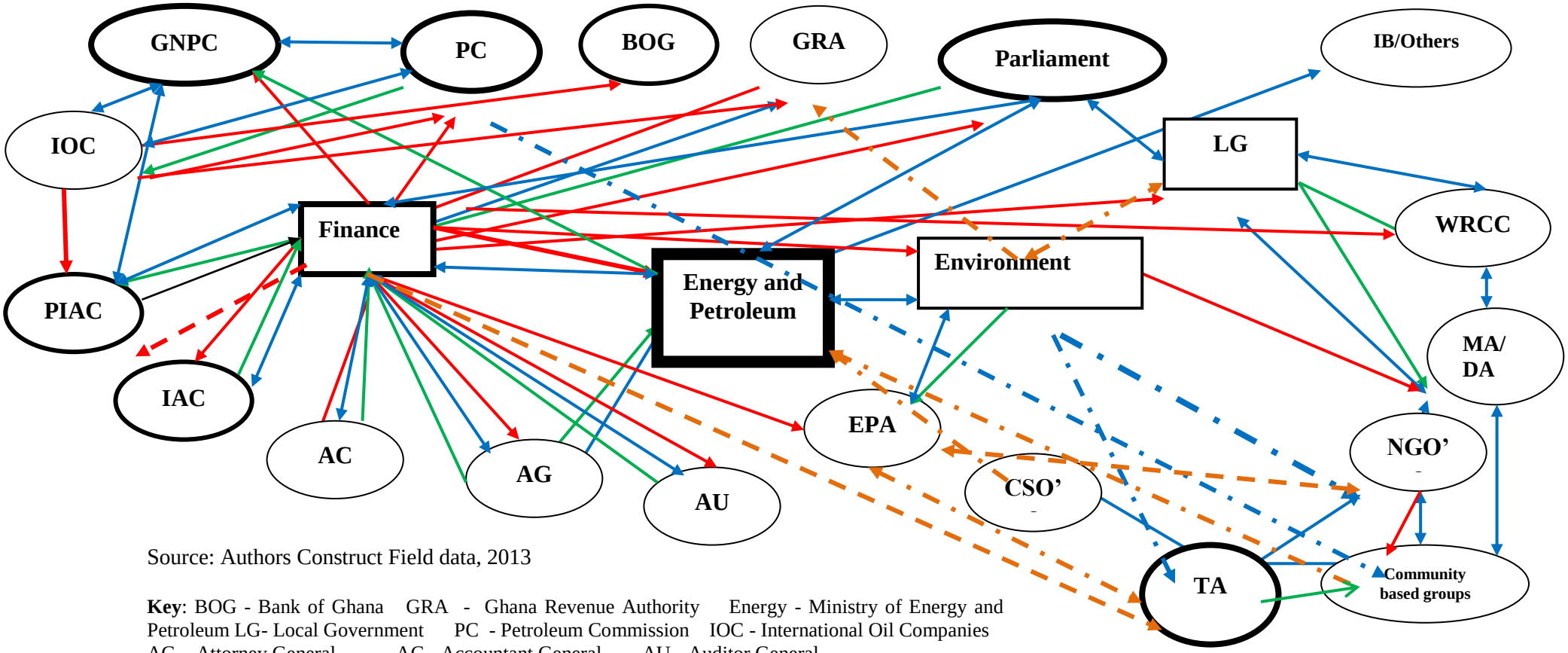
The Public Interest Accountability Committee (PIAC) and the Investment Advisory Committee (IAC) are all funded through the Ministry of Finance. They have authority to supervise and advise MOF on the use and investments of oil revenue but their budget for performing their duties is from MOF. The Ministry of Local Government, the Western Regional Coordinating Council (WRCC) and the Ahanta West District Assembly (AWDA) receive funds apportioned to them from the MOF through the District Assembly Common Fund. In conclusion, the MOF holds the uppermost authority in the allocation of funds for all oil activities.

Information flow is shown in blue lines in the net map in Figure 5.4 Between the various institutions assigned with responsibilities, interaction in terms of information flow is high. Informal flows are in broken lines. GNPC, PC and the IOC's have a significant network where sharing of information is concerned. The links between the national oil company, the Petroleum Commission and the International Oil Companies is very strong. All three also share information with the Ministry of Energy.

Another significant flow of information occurs between the Local Government Ministry, the WRCC and the AWDA. Most of the flow of information between these units is about the national development agenda on the sectors of the economy which need focus. Interaction between the IOC's and the District Assemblies, though, bypasses the Local Government at the national and regional levels. This sometimes occurs between NGOs/ CSOs and the local government authorities at the national and regional level. The frequency of interaction is more at the district and community levels where the assemblies and the traditional authorities are involved in activities at the household levels.

The broken brown lines indicate the desire indicated by some institutions that links be improved. This desire was not found to be in contravention of the law. The institutions mention, that strengthening these links will be beneficial to everyone in the oil sector. The traditional authorities, for instance, wanted better links with the Environmental Protection Agency at the district level so that they would know how to address potential environmental hazards. They reiterated the need for increased funds from the Ministry of Finance to help develop their communities now that oil had been discovered in the region.

Figure 5.4 A Net Map of Interactions between Institutions in Ghana's Oil Sector.



Source: Authors Construct Field data, 2013

Key: BOG - Bank of Ghana GRA - Ghana Revenue Authority Energy - Ministry of Energy and Petroleum LG- Local Government PC - Petroleum Commission IOC - International Oil Companies
AG – Attorney General AC - Accountant General AU - Auditor General
WRCC - Western Regional Coordinating Council IAC- Interim Advisory Committee
DA - District Assemblies IB -International Bodies TA - Traditional Authority
NGO - Non Governmental Organisation CSO – Civil Society Organisation
Finance - Ministry of Finance and Economic Planning AC- Accountant General
GNPC-Ghana National Petroleum Corporation Environment- Ministry of Science and Environment
PIAC- Public Interest Accountability Committee

Other relations that could also be strengthened to help further collaboration include those between Parliament and the Traditional Authorities, between the EPA and the Traditional Authorities and the informal groups. The Ministry of Energy and Petroleum would also have to support the GRA in the calculation of the petroleum sold and the tax revenues to be expected by insisting on more checks and balances of the IOC's and GNPC.

In terms of the links to be strengthened, local content which should be linked to other ministries such as employment and education is missing. The Ministry of Environment should also insist that the EPA must have more interaction with the communities to play effective role in community level environmental protection. Since the traditional authorities and NGOs/ CSOs have interactions with the communities and can they are more able to influence household decisions, they should be given more prominence in decision making.

It is believed that the structure of these networks determines the success of their actions as well as the proper management of the oil resource (Borgatti & Foster, 2003). There is expectation that a better linkage system between the institutions through interactions in the flow of authority, funds and information, will promote all being equal and help operate a more transparent and accountable system in the management of the resource. This will further lessen the corrupt tendencies and practices that may evolve in the absence of proper institutional linkages (Bell & Memba, 2010; Obeng Odoom, 2010: Bell & Faria, 2007).

CHAPTER SIX

KNOWLEDGE, EXPECTATIONS AND FEARS OF OIL ACTVITIY IN COMMUNITIES OF TWO AFFECTED DISTRICTS

6.1 Introduction

The previous chapter discussed institutions and their roles in the community with a critical look at the mode of interactions as they perform these roles. This chapter introduces the background characteristics of the households in the study communities of the two districts showing the differences which exist in the two districts. Their major economic activities, fishing, farming, trade and service are found to occur at varying levels of progress, based on the availability of certain amenities. Their social patterns are almost the same. The significant variations seen between the communities are also because the districts represent a semi urbanized metropolitan area and a fairly rural district. Knowledge, expectations and fears of the respondents are presented in categories using economic activities of the study area. The variables created to represent knowledge expectation and fears are cross tabulated with some background characteristics of the heads of household and Pearson's chi-square tests of significance are used to establish associations.

6.2 Socio- Demographic Characteristics of the Households

Information gathered on the 400 households containing 1,662 individuals resulted in an average household size of 4.2 persons in the study communities. There are variances in the average household size in the two districts. In the Ahanta West District (AWD) the averages was 4.9 persons, whereas in Sekondi-Takoradi Metropolitan Area (STMA), it

was lower at 4.3 persons. Out of the 1662 members in the households, 52.2 percent were children of the heads of households. Heads and their spouses accounted for 38.7 percent of the individuals. Grandchildren accounted for almost 4 percent whilst siblings of household heads were a little above 3 percent. Nieces and nephews, aunts and uncles, grandparents and in-laws in total had less than one percent of the total number of respondents.

Table 6.1 shows the similarity in selected background statistics by fishing, farming and trade/ service occupations.

Table 6.1 Selected Background Characteristics of household heads

Variables/ Characteristics	**Total(400) sample**	**Fishing(131) percent**	**Farming(141) percent**	**Trade/Service(128) percent**
Sex				
Male	70.4	72	69.2	70.2
Female	29.6	28	30.8	29.8
Marital Status				
Married	71.9	68.6	72.7	73.9
Unmarried	28.1	31.3	27.3	26.2
Religion				
Christian	91.8	88.1	94.4	92.4
Muslim	2.8	3.4	1.4	3.8
Traditionalist	0.8	0.8	0.7	0.8
No Religion	4.6	7.6	3.5	3.1

Source: Field data, 2013

A majority of the household heads are in some form of a monogamous marriage as the national data confirms (PHC, 2010). Table 6.2 shows the variations in the ethnicity and levels of education of the respondents. The fishing and farming communities are dominated by the Ahantas who are indigenes of the Western Region, whilst the trade-service centres, also the capitals of the two districts, have a more metropolitan population.

Migration within and into the Western Region is higher than out of the region. The main reason for migration is economic (78.6 percent) followed by social reasons (16.3 percent) such as marriage and then cultural (5.1 percent) such as to inherit a dead relative. There is also more movement to the fishing and trade service communities than there is to the farming communities. The reason being that migrants often face difficulties when securing land for farming purposes in such areas. Fishing and trade, on the other hand, are more open and versatile economic activities and once an individual possess the desire and capital to engage in it, they do so with fewer restrictions.

Table 6.2 Migration Status and Level of Education of household heads

Variables/ Characteristics	**Total(400) sample**	**Fishing(131) percent**	**Farming(141) percent**	**Trade/Service(128) percent**
Region of Origin for migrant				
Western Region	70.9	69.5	85.3	56.5
Central Region	17.6	26.3	4.9	23.7
Levels of Education				
None	31.1	39.0	34.3	20.6
Primary	13.3	15.3	14.0	10.7
Middle/ JHS	37.5	33.9	44.1	33.6
Secondary/ SHS	11.7	6.8	4.9	23.7
Tech/Prof./ University	6.4	5.1	2.8	11.5

Source: Field data, 2013

European Town is a fishing community in the Sekondi-Takoradi Metropolis. It is also in the capital of the Western Region and receives a great share of migrants who engage in the fishing activity. The majority (80 percent) of the residents in the community are migrants. Some are engaged as food vendors, clothes sellers and transport service providers who are all dependent on the periodic thriving fishing sector for the sustenance of their business.

Alternatively, some mining areas in other parts of the Western region are known to be popular destinations for migrants. A majority of the migrant households are from the Central Region. The remaining migrant households are from other regions of the country namely Ashanti (7.6 percent) Greater Accra (4.6 percent), Volta (3.8 percent) and Northern (1.5 percent).

Level of education among the household heads varies within the various economic activities. The majority of those with no education are engaged in the fishing activity. A greater number of the fisher folk than the traders and farmers never went to senior high school. They dropped out after junior high school or the middle school level. The reasons vary between the sexes. For females in fishing communities, childbearing at an early age was given as the major reason. For the males it was the lure of making money from joining the fishing activity which caused the majority to drop out of school (Source: FGD European Town, 2013). Comparatively, a greater number of those who had senior high school education are in the farming sector. The trade and service sectors had the highest percentage of household heads with a tertiary level of education.

6.3 Knowledge and Sources of Information about oil activity

Knowledge is a condition of being aware of something. It results in familiarity and understanding of phenomena or situations either through experience or by association. For knowledge to be common, it is advised that there is a rational assumption that everyone knows the situation and is aware of what is happening. This kind of common knowledge, however, feeds into a type of expectation about people's actions when they have common knowledge. In order to avoid the situation where actions of people then

becomes unpredictable, special consideration has to be given to the source of information of the knowledge, the interpretation, and the external conditions which may affect it (Knight. 1992 pp 75-76).

It is these aspects of institutional knowledge that is translated into an investigation of the awareness situation that surrounds the knowledge on institutions, the rules and regulations communities have concerning on-going oil activities. Some aspects of this awareness were used as variables to define knowledge output. These were awareness of the existence of the resources at discovery, of the institutions guiding its exploration, the consumer products derived from oil and the ownership of the resource. The sum of this, though limited in some aspects, is perceived to be sufficient for the study in providing information to better understand the perceptions that people in the study communities have about oil activity.

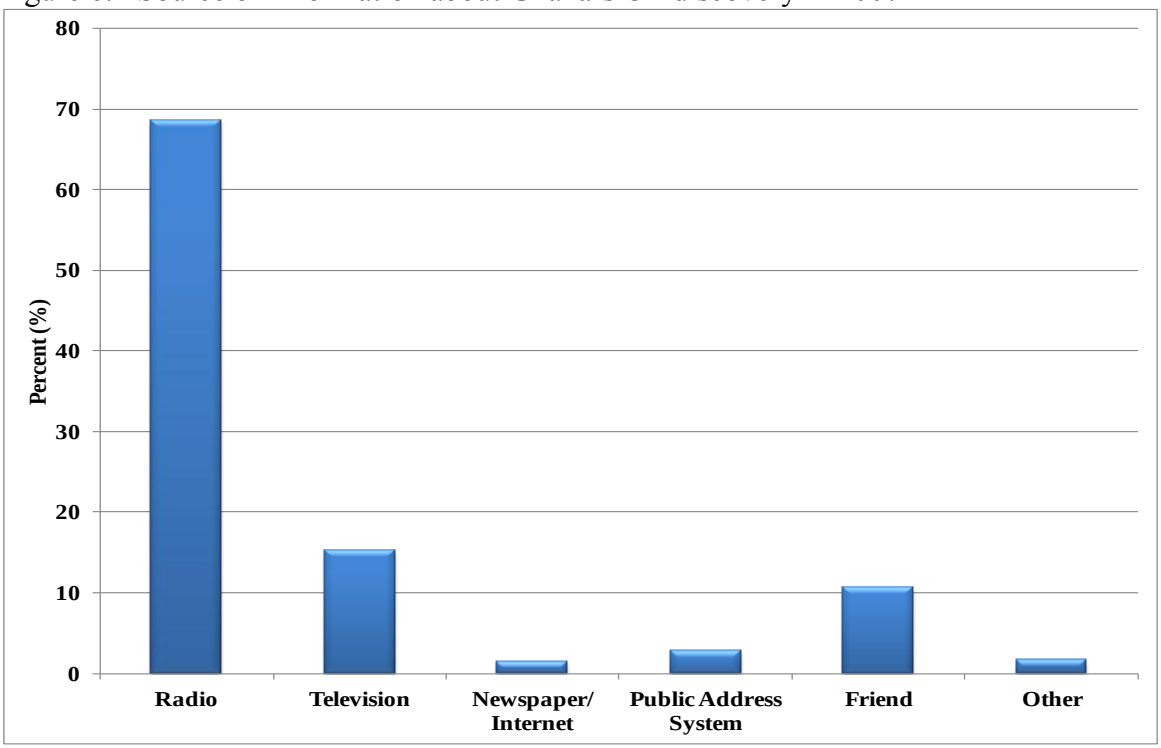
The majority (94.7 percent) were aware of Ghana's commercial oil discovery in 2007. Some (49 percent) also had knowledge before this commercial discovery. The reason was oil activity has been going on in another part of Ghana - Saltpond in the Central Region close to the Western Region and a source region for the majority of migrants. More importantly, an occasional flow of an oily substance on the surface of the sea has been known to exist for many years.

The radio was a preferred means of providing information to the majority of the respondents (64.5 percent). Another source of information was friends (10.6 percent). Most evenings in the fishing and farming communities, groups of people gather either at popular meeting grounds such as the bus station or near food vendors to discuss events

that have taken place in the day. In other parts of the study area, similar gatherings were observed in the daytime by some of the traders and residents, but was visibly absent in the evening, when everyone went home. The level of television patronage (15.2 percent) was in the trade/ service communities which supports this observation.

Figure 6.1 shows the other sources of information in comparison to the radio. For many people (85.9 percent) the oil resource belongs to all Ghanaians. Nevertheless, it is reported that in November, 2010 a coalition of chiefs and traditional leaders paid a visit to the presidency and requested that 10 percent of the oil revenue be devoted to the Western region for the purpose of development . For the traditional authorities interviewed in the study communities, despite the fact that a great share of the nation's natural resources especially come from this region, it still remains poor in terms of infrastructural provisions, and many of its people are underemployed. The demand is hence not because they assume the resource belongs to the region. They are aware of it being a national resource.

Figure 6.1 Source of Information about Ghana's Oil discovery in 2007



Source: Field data, 2013

This demand can also be linked to the knowledge that there are divisions in the revenues earned from the mining sector. By law 80 percent of payments from royalties and corporate taxes from mining companies belong to the central government. The remaining 20 percent is then put in a Minerals Development fund. From this fund, the Mining Agencies receiving 10 percent and the administrator of Stool Lands the remaining 10 percent. From the portion of the latter authority, the District Assemblies receive a percentage, the traditional authorities also receive a share and the stools in mining areas receive the final share (Akabzaa, 2001).

As such, though the respondents accept that the resource does not only belong to the region, they are still convinced that being the source region, a greater share of the proceeds should come to them. A few of them also thought the resource belongs to

government (5.7 percent). The government will obviously decide what to do with the proceeds and for them as well, it is important that precedence is given to the region's development.

The knowledge on the products obtained from the resource is encouraging. However the awareness of the rules and regulations created to guide activities in the sector is not appreciable. With knowledge on the number of products derived from oil such as petrol, natural gas, kerosene et cetera, households were put into hypothetical knowledge groups only for the purposes of this research. Knowledge of one or two products meant being assigned a low product knowledge category. Those who knew three or four had a moderate product knowledge and those who knew above five products and above had high knowledge. Every household had product knowledge on oil.

The levels recorded on the awareness of rules and regulations varied across the three distinctive economic activities. Respondents engaged in trade and services are in the capitals of the two districts used in this study, and they depict a likely effect of urbanization on the awareness factor. Again awareness was grouped by the knowledge of one or two; three or four; five or more rules and assigned low level, moderate level and high level knowledge as was done with product knowledge. The rules referred to the direct regulations such as the legal framework created specifically for Ghana's oil sector activity as well as the indirect rules which work in support of oil activities (discussed in Chapter Two). A summary of the percentage of household heads that had knowledge about the products from oil and were aware of some rules and regulation is shown in table 6.3.

Table 6.3 Some knowledge household have about oil

Type of Knowledge	**Knowledge levels by percent of respondents**				
	None	Low	Moderate	High	TOTAL
Oil Products	23.8	37.4	27.4	11.4	100
Oil rules and regulations	73.7	24.4	1.9	0	100

Source: Field data, 2013

Aside these levels in the whole study area, there were variations by occupation of predominant economic activity. No high level of awareness of the rules and regulations was recorded amongst respondents. At the moderate level, awareness amongst the respondents in Agona Nkwanta and Takoradi Central was better than those in the Dixcove and in European Town. In Ahanta-Mampong and Ewusiejoe, which are farming communities, none of the respondents had a moderate level of awareness of the rules and regulations.

The key stakeholders in the oil sector have on several occasions organized forums where issues on community participation and enlightenment on oil activity has been discussed. Some NGOs have also been involved in these forums. The District Assembly takes an active part in ensuring particular people in the community are a part of these forums such as the chiefs, elders and opinion leaders. Information gathered from the communities and the District Assembly implies that the organization of the forums is an 80 percent initiative of the oil companies. Participation is however low, with only 10 percent of the total respondents to have ever attended such forums.

The relationship between participation in these forums and awareness of rules and regulations is highly significant in indicating a possibility of higher awareness levels being the result of having attended a forum.

However, a further probe shows that this is not the case, and that rather attendance at forums is significantly related to the respondent's occupation and the community they live in. Twenty nine of the forty respondents who had ever attended a forum did so in their own community. These communities are the fishing communities where most of the forums have been organised. In the fishing communities the majority of those who had at least knowledge of one rule were higher, but in the trade communities which are also more urbanised, moderate knowledge of rules and regulations is higher than in the other communities.

The organised forums in the fishing communities explain the knowledge of at least one rule, while the higher level of education coupled with a higher literate population in the trade and service communities is the reason for the better percentage of respondents with moderate knowledge levels. This supports the assertion that the fishing sector is believed to be the activity most likely to suffer the brunt of the oil activity.

In 2008, following the discovery of the resource, the stakeholders embarked on construction of other installations under the seabed and finally connected these to the storage vessel (FPSO) to commence oil production in 2010. As a result, a wide area of the sea was demarcated where fishing and any other activity was prohibited. The FPSO alone is technically about the size of three standard football fields put together. To enforce the rule of no fishing in certain parts, the Ghana Navy has been put in charge of a demarcated area to be cut off to prevent fishermen especially from using it as fishing grounds. In relation to this the forums in fishing communities explained the hazards in fishing within the area and the punitive measures for fishing in the 'cut off' zone.

The poor attendance at forums, aside being a result of the frequent organization in fishing communities, is a reflection of the reluctance of most people to travel from their community to another community. AWD has a higher number of fishing communities than the STMA. The remaining communities engaged in farming and trade service had hardly heard of such an event being organized in their community.

According to the officials of the metropolitan and district assemblies, the main aim of the forums was to create awareness of activity in the oil sector. This awareness has laid more emphasis on the restricted areas for fishing. Currently also there is an alternative livelihood programme being undertaken in some coastal communities which the Jubilee partners are heavily engaged in as financiers.

NGOs such as 'Hen Mpoanao' have also been active in many coastal communities. Initially their aim was only to ensure the conservation of coastal and marine resources. With oil discovery, environmental concerns on possible destruction and pollution has caused an extension of the work in the coastal areas of Ghana. They take part in forums mainly to better explain and settle issues of dispute and confrontation between the communities and the stakeholders. The forums are therefore organized also as means of guaranteeing less friction between the stakeholders.

For the traditional authorities the forums have played a major role in enlightening them and those who have participated in ongoing oil activity. They have also discussed the needs of the communities with them through these forums and other meetings. The forthcoming implication on the fishing activity has also been a central issue discussed at these forums but a lot remains undone. The chief fisherman indicated that they have

discussed with the key stakeholders the need for a wharf, a cold store and an ice factory as a form of compensation for their loss of livelihoods. This is because they assert that there is an even lower 'fish catch' since oil activity began. They are yet to see the results of these requests (Field data, Key informant interview, Dixcove, 2013).

The oil companies currently operating the Jubilee Project are emphatic about these forums which provide the platform for dialogue between them and the communities in affected districts. It is the major channel for disseminating information to the communities. It has also been useful in helping them identify the necessary help they could give to the communities in affected districts and in the provision of several amenities in their Corporate Social Responsibility initiatives.

There are still issues of concern which the forums seek to address. They are not as effective as they are meant to be in the dissemination of the relevant information and the feedback. *'When you call for meetings and there is no promise of either allowance or refreshment very few people show up. Others also say they think we have nothing better to do'* (Key informant interview, District Assembly, AWDA). Other opinion leaders think disseminating knowledge information is not the problem. Positive results are often achieved. It is the act of reaching a consensus on final decisions that deters people from attending forums. As they put it 'the arguments are too much. Everyone wants to be heard to show they know better than the other'. Thus if there should be attempts to improve the livelihoods of those affected by the activity, then they are of the view that the wrong people are benefitting. As far as they are concerned, the stakeholders listen but do not respond or are responding in the wrong direction to their requests.

6.4 Managing expectations about oil activities

Consider a scenario where a rule is enforced to make a group of people 'A' make a choice 'B'. The probability of 'A' choosing 'B', however, is influenced by another group 'D' choosing 'R'. This is because 'A's choice is determined by the expected utility of the various choices available. This expected utility is further based in part on the actions of the others with whom A interacts (Knight, 1992, pp147/ 148). This scenario summarises the importance of how expectations are shaped and why they should be investigated.

The fisher folk especially have expectations from oil. Generally expectations are high all over the country and stronger in the oil affected communities. Many (63.4 percent) responded positive to having expectations now that oil had been discovered close to the region. The level of expectation is found to be strongly correlated to the level of education. Again it has a strong association with attendance at forums or meetings. The very few who have ever attended a meeting or forum before, they all have expectations:

'I thought as they were digging the resource they would help us so our work would progress. That is the assurance I got at the meetings. But the issues in Ghana are never clear. If the oil is being exploited to help the country then they should make a better effort at helping us. If possible a shop that sells our equipment needed for fishing at a reduced price. That way they could help us for what we have lost since they took over our sea but nothing like that has happened' (Key informant Interview, Chief Fisherman, Lower Dixcove, AWD).

There is also a high expectation that the sector will generate more jobs and people (66.8 percent) desire to take the opportunity of the increased job avenues either directly or

indirectly generated by the oil sector. The desire to work in the oil sector is high (57.4 percent) as compared to those who do not have the desire (36.7 percent). The respondents indicated they are prepared to undergo any necessary training to enhance their skills to help them get jobs in the oil sector. Again age is strongly correlated to the desire to work. The older age have a lower desire for any opportunity in the oil sector so as age increases, the number of respondents wanting a job in the oil sector reduces.

The expectation for better employment is a reflection of one key benefit Ghana's mining sector has had for their resource regions. Gold is estimated to employ between 300,000 to 500,000 people in the small scale extractive sector (Petra, Tschakert & Singh, 2007). This is of course suggested by some people as a make up for the losses especially in land people have suffered from mining activities which is on- shore as opposed to offshore oil activity.

The respondents are concerned that a majority of their people have no proper work skills or qualifications as a result of low or no education. This they identify could be a key hindrance to their search for better jobs in the oil sector. Some mention the fact that they dropped out of school at an early stage mainly due to the financial problems they experienced. They would have wished for at least a Higher National Diploma (HND) which would help a lot in them secure a job, especially now in the oil sector.

Nevertheless there are individuals who have returned to school once again to obtain a basic certificate which has enabled them to have better employment. One who currently works with the Electricity Corporation of Ghana (ECG) makes this statement on how he was motivated to continue his education.

I knew how to fix faults better than those who had been to school and called themselves engineers. They are only engineers on paper but cannot determine and fix most of the major faults I get on a daily basis. However, until I got this basic certificate which showed how qualified I was, ECG would not employ me. Somehow I admit going back to school is beneficial. I can also understand the manuals they sometimes attach to the equipment I have to use for my work. It is not everyone who has the foresight to continue their education at a later stage in life. I come from a family of shoemakers. My advice is the government should invest in more sectors and train individuals to find work in these sectors. I think it would make a difference for our people' (Participant Male FGD, Ewusiejoe, AWD).

The problems with low skill and education are a national phenomenon. About 23.4 percent of Ghana's population have never been to school. Of the population who have attended school before the majority (53.7 percent) have middle or JSS/JHS as their highest level of education (Population and Housing Census Report, 2010). This is indicative of the fact that school drop out between JSS/JHS and SSS/SHS is high in the whole country.

The case is the same for the research area. As depicted in table 6.1, the majority of respondents only attained middle school or Junior high school after which their education was discontinued. This is however neither a stage where one receives a qualification to obtain gainful employment or to start a trade. Unfortunately this phenomenon is common to all three categories of economic activity.

On the contrary, literature supports and emphasizes the link between education and development. They propose that since higher education promotes better economic growth, governments in developing countries should embark on more policies which raise the educational levels of their people. In many Sub Saharan countries there have been increases in government spending in education for many decades, but low school enrolments, high school drop outs and repetition and child labour have outweighed the positive effects of all these investments. Low education has implications for human capital development which is linked the resource curse thesis (Gylfasson et al., 2001).

Empirical work indicates that investment in education and the outcome differs at the government and at the household level. While for the government, increased spending on primary education may be at the cost of infrastructural improvements, it has been proven to have a large impact on growth and poverty in the short run, as is the case for Ghana. This is because there is undoubtedly an increase in the desire for education in low income households and an opportunity to accumulate more assets during these early years of bringing up children. (Dabala Norriss, 2002).

In later years, though the costs of funding tertiary education is far higher than primary education the period of making choices sets in. Household income and wealth, demand for child labour and the distance to school all become contributing factors in the decision making process of educational choices. Parents face the choice for investing in education which now depends on the marginal costs of this to other investments (Becker, 1975).

Governments funding, therefore, in the education sector sometimes seems insufficient. Increased spending for continuing education faces budgetary constraints in ensuring that all other sectors such as health also receive their share of the national revenue and do not suffer neglect.

Another hindrance recognized by the respondents is the lack of a leader who is strong, vocal and well connected to speak on their behalf to the people in authority in the oil sector. In their opinion, at least, a certain percentage of the employment in the new oil sector should be given to the 'Ahanta people'. As such there should be a law which supports this and a strong leader in the community who can advise them on how to take advantage of the opportunities available (Participant Male, FGD, Agona Nkwanta, 2013).

The reality is that oil sector jobs are highly technical. An online search of the available jobs in the oil sector gives an idea of some opportunities available and these include rig electricians, drillers, lead logistics specialist and engineers which all require specific skills, education and training and most often experience. As the oil industry develops with more players coming to the field, the hope is that increased opportunities for employment will surface.

Local Content may be the answer to high expectations of job opportunities. The development of human capital has been identified as a limitation to achieving the set targets. The emphasis on capacity building lacks definition on what should be done at the foundation level to enable the possibility of further training. The use of a part of the oil revenue for capacity building concentrates to a greater extent on further training within

the institutions assigned with responsibilities. These institutions are more public and employment in the public sector has increased very little or not in the last years.

While general funding of education and the opening of employment opportunities is the responsibility of the national government, in the oil sector it involves the contribution of the other stakeholders in achieving local content targets. The Regional and District authorities have made contributions to education by putting up infrastructure such as teachers' accommodation facilities and giving scholarships to deserving students. They also encourage and supervise the Free Compulsory Universal Basic Education (FCUBE) policy and school feeding programme in their education departments. Other initiatives are forthcoming in their medium term development plans. What is needed however at each level are programmes which find out why there are still low results in the performance of students and how to intensify their campaigns on continuing education, especially at the tertiary level (Key informant interviews, AWDA and STMA, 2013).

Aside the financial constraints, the authorities identify a shortage of higher learning places in their areas. In AWD, for instance, within the area of study there are only two Senior High Schools (SHS) with students passing out of all the primary schools competing for a chance to be admitted. STMA, on the other hand, has seven SHS; two public and five private. This is also because it is more urbanised. However, the demand for placement from other parts, especially other districts within the region, far outweighs the available space for yearly intake.

In the Western Region, especially in Takoradi, there have emerged a number of courses and training programs offered by various academic institutions to impart the knowledge and skills needed for qualifying for employment in the sector. In October 2013, the Jubilee partners in collaboration with the Takoradi Polytechnic commenced a six-month programme designed to offer skills to the youth especially and Ghana as a whole. The target is in all streams of the oil sector and its allied industries. Another training centre is the Harvard Marine Petroleum Training Institute found in Sekondi-Takoradi, the capital of the Western region. It offers courses in pilot training, offshore health and safety, advanced industry safety training, basic offshore safety and emergency training and the like.

Another development expected, though minimal, is road infrastructure. This was linked with the fact that most often the explanation for failure on government's part was inadequate funds. With the discovery of oil it is expected that government now has more money and a portion of this could be used to provide roads for the communities that need them. The road to Ahanta-Mampong in STMA has never been tarred.

Consecutive governments have for many years made assurances, especially before elections, but none of them has fulfilled their promise. This farming community and several others found beyond it, face extreme difficulties in transporting the produce from their farms once the rainy season starts. In the dry season, the community is constantly covered in dust as the majority of the households are close to the road. It is not surprising that they are hopeful their road will be constructed if they should receive some of the benefits of Ghana's oil revenue.

As discussed in the previous chapter, the institutions in charge of managing the revenue have begun to use the revenue for certain sectors of the economy. A portion of this is being used to fund road infrastructure. Some of these roads are in the Western Region. Major laying of gas pipelines underground is also on-going close to the Ahanta-Mampong community, but as yet there is no indication of a particular community development project linked to oil revenue.

The Western Region ranks fifth amongst the ten regions of Ghana in the provision of health and educational facilities. On the average, the region has an adequate number of these facilities for its population when compared to the other regions. However, there are variations within the districts in the region. Some districts have more communities than others. In some where there is the provision of a single major health facility to serve all communities within the district, it does not augur well for the people. The travel distance to a facility is one of the main factors determining its accessibility. Aside this, the specialist service available and the cost of the service all contribute to its value. The communities, however, are not expecting improvements in any of these facilities. They believe this may happen in the long run. It is therefore more important to them that they get better jobs to earn better incomes and possibly they can then afford to pay the costs of health and education on their own.

6.5 Fears in Communities of Oil Activities.

An instant look at figure 6.2 indicates there is little fear about oil activity. Fear is an inward emotion often difficult to interpret on its own unless it is associated with something. It can also occur under circumstances where the person experiencing the

feeling may be unaware of it. As such the respondents were given a chance to explain why they had no fears. One reason was that the offshore nature of the activity made it less visible when compared to the other extractive industries such as gold and manganese in other parts of the region and Ghana. Contact and experience with ongoing activity is hence limited. Secondly, as mentioned previously, communities along the coastal area of the Western Region have always had a fair idea of the existence of oil in the sea.

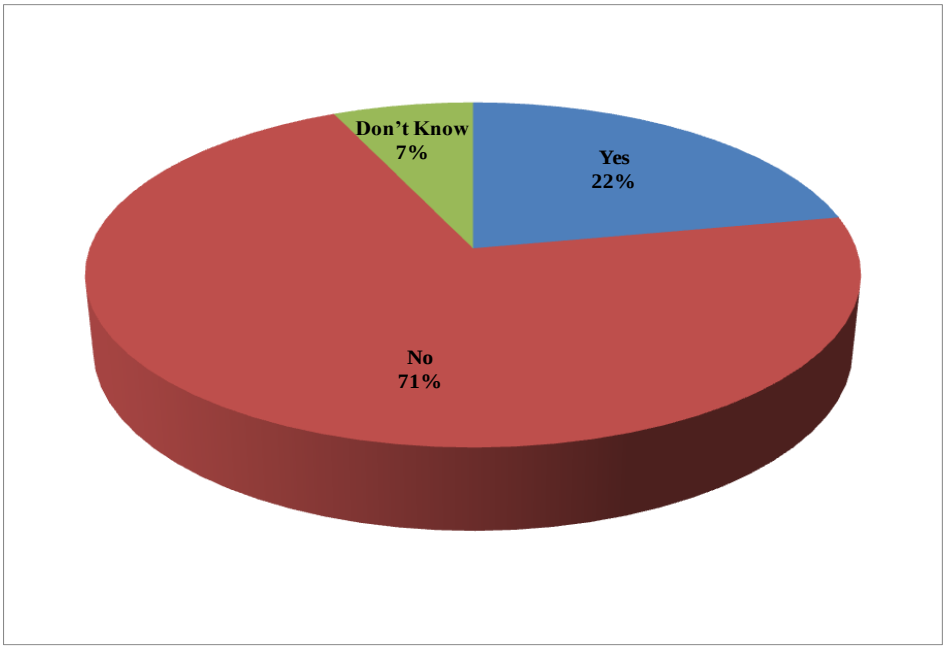
There is also prior knowledge of the activity which has been going on in the Central Region and so far there has been no negative information linked to it. What they did not know was the existence in commercial quantities, the cost of exploration and the eventual complex extraction process of production. This is shown clearly in the statement below when further discussions mentioned the issue of fear of what the activity will bring.

'Sometimes we fear for our lives and the future of our children. When this fishing industry dies what do we do? For the lot of us it is what we were born to do. Our husbands stay at home with no work and no money and we do not have fish to smoke. The children cannot go to school until I have given them money for food. We have serious problems in fishing. Fuel and ice are never available in large quantities for every fisherman to get their share. I start to wonder now how the oil will also make all this worse' (Participant Female FGD, Dixcove AWD).

Though the fears about oil activity are low, certain aspects of it give information on the existenceof that little fear. This fear is significantly linked to the type of economic activity the community is engaged in. Farming communities had the highest fear of the oil activity as shown in table 6.2 which summarises fear for the occupation of the

household heads. This finding is unexpected coming from them, having the least contact with oil activity in comparison to the fishing and trade communities. The fishing communities have the least fear and this is supportive of their statement on prior knowledge of oil in the sea even before the discovery in commercial quantities.

Figure 6.2 Fear of Oil Activity by household



Source: Field data, 2013

The most common fear of the communities in relation to the economic activity they are engaged in sheds more light on the little fear that exists. Table 6.4 summarises this information. Respondents were allowed to indicate any type of fear they had. They however had to choose the option they feared most within this type. As such from households who depend on fishing having fears, environmental fear was the highest (67.4 percent). This fact supports the earlier statement on how respondents' fear stems from loss of their livelihood. Their fear is that the oil activity will contaminate the sea which

will result in the destruction of aquatic life, the major means of livelihood for many of them.

A caption from the Daily Graphic several times in 2012 and in 2013 shows a whale which appeared at the shores of another community in the Western Region. News spread fast. It has never been the case that so many whales appear dead on the shore. As such there must be something happening in the sea which has started destroying these whales and this is the oil activity in the last five years. There is no other explanation as far as they are concerned.

Table 6.4 Type of Fear by Principal Occupations in affected Districts

Type of Fear	**Percentages by Occupation**		
	Fishing	Farming	Trade and Service
Economic(high cost of living)	19.9	23.6	20.8
Social(prostitution, stealing)	15.5	15.2	18.6
Environmental(sea pollution)	22.6	16.5	15.1
Medical (Diseases)	11	15.2	15.6
Cultural(Foreign Practices)	12.2	12.1	11.3
Political (Corruption)	18.8	17.4	18.6
TOTAL	100 (181)	100 (224)	100 (231)

Source: Field Data, 2013

Another unfavourable event occurred in coastal communities which threatened their livelihood dependence. This was the bloom of algae. Algae are a green weed-like and slimy substance which appeared all along the coast. It has been an environmental threat for almost twenty years. Quite often it lasts between three weeks to a maximum of three months then diminishes in quantity until it finally disappears. However in 2010 the algae lasted almost a whole year and some mentioned it could be the result of the continuous

disturbances in the ocean bed due to the start of the construction of the oil pipelines linked to the FPSO which began production in November that same year.

This assertion, though, has no scientific evidence. In the caption on the appearance of the algae in 1997, the adverse effects of this was loss of income to fisher folk who now had to spend time mending their nets damaged by the weed. The Environmental Protection Agency (EPA)'s investigation of the algae at the time found no toxic substances of potential health risk. A lot was also found in water bodies inland which flowed into the sea.

Along the West African coast other countries have experienced the algae but the concentration is between Ghana and Cote d'Ivoire. Several meetings and discussions are still ongoing between these two countries on how to find a solution to the algal bloom. Some works on the origin of the algae have concluded that it comes from an area in the sea called the Sargasso Field. The continuous movements of the seas through currents and windstorms then bring it to our coasts. The presences of certain chemicals in the pollutants emitted to the sea promote the growth and spread of these algae. In early 2014, there were again reports of increasing brown algae along the Central and Western coasts to the extent that certain beaches were shut down from any activities for a period of time. The work of the Integrated Coastal and Fisheries Governance (ICFG) initiative otherwise referred to as 'Hen Mpoano' has been involved in the investigation of the algal bloom and they dedicated a year of resources to finding the influencing factors in the occurrence of the bloom. They confirm there is a weak link to oil activities until proven otherwise.

The farming and trade communities have more fears than the fishing communities. Their fears are predominantly economical. Of this, most people fear higher costs of living which then lead to economic hardship. Everything has become expensive since the oil discovery was announced, as respondents explain. It is because once foreigners enter your area they have more money to pay for goods and services. A few also feared increased immigration. Respondents, however, don't fear the loss of labour in their trade activities to oil activities, unemployment and loss of income. The trade communities are more metropolitan. Services such as banking, insurance, teaching, health provision are all linked to the oil activities. It is hence more income earned for them than loss if there are other activities which make use of the services they offer.

The farming communities are somewhat different in the type of economic activity they fear. Some of the respondents (24.4 percent) in these communities have fears which are comparable to the trade communities. They fear higher costs of living as well as loss of income. Land, the most important resource has become even scarcer in the wake of oil discovery and now has an ever increasing price. This implies a loss of livelihood and hence lower income.

Other fears, such as social fears of crime and other social vices, medical fears such as sexually transmitted diseases and respiratory infections, cultural fears such as the erosion of beliefs, taboos and morals are almost non- existent amongst the respondents. They maintain that these were happening in their societies before oil activities began. Political fear is however present in all the communities. Most people fear the confiscation of land

and property by the government for purposes of developing the oil sector. They also are positive that corruption will increase with oil activity.

From the ongoing it is obvious that knowledge about the oil activity is general and not specific. The sources of information are however scratching the surface of the iceberg when it comes to providing the information which will define expectations. Though there is little fear linked with the resource and the activity, the elements of potential environmental hazards and corruption lingers in the minds of people.

CHAPTER SEVEN

SOCIOECONOMIC CHANGE IN TWO 'OIL AFFECTED DISTRICTS' IN THE WESTERN REGION

7.1 Introduction

The findings discussed in the previous chapter shows that levels of knowledge, expectations and fears of the households in affected districts vary on the basis of the occupations of the household or the main economic activity of the community. This chapter investigates the socioeconomic change that has occurred in affected districts using the wealth of households before 2007 and after 2012.

Wealth is determined on the basis of an index computed for each household. The computed wealth indices are divided into five groups or quintiles to provide a basis for identifying the wealth status of each household before 2007 and after 2012. The wealth status of the households in this study is only for the purpose of analysis in this study and is not made on the basis of any other survey. However the selection of the household variables used in the computation of the index is based on that used in the Ghana Living Standards Survey.

Following the discussion on the evidence which suggests socioeconomic change has occurred, a spatial analysis of the wealth changes in the two affected districts is made. The conclusion outlines some of the coping measures made by households in affected districts due to the changes.

7.2 Socioeconomic Change in Oil Affected Districts

The assets and living conditions of each household were combined in computing a wealth index. The combination was done to better capture the actual well- being of the individuals who live within the household (Booysen, Vander Berg, Burger et al., 2008). Thus the wealth index of each household was calculated before 2007 and after 2012. The twenty three household assets were electric iron, refrigerator, television, radio or stereo system, furniture, clock or watch, sewing machine or hair dryer, jewellery, electric or gas stove, bicycle, motorcycle, car or truck, mobile phone(s), fan, plot(s) of land, uncut cloth(s), cattle, sheep or goats or chickens, boat, canoe, outboard motor, shop/ market stall and tractor.

The living conditions added were type of dwelling, material used in constructing the walls of the dwelling, material used in roofing, occupancy status, main source of drinking water, source of light, way of disposing refuse, and type of toilet facility. This combination is also used in the Ghana Living Standards Survey GLSS5 (GSS, 2009). This way wealth captured important aspects of every household such as type of drinking water, access to toilet facilities which are all indicators of good basic socio- economic needs mentioned in Africa's Human Development Report (2012).

The wealth indices obtained for the 400 households before 2007 and after 2012 were used to create wealth groups or quintiles before 2007 and after 2012 to determine the wealth status of each household. The first quintile represented households in the lowest wealth group from all six communities. The fifth quintile was the households in the highest wealth group in the communities. A *t*-test was performed (refer to Chapter 4.3.3) on the means of the wealth indices before 2007 and after 2012.

Table 7.1 shows the summary of the 't-test' of the means of the wealth indices before 2007 and after 2012 labelled as WI07 and WI12 respectively to ascertain if there had been significant changes in the wealth of households in the two affected districts between 2007 and 2012.

Table 7.1 Summary Statistics of t-test of means of Wealth indices before 2007 (WI07) and after 2012 (WI12)

Variable	Mean	Std. error	Std. Dev.	[95% Conf. Interval]	
WI07	0.6639	0.0130	0.2593	0.6382	0.6896
WI12	0.7001	0.0132	0.2626	0.6740	0.7262
diff.	0.0362	0.0022	0.0442	0.0406	0.0318

Mean (diff) = mean (WI12 – WI07) t= 16.1858
Ho : mean (diff) = 0 degrees of freedom = 396
Ha: mean (diff) < 0 Ha: mean (diff) != 0 Ha: mean (diff) > 0
Pr (T< t) = 1.0000 Pr (|T| > |t|) = 0.0000 Pr (T> t) = 0.0000

Source: Field data, 2013

We conclude from table 7.1 that there has been change in the wealth of household in the oil affected districts between 2007 and 2012 at 1 percent significance level. The difference in the means also indicates a positive change implying an increase in the wealth of households in communities of oil affected districts. This finding suggests that a socioeconomic change has occurred in oil affected districts between 2007 and 2012. The analysis will further explain how this change has occurred and the contributing factors to the change in the wealth of the households.

7.3 Analysis of Socioeconomic Change in Oil Affected Districts

A closer look at the change in wealth of households between 2007 and 2012 indicates the wealth change has not been positive for all households. A comparison of the changes in

households is provided by a cross tabulation of wealth quintiles by the various occupations of the household. Table 7.2 summarises the percentages of households found in the various wealth groups before 2007 and after 2012. It is observed that the changes in the households engaged in the different economic activities are not uniform. Irrespective of these differences further explained all households of the study are in the oil affected districts.

Table 7.2 Socioeconomic change by Occupations of Household heads

Wealth Quintile	**Selected Occupations**					
	Fishing(percent)		***Farming(percent)***		***Trade (percent)***	
	Before 2007	After 2012	Before 2007	After 2012	Before 2007	After 2012
Lowest (First)	5.33	18.75	31.43	32.86	18.75	5.33
Second	5.33	17.19	27.14	25.71	18.75	5.33
Third (middle)	22.67	26.56	15.71	18.57	28.13	21.33
Fourth	30.67	21.88	10.00	4.29	17.19	45.33
Highest (Fifth)	36.00	15.63	15.71	18.57	17.19	22.67
TOTAL	100	100	100	100	100	100

Source; Field data, 2013

Households engaged in fishing that were in the highest quintile decreased by 20.37 percentage points between 2007 and 2012. There is another decrease in their percentage in the fourth quintile by 8.79 percentage points during this same time period. In the middle quintile between 2007 and 2012 there is an increased number of households by 3.89 percentage points. Households in the second and lowest quintiles increased by 11.6 percentage points and 13.42 percentage points respectively.

This comparison of percentages of household in the various wealth quintiles before 2007 and after 2012 indicates the decrease in the wealth of households engaged in the fishing occupation. The finding further supports studies suggesting the fishing occupation has suffered setbacks since oil was discovered. There is hence nothing new about the wealth changes in fishing communities. Women in a fishing community at Cape Three Points were found to have suffered losses in their livelihood since oil discovery (Boohene & Preprah, 2011). This study supports the finding but also adds that the decrease in wealth happens to be the result of a combination of other factors compounded by the cut- off zone since oil was discovered.

The wealth of farmers has also changed between 2007 and after 2012 but comparatively on a lower level than the fishing folk. Table 7.2 shows that farmers had the lowest percentage (15.7 percent) of respondents before 2007 in the highest wealth group, but this increased to 18.6 percent after 2012. There has also been a 1.4 percentage point increase in farm households in the lowest wealth group while a decrease occurred in the fourth wealth group after 2012. This implies that as some farmers become richer, others have also become poorer. The proportion of farm households in the fourth quintile fell from 10 percent in 2007 to 4.29 percent in 2012. A further probe shows no variations in the changing wealth of farmers between the two districts.

The fate of households engaged in trade and services has also changed. There was a decline in the proportion of households engaged in trading and services that were in the lowest quintile by 13.42 percentage points between 2007 and 2012. In the second quintile the proportion declines by 11.86 percentage points, again within the time period.

Meanwhile the percentage of households in the fourth quintile increased by 27.43 percentage points while those in the highest quintile increased by 7.04 percentage points. These indications show an increased wealth in households engaged in trade and services.

A chi square statistic test was performed to investigate if there is indeed a relationship between the wealth of the households before 2007 and after 2012 (refer to Appendix 10). The statistics obtained reveal that at a confidence level of 99 percent, the wealth of households is related to the occupation of the household head (see Appendix 10).

Explanations gathered from key informant interviews indicate an almost 3 percentage point increase in farm households in the highest quintile is principally due to the sale of farmlands for other short term purposes. While some farmers had created avenues for an alternate economic activity others who owned land in prime areas had sold or leased portions for income. However the comparative rising wealth status of households engaged in trade and services and the reduction in that of households engaged in fishing reflects the different patterns in socioeconomic change arising from occupational differences in oil affected districts.

Ahanta West District has a majority of rural communities. An analysis of its spatial economy reveals that the provisions of services in the district are inadequate. The district capital Agona Nkwanta is favoured in the distribution of services in banking, telecommunication and transport. Economic activities in AWD centre on agricultural activities especially fishing and farming. Sekondi-Takoradi on the other hand is a metropolitan area made up of mainly urban settlements. The predominantly urban population are engaged in services, trade and industry.

The administrative functions of Sekondi-Takoradi include it being the regional capital of the Western region. The provisions of services such as banking are more fairly distributed. There are a host of banks, telecommunication groups, an airport providing air transport, multiple bus terminals and the rehabilitation of the rail sector is ongoing. The Takoradi harbour also offers opportunity for various aspects in the shipping sector. These differences have resulted in growth in such activities which are favoured in the demand for oil related services further improving socioeconomic status of service and trade communities in the study.

7.3.1 The Growth of trade and service sectors in Affected Districts

Further discussion on the actual growth characteristics of the economic activities in the two communities provides more clarification. Agona Nkwanta and Takoradi Central are the capitals of AWD and STM respectively. The two communities were chosen in order for the researcher to investigate the variations in the wealth of households predominantly engaged in trade and services. Table 7.3 shows a summary of the occupations of the households of these two communities. Common characteristics of the two communities include the high number of people in the artisanal service sector, though with varying specifications between 2007 and 2012.

Table 7.3 Occupations of households in Agona Nkwanta and Takoradi Central

Occupation(n=128)	Percentage (%)
Fishing	4.6
Farming	9.9
Trade	21.3
Artisans	36.6
Clerks/ Professionals	19.1
Others	8.5
Total	100

Source: Field data, 2013

Agona Nkwanta became the district capital of AWD after the separation of the district from STM in 1992. The growth of trading activities and services in AWD is in this community. Growth started long before 2007 (1992) with the creation as a district capital. The provision of a market in Nkwanta has been the engine of the growth in the community. Produce such as maize from Techiman is sold here, while food crops such as cassava, plantain, yam and cocoyam is brought in from the interior of the Western Region. Fresh and processed fish also come from the coastal communities.

'*After 2007 the market expanded and trading has become an even more lucrative occupation. Everyone comes here to buy and some people have also moved here hoping to find work in the oil sector. If you cannot get what you need to buy at the Nkwanta market then you better go to Accra'* (Assemblyman, Agona Nkwanta AWD).

Other imported goods such as clothes, footwear, utensils and building materials, especially cement and paint, are now the tradable commodities serving the growing construction sectors in the region. Some traders confirm the spread of the market area since 2007 has been very fast with a lot of new buildings along the main Nkwanta-Axim

road now offering more consumables, especially electronic goods, mobile phones and accessories.

While trading activities in Nkwanta have grown, services have boomed in Takoradi Central since 2007. Takoradi Central is located in the Central Business District of the metropolis where a huge service sector is growing. Twenty percent of the households trade as their main occupation. The Takoradi central market or 'market circle area' hosts groups of traders from other communities within and outside the metropolis.

Since 2007, thriving services include hospitality delivered by hotels and restaurants and banking. The metropolitan assembly confirms there has been growth in the hospitality industry since 2007. This growth is mainly attributed to the discovery of oil. Hotels such as Akroma Plaza, Raybow International Hotel and Planters Lodge close to the central business district have expanded their facilities to satisfy the increasing demand for accommodation. An interview with the commercial director of Raybow indicated that this expansion also involved opening of opportunities for employment in the sector.

The increasing majority of artisans are construction workers engaged in the building of warehouses and accommodation facilities in Takoradi. There are also professionals such as clerks, bankers, insurers, salespersons, cooks, nurses, teachers and professionals whose demand rose following oil discovery. Some household heads have also been engaged in the provision of such services for over a decade while others have recently joined the sector.

The air transport service has grown in the metropolis since 2007. The airstrip which is owned and managed by Ghana Air Force now has a commercial section. From 2007 to after 2012 commercial airlines commuting from Takoradi to Accra with passengers has increased from none to five. The Takoradi harbour facilitates the import and export sector as well as the international trade in raw materials (cocoa, timber, bauxite and manganese) which are critical to Ghana's economy. Since 2007 till 2012, the harbour has undergone major expansions to change its capacity.

The already existing infrastructure within the central business district of Takoradi has facilitated the growth in the service and trade sectors giving positive socioeconomic change to households engaged in it. This linkage has not been as well established in Agona Nkwanta, which still lacks infrastructure in the provision of services such as hospitality, banking, and air transport which is coincidentally services demanded in oil sector activities. The district development planning officer of AWD points out that most hospitality services in the district are skewed in favour of the coastal communities which have attractive beaches used more for tourist purposes.

The development in the two oil affected districts has therefore not been the same since oil discovery. As the capital of the Western region and the only metropolitan area, Takoradi has undergone a faster development. AWD has communities which are about 15 minutes drive from the commercial capital of Western Region, Takoradi and about 25 minutes drive from the administrative capital, Sekondi. This makes the district lie approximately 25 kilometres from the Central Business District (CBD) of Takoradi. There is hope that the spill over of the development will soon spread from STM to AWD (AWDA, 2010).

A part of the future development plan for Sekondi-Takoradi is outlined in the caption.

> The city has an almost fifty percent surfaced road network. In view of the oil find, some new earth roads have also been made but not yet asphalted. There is now an increasing construction of warehousing within and in the peripheral of the city affecting transportation within the city. There is increasing traffic on the existing corridors serving the as city's link to other parts of the country. One of these corridors is a part of the main route linking Ghana to Ivory Coast. In 2005 according to the metro Assembly, a transport plan was developed which is still not fully completed. The oil find calls for a quick solution to take care of the core functions of the future growth of the city (Field notes, 2013).

7.3.2 Characteristics and Changes in fishing and farming activities in oil affected districts.

The fishing activity is experiencing a decline in productivity as a result of the numerous challenges it faces. Average fish catch over the years keeps dwindling. One fisherman gives evidence of the effect of low fish catch in recent times. '*In 2007 before the currency was redenominated, I could get gross revenue of 25 million cedis (2,500 Ghana cedis) from one fishing trip. Today I would be lucky to gross ten million cedis (1,000 Ghana cedis). Most often I just mange to break even after an expedition of five days or more.'* (Chief Fisherman, Dixcove, 2013). The focus group discussion in Dixcove also indicated concerns that the situation is getting worse. Nunoo et al., (2009) discusses similar problems being faced in the fishing sector along the whole coastal belt of the country. There is an unmet demand for the premix fuel needed for the fishing boats. In

recent times this demand has increased due to the large area cut off for offshore oil activity.

Within the two fishing communities, the majority of the fisher folks are self- employed (61.5 percent) and a number of them have employees (27.5 percent) whilst others work single handed (33.8 percent).The sector is characterised by a lot of family ownership and a gender division of labour where men go to sea and women process and sell the fish. Capital formation is low when returns on fishing activities are low because there are few members of the household who have non- fish income to help out.

Presently a well planned trip lasting for a minimum of 5 to 7 days can cost not less than a thousand Ghana cedis (GH¢ 1,000). This cost excludes the cost of making a boat. The cost of constructing a new boat is about fifteen thousand Ghana cedis (GH¢ 15,000). We finance the whole costs of going to sea. When we do not have enough capital we at times take short term loans or hedge our fish catch, to receive money to enable us go to sea'.

'It is not true that we go near the rig to fish by intention. Who wants their boat destroyed or their nets seized? Sometimes you get close to the rig because the winds and waves can move you there if you are not careful, especially during the night. We travel further to sea since this area was demarcated and no one has compensated us for the increased expenditure on fuel'. (Chief fisherman, Dixcove, 2013).

The fishermen complained that the lights and warmth provided by the oil infrastructure also draws fish in nearer shallow waters closer to the rigs which is a disadvantage to them. They now have to travel further to reach fertile fishing grounds. A lot has been documented in support of this from other oil producing countries. There is a keen

attraction of fishes to underwater oil infrastructure. Platforms further offshore in deeper waters in the Northern Adriatic Sea have been observed to have higher abundance of fishes than the platforms closer to the shore and in shallow waters. Platforms act as artificial reefs which attract fishes to hide and lay their eggs away from larger and predatory species. Secondly, certain fauna growing within the set up structures provide feeding for the fishes (Fabi, Grati & Puletti 2004). It has been suggested that decommissioned platforms can be used as future fish breeding grounds (Jørgensen & Løkkeborg, 2002).

Counter arguments, however, suggest that the shortage of fish in shallow waters is also a result of the fishing methods fishers have employed over the years. Fisher folk believe the pair trawling activities of larger local and foreign vessels consistently in the last decade has caused them lower fish catches than they usually got.

The linkages between the premix fuel, pair trawling activities and depletion of fish stocks is depicted differently in another study. Here the small fish caught by industrial trawlers, pair trawlers, shrimpers and inshore vessels are transferred to small vessels and canoes at sea owned by these very artisanal fishermen for a fee and this fish is subsequently sold on land. This trade is now widespread and is even a preferred one on some landing beaches, namely Elmina, Tema and Apam. The premix fuel subsidised for artisanal fishing is being used for transhipment activities instead (Nunoo, Boateng, Ahulu & Agyekum, 2009).

Fish processing and marketing face challenges which are common to almost all other coastal communities. This part of the value chain in the sector is handled by women. It

also faces problems which are currently more a consequence of the general low fish catch.

Table 7.4 shows the percentage of households engaged in each occupation and the corresponding length of time they have been engaged in it. Changing occupation is obviously not a characteristic of households engaged in fishing. A relatively smaller percentage is in an alternate activity. The majority (62.7percent) have been in the occupation for over a decade. Percentages of households in fishing and farming for the last 5 years are lower than that of the trade and service occupations. Another finding of the study is the others category comprising the unemployed and retired that has been higher in the last five years than in the other time periods.

Table 7.4 Percentage of households in various occupations and the years they have engaged in it.

Occupation	**Percentage of Households in the various time periods**		
	0-5years	**5-10years**	**10 years and above**
Fishermen (mongers)	20	17.3	62.7
Farmers	18.6	8.6	72.9
Trades	49.8	12.5	37.5
Artisans	34.02	15.5	50.5
Professionals	32.73	10.9	56.4
Others	57.14	7.1	35.71

Source: Field data, 2013

The study found that some fishermen in Dixcove now base their activities outside Ghana, specifically in Ivory Coast where there is a consistent supply of premix fuel, ice and better landing beach facilities. 'I *have moved two of my boats to Ivory Coast. I cannot afford to move all my resources there completely though, but now I have little choice. The officials come here every day to ask for the repayment amount. I have only been operating from there in the last six months and I can assure you conditions, especially in*

the allocation of premix fuel are better. If you can make a good plan you can make better profits there'. (Key informant interview, Dixcove, 2013).

Thursday, 14th March 2013: Dixcove is quiet when there is no fish. All the canoes are stationary at the beach and fishermen idle around, some sewing their nets and others asleep under sheds. The fishmongers remain at home hoping the situation gets better. Some have resorted to selling cooked food in the primary school. European Town is fortunate to be near the Sekondi fishing harbour. There are many trawlers which come with cartons of fish. The fishmongers have bought and are smoking herrings from the fishing trawlers. Other types of fish brought in by the canoes, though in smaller quantities are sold in the fresh state at the beach. This is a difference in the two communities. While one has some activity going on almost all year the other has less activity with no alternatives and hence the industry is no longer profitable. (Field notes, 2013).

Subsistence farming is increasing in farming communities in recent times. The scarcity of land has resulted in smaller farm sizes. A preferred choice is to grow crops primarily for subsistence and then sell the excess, if there is a good harvest. There are concerns of the continuous conversion of existing farmlands into accommodation in Ahanta-Mampong and warehousing facilities in Ewusiejoe. The difficulties in maintening land for farming purposes is being experienced everywhere in Ghana. The bulk of land in both farming communities is characterised by similar patterns of ownership. The family, clans and lineages who have owned land over the years have grown in size while the land has remained the same. Claims on portions, continuous divisions and the inheritance laws have meant that individuals in the family are gradually entitled to smaller land sizes (Gough & Yankson, 2000).

In other cases, members who are not interested in farming have leased or sold their land for non-farm purposes which to them is more lucrative. There are also large portions of stool lands managed by the chiefs, elders and the royal family of the communities. The farming communities now have a significant number of the male household heads who are artisans, especially masons, carpenters, and painters engaged in the construction sector where there is more income to be made.

In the last five years, more respondents in the two communities have become artisans than farmers. Table 7.4 shows an even higher increase when the time period extends to ten years. Every year more people have joined the construction sector instead of the farming sector as more farm lands are sold for non-farm purposes. The majority of those who have farmed for eleven years and over are females and they intend to remain in farming for the next five years.

Out of the total respondents surveyed, 21 percent do not intend to continue their current occupation in the next five years, the majority of whom are male farmers. When questioned on the reason for not wanting to keep farming a male farmer states '*I could try to rely on farming if I was not the breadwinner in my household. Aside land being so small, sometimes the rain does not come as expected. When this happens, crops fail and you get a low harvest. We don't know if it is the seeds or the soil. In some years there is a boom of vegetables and prices drop so low it is even heart-breaking. My wife will look after the farm to supplement whatever income I make. I am searching for a job which guarantees me consistent monthly income. That way I know my children will have a good education and I can feed my family everyday* (Male FGD, Ahanta-Mampong, 2013).

Pre-independence and post-independence government attempted to forcefully take land from the communities for agriculture. This was the information gotten on the issues surrounding farmland shortages in Ewusiejoe (Okoth-Ogendo, 2000), (Kotey, Toulmin & Delville, 2002). Ewusiejoe is home to the Norwegian Palm Ghana Limited (NORPALM) which has 4,000 hectares of oil- palm. Some households have members who work as pruners on the plantation and as clerks (20 percent) of the total respondents sampled from this community. There was compensation for the land paid at the time but it does not make up for what the community lost neither at the time nor can it make up today. In the interview of the chief he stated that ownership has not returned to the community till date (Fold & Whitfield, 2012).

'*We will never know what prompted our fathers to long ago give such a huge part of our inheritance to the government. We don't say it was wrong but the agreement was bad. They should have made better negotiations and covered it with a contract. Today we have totally lost all the land to foreigners. We believe the initial agreement was ???a lot of our people in the community were employed at the plantation. The majority of the people in the community employed there are contract staff working as pruners and harvesters. These jobs are not permanent and the incomes earned are comparatively low. I only know one person from this community employed in a senior management position in Norpalm*' (Key informant interview, Ewusiejoe AWD, 2013).

In Ghana more than 80 percent of the palm oil industry remains in the hands of small scale growers. The remaining 20 percent is owned by several private, semi- private and partly state owned oil palm plantations in Ghana. Some of these encourage small scale

producers in supporting their existence as out growers under their patronage whereby ready markets are available for their produce in mechanised oil processing mills. Norpalm, as mentioned, has a total of 4,000 hectares of oil palm but unlike other oil palm plantations in Ghana, does not encourage out growers (Fold & Whitfeild, 2012).

Generally literature reports that a lot of the fruit as well as the palm oil from small scale farmers and processors have not been usable either in Ghana or abroad for industrial purposes, because of the unacceptable quality. There is a high concentration of fatty acids from the improper fermentation of the fruit before the extraction of the oil. There are also uncontrollable factors such as the inconsistent levels of oil generated by the fruit which depends on the seasons, and small scale processors have as yet no solution to this (Osei-Amponsah et al., 2012). Savings in farming households is average, with 46.8 percent of the household heads putting some of their income away from time to time. The bank is the most preferred choice for most of those who save.

7.4 Changes in Communities and Households of Affected Districts

Aside the change in wealth of households in fishing, farming, trading and service there are other changes households perceive have taken place between 2007 and 2012, which are of importance to the communities. Some of these include changes in health and education. Households' perceptions on the change that had occurred between 2007 and 2012 in the level of education of their household members, the health of their household members and their occupation was sought. The percentages shown in Table 7.5 summarises these perceived changes.

Table 7.5 Levels of change in other socioeconomic indicators between 2007 and 2012

Socioeconomic indicators	**Perceived Level of change in percentages (%)**			
	Increase	Decrease	Same	Cannot tell
Level of education of household members	52.3	15.1	30.2	2.3
Health status of household members	28.9	34.0	34.8	2.3
Economic activity of head of household head	24.6	44.0	27.6	3.8
Household savings	26.7	41.0	25.4	6.9

Source: Author's computation from Field data, 2013

The majority of household heads (52.3 percent) perceive there has been an increase in the level of education of their members, while another 30.2 percent say it has not changed and still remains the same. Explanations for this high percentage increase centres on the fact that the children in households are increasingly being educated. The heads admitted there are financial challenges with this decision, but they are determined to improve the levels of education of their children to give them better opportunities in the future.

This perceived level of change indicated by heads of households on their health is explained by the mixed response to the success of the National Health Insurance Scheme (NHIS). While some asserted the scheme had helped them others said it had deteriorated and was of no use to them. Others also said preventive health had reduced drastically, as for instance the incidence of certain diseases such as malaria which was previously prevalent.

In occupation the focus was on growth in economic activity and household heads were asked if they perceived that their principal occupations had experienced increased growth

or decreased growth. The majority (44 percent) insist there has been a decrease in their occupation. This supports earlier discussions on the wealth changes of households.

Socioeconomic change patterns differ in oil affected districts. The study communities engaged in various economic activities provide evidence of the different changes in wealth between 2007 and 2012. A lot of these changes are explained by the differential provision of infrastructure and services in the study communities. Within the fishing sector the storage facilities and the presence of a harbour makes one community have an opportunity of fish processing all year. In the other community there is a higher percentage moving to alternate fishing grounds.

The patterns are also explained by the occupations of the household heads. Where they are engaged in growing economic activities, their socioeconomic change has been positive. Growth in trade and services is demand driven and this is a result of being in the right location. Hence the hospitality sector which is greatly linked to the oil sector activity has been favoured as well as the demand for goods. Where the economic activity faces problems, socioeconomic change has been unfavourable. This example is seen in the fishing sector. It has little to offer oil sector activity. It is not in direct demand or will not provide immediate benefits to the sector. Its growth is therefore seemingly independent of oil discovery. The link is the assertion that the cut off zone has caused lower fish catch. The wealth change here therefore cannot only be a reflection of being a household in a community within an oil affected district.

CHAPTER EIGHT

INSTITUTIONS AND SOCIOECONOMIC CHANGE IN TWO OIL AFFECTED DISTRICTS

8.1 Introduction

The previous chapter discussed the socioeconomic change in oil affected districts at the household with the aim of determining if there had been significant changes in household wealth especially between 2007 and 2012. This chapter investigates the links between institutions and the socioeconomic change using an ordered probit regression. Chapter Five of this study concludes that while there are institutional networks between traditional authorities, metropolitan and district assemblies, with regard to the communities and households, the links are indirect and need strengthening.

The main channels of the confirmed active involvement of institutions are in Chapter Five found between the district and the community based institutions. Other key institutions assigned with roles in oil sector activity that is linked to the communities in affected districts are the International Oil Companies which through their CSR activities help in the development of the communities.

These direct and indirect links are summarised as three institutional contributions. These are institutional contribution to economic activities (ICEA), to household income (ICHI) and to community development (ICCD).

These institutional contributions are ordered on the basis of the levels of change the head household perceives has occurred between 2007 and 2012. An increased level of change

in contribution is the highest and is assigned the value 1. Decreased level of change in contribution is the lowest and is assigned -1. If the level of change in institutional contribution has remained the same, the contribution is assigned with a value of 0. Two scenarios are presented with three models specified for each type of institutional contribution. In the first scenario, the socioeconomic variable wealth status is combined with household attributes as the independent variables. The three types of institutional contributions are the dependent variables.

In a second scenario an alternate socioeconomic variable 'total well-being' replaces wealth status and is combined with a similar set of household attributes. Three models of the derived institutional contributions are again specified to investigate the existing links.

8.2 Descriptive Statistics

Table 8.1 presents the summary statistics of the household attributes and the socioeconomic variables used in the two scenarios. The expected outcome of the links is provided.

Table 8.1 Summary Statistics of Attributes and Socioeconomic Variables of Households

Variable	Freq. (%)	Mean	Std. Dev.	Expected outcome
Age				Positive
Age (in years)		46.14	16.03	
Gender				
Male	70.41			-
Female*	29.59			-
Marital Status				
Single*	27.88			Negative
Married	72.12			Positive
Ethnicity				
Ahanta	61.22			
Fante	19.13			
Other ethnic background	19.64			
Migration Status				
Indigene*	52.44			Positive
Migrant	47.96			Negative
Level of Education				
None*	31.12			Negative
Primary	50.77			Positive
Secondary	15.56			Positive
Tertiary	2.55			Positive
Income				
Savings	61.01			Positive
No savings*	38.99			Negative
Primary Occupation				
Fishing	19.13			Positive
Farming	17.86			Positive
Trade and Service	55.10			Positive
Others*	7.91			
Employment status				
Self- employed	99.19			Positive
Employee*	0.81			
Secondary Occupation				
Yes	26.60			Positive
No*	73.40			
Socioeconomic change based on wealth status of household in 2012				
Lowest	19.90			Negative
Second	19.90			Negative
Third	20.15			
Fourth	19.90			Positive
Highest*	2015			Positive
Perceived level of change in TWB of household between 2007 and 2012				
Increase	25.34			Positive
Decrease	42.32			Negative

The Same*	32.35	Positive

*Reference categories for the independent variables
Source: Field Data, 2013

The mean age for household heads was 46.14 years with a standard deviation of 16.03. Male headed households were more than female headed households. Female headed households were less and was therefore used as the reference category in the discussion. Marital status is a dummy variable. Either the head of household is married or not. The different forms of marriages, traditional, civil, consensual unions are captured under married. Never married, Widows/ widowers, divorcees and those separated from their partners are all categorised as Singles. About 72 percent as against 27 percent of the household heads were married.

Ethnicity in the study area was dominated by the Ahantas (61.22 percent). This was followed by the Fantes (19.13percent). Household who were not Ahanta or Fante were 'others' representing predominantly Ashanti, Ewe and Ga (19.64 percent). There are also migrant households in the affected districts. If you were not an indigene then you were a migrant which is used as the reference category in discussing the results (Migrants are only added in the scenario I).

Level of education is categorised as none (no education), primary, secondary and tertiary. No education is the reference variable for this category. More households had savings (61.01) than those who did not have (38.99 percent). Having savings represents a daily, weekly or annual deposit either in the bank, a saving and loans establishment or 'susu' collector. No savings is the reference category. The occupation of the household concentrated on the three types of interest, namely fishing (19.3 percent), farming(17.86

percent) and the combination of trade and services (55.1 percent). The remaining occupations are categorised as one group and used as a reference.

Either the household head is employed or self-employed. The majority are self-employed. Employee is used as the reference. A secondary occupation meant an alternate income earner for the household. Almost 27 percent of the households had an alternate activity. The different types of alternate activities are discussed in Chapter Seven. The other 73 percent who had no alternate activity are used as the reference category.

There are two variables of socioeconomic change, wealth status and total well- being of households between 2007 and 2012. Wealth is computed on the basis of selected household characteristics and living conditions. The households are further grouped in quintiles based on the varying wealth indices (Refer to chapter 4.3). Total well -being (TWB) in this study is defined as the perceived level of change in the household heads overall assessment of the progress the household has achieved between 2007 and 2012. As described in Chapter Four (refer to questionnaire in Appendix 4 Section D), it is a combination of perceived improvement in health and education status, occupation, savings and the living standards of member's of the household (Diener, 2000).

8.3 Institutions and Socioeconomic Change as Wealth Status- an Ordered Probit Approach – (Scenario I)

The results presented in Table 8.2 shows three regression models. Institutional contribution to economic activity is shown as ICEA, institutional contributions household income as ICHI and institutional contributions to community development as ICCD.

Table 8.2 Ordered Probit Regression of the determinants of perceived levels of change in institutional contributions (Scenario I)

Variable	**Perceived Institutional contributions**		
	ICEA	**ICHI**	**ICCD**
Age			
Age (in years)	0.087**	-0.002	-0.002
	(2.48)	(-0.52)	(-0.55)
Gender(*Female=reference*)			
Male	-0.141	-0.152	-0.096
	(-0.96)	(-0.91)	(-0.60)
Marital Status(*Single=reference*)			
Married	0.117	0.190	-0.016
	(0.83)	(1.13)	(-0.10)
Ethnicity(*Other Ethnicity=reference*)			
Ahanta	0.065	-0.137	-0.369**
	(0.40)	-(0.77)	(-2.05)
Fante	0.518***	0.326**	0.005
	(2.63)	(1.67)	(0.03)
Education(*no education=reference*)			
Primary	0.199	-0.037	0.173
	(1.34)	-(0.24)	(1.09)
Secondary	0.256	0.053	0.174
	(0.28)	(0.24)	(0.85)
Tertiary	0.107	0.533	0.129
	(0.27)	(1.24)	(0.25)
Income(*No savings= reference*)			
Savings	-0.162	0.318**	0.541***
	(-1.25)	(2.30)	(3.72)
Occupation(*Others=reference*)			
Fishing	-0.412	-0.221	0.341
	(-1.35)	-(0.49)	(0.60)
Farming	-0.492	-0.068	0.756
	(-1.50)	(-0.15)	(1.30)
Trade and Service	-0.190	-0.016	0.418
	(-0.51)	(-0.04)	(0.75)
Employment status(*Employee=reference*)			
Self- employed	0.513	-0.494*	-0.604**
	(1.01)	(-1.95)	(-2.10)
Secondary occupation(*None= reference*)			
Yes	0.063	0.125	-0.262*
	(0.48)	(-1.93)	(-1.73)
Socioeconomic change based on wealth status of household in 2012 (*Highest= reference*)			

Lowest	-0.424**	-0.224	0.236
	(-2.19)	(-1.08)	(1.07)
Second	-0.268	-0.298	0.011
	(-1.41)	(-1.45)	(0.05)
Third	-0.291	-0.201	-0.010
	(-1.46)	(-0.99)	(-0.04)
Fourth	-0.244	-0.053	0.285
	-(1.23)	(-0.24)	(1.33)
Number of Observations	368	368	368
Wald Chi2(18)	29.80	37.16	39.14
Prob>chi2	0.0394	0.0050	0.0027
Pseudo R-squared	0.0376	0.0371	0.0544

Source: Author's own computation from Field data, 2013

***Significant at the 1 percent level, **Significant at the 5 percent level, * Significant at the 10 percent level: t-ratios are in the parentheses. This Ordered Probit regression was done with robust standard errors.

Table 8.2 shows the regression coefficients of three variants of perceived levels of change in institutional contributions between 2007 and 2012 in Scenario I. Other attributes of the head of household are included in the discussion to shed more light on additional factors which determine perceptions on institutional contributions. Institutions are to ensure oil activity does not affect the economic activities and hence the livelihoods of people in the oil affected districts. In this study, this responsibility given to institutions is being accessed by the evidence of links between the three institutional variables and the socioeconomic change variable.

In the first model of scenario I, the perceived level of change in institutional contribution to economic activity (ICEA) is determined by age of household head, the ethnic background of the household and the socioeconomic change in the household based on the wealth status in 2012. Age is a positive determinant implying that as age increases, there is increased probability that the perceived level of change in ICEA also increases. If the ethnic background of the household is Fante (19.3 percent) as against other ethnic

backgrounds (19.6 percent) with the exception of Ahanta (61.2 percent), there is an increased probability that the perceived level of change in ICEA is an increase. If the socioeconomic change causes a household to be in the lowest wealth group, as against the highest, in 2012 it reduces the probability that the household will perceive ICEA to have increased between 2007 and 2012.

In model two of Scenario I, the perceived level of change in institutional contribution to household income (ICHI) is determined by the ethnic background, savings and employment status of the head of household. When the ethnic background of the household is Fante (19.3 percent) as against other ethnic backgrounds (19.6 percent) with the exception of Ahanta (61.2 percent), there is an increased probability that the perceived level of change in ICHI increased. Households with savings also have a higher probability of perceiving ICHI to have increased while self- employed household have a reduced probability of perceiving the change in ICHI to be an increase.

8.3.1 Marginal effects of household attributes and socioeconomic change (wealth status) on perceived institutional contributions

Further elaborations on the determinants of the perceived levels of change in the three institutional contributions is summarised in Tables 8.3, 8.4 and 8.5. These marginal effects describe the main determinants of institutional contributions at every perceived level of change.

Table 8.3 Determinants of the perceived levels of change in institutional contribution to economic activity (ICEA)

Variable	Perceived Levels of change		
	Decrease	Same	Increase
Age			
Age (in years)	-0.003**	-0.0003	0.003**
Gender(*Female=reference*)			
Male	0.041	0.007	-0.047
Marital Status(*Single=reference*)			
Married	-0.036	-0.003	0.038
Ethnicity(*Other Ethnicity=reference*)			
Ahanta	-0.019	-0.002	0.021
Fante	-0.134***	-0.051	0.185**
Education(*no education=reference*)			
Primary	-0.059	-0.007	0.066
Secondary	-0.070	-0.018	0.089
Tertiary	-0.030	-0.006	0.036
Income(*No savings= reference*)			
Savings	-0.049	-0.004	0.053
Occupation(*Others=reference*)			
Fishing	0.133	-0.008	-0.125
Farming	0.161	-0.015	-0.146*
Trade and Service	0.056	0.008	-0.063
Employment status(*Employee=reference*)			
Self- employed	-0.177	0.037	0.140
Secondary occupation(*None= reference*)			
Yes	-0.018	-0.003	0.021
Socioeconomic change based on wealth status of household in 2012 (*Highest= reference*)			
Lowest	0.137**	-0.009	-0.128**
Second	0.084	0.00006	-0.084
Third	0.092	-0.001	-0.091
Fourth	0.076	0.0006	-0.077

Source: Author's own computation from Field data, 2013
***Significant at the 1 percent level, **Significant at the 5 percent level, * Significant at the 10 percent level

The results in Table 8.3 summarises which household attributes and socioeconomic change variable determines perceptions on decreasing, same and increasing ICEA between 2007 and 2012. Age of household head is a main determinant. As age increases, it reduces the probability of the household's perception that there is decrease in ICEA by a 0.3 percent (at a 5 percent level of significance). Alternatively as age increases the

probability of the household's perception that ICEA increased is raised by a 0.2 percent (at a 5 percent significance level).

Fante households when compared to other ethnicities except Ahantas have a reduced probability of perceiving ICEA to decrease by a 13.4 percent at a 1 percent level of significance. Alternatively, they have a higher probability by a 14.5 percent in comparison with the other ethnicities in their perception that ICEA increased (at a 10 percent level of significance). On the links between socioeconomic change and institutions, households in the lowest wealth group have a higher probability of perceiving ICEA to decrease when compared to the highest wealth group by 13.7 percent at a 5 percent level of significance. When the perceived level of change in ICEA increases, the probability of a household being in the lowest wealth group is reduced by 12.8 percent at a 5 percent significant level.

If the occupation of the household is farming, then as compared to other occupations (fishing, trade and services excluded), there is a reduced probability that in the perceived level of change in ICEA has increased. Farmers do not perceive there has been increased institutional contribution in their occupations between 2007 and 2012.

The second model shows the main determinants of the perceived levels of change in institutional contribution to household income (ICHI). These are employment status and savings. Again ethnicity is also a determinant of the perceived level of change in ICHI. Table 8.4 summarises the results of the marginal effects.

Table 8.4 Determinants of perceived levels of change in institutional contribution to household income (ICHI)

Variable	Perceived Level of change		
	Decrease	Same	Increase
Age			
Age (in years)	0.0009	-0.0003	-0.0007
Gender (*Female=reference*)			
Male	0.061	-0.018	-0.043
Marital Status (*Single=reference*)			
Married	-0.075	0.026	0.050
Ethnicity (*Other Ethnicity=reference*)			
Ahanta	0.055	-0.017	-0.038
Fante	-0.130*	0.033**	0.097
Education (*no education=reference*)			
Primary	0.015	-0.005	-0.010
Secondary	-0.021	0.006	0.015
Tertiary	-0.206	0.032***	0.174
Income (*No savings= reference*)			
Savings	-0.126**	0.042**	0.084**
Occupation(*Others=reference*)			
Fishing	0.087	-0.031	-0.057
Farming	0.027	-0.009	-0.018
Trade and Service	0.006	-0.002	-0.004
Employment status (*Employee=reference*)			
Self- employed	0.192**	-0.031***	-0.161*
Secondary occupation (*None= reference*)			
Yes	-0.050	0.015	0.035
Socioeconomic change based on wealth status of household in 2012 (*Highest= reference*)			
Lowest	0.088	-0.031	-0.057
Second	0.117	-0.042	-0.075
Third	0.080	-0.028	-0.052
Fourth	0.021	-0.007	-0.014

Source: Author's own computation from Field data, 2013
***Significant at the 1 percent level, **Significant at the 5 percent level, * Significant at the 10 percent level

In table 8.4, perception that level of change in institutional contribution to household income has decreased is determined by Fante households, households that save and household heads who are self-employed as against being employees. When households are Fantes, they have a reduced probability of 13.0 percent (at a 10 percent level of significance) in the perception that there is decreased ICHI. Again Fante households have

a higher probability of perceiving that level of change remaining the same as compared to other non Ahanta ethnic groups in the two affected districts (significant level of 5 percent).

Households that save, have a reduced probability of a perceived decrease in the level of institutional contribution to their income by 12.6 percent as compared to households that do not save at a 5 percent level of significance. They also have an increased probability of 4.2 percent at 10 percent significance level in their perception that institutional contribution has remained the same. Their perception that contribution has increased is 8.4 percent higher than those who do not save at 5 percent significance level.

Self-employed household heads have an increased probability of 19.2 percent of a decrease in the perceived level of change in ICHI between 2007 and 2012 at a 5 percent level of significance when compared to those that are employees. They are also less likely to have the perception that institutional contribution remained the same than employee household heads by 3.1 percent at a 1 percent level of significance. Again when perception of ICHI increases, the probability that the household is self- employed is reduced by a 16.1 percent as compared to the employee household heads at a 10 percent significance level.

Another strong determinant when perceived levels remains unchanged in ICHI is a tertiary level of education for the household head as against having no education. Tertiary education increases probability in perceived levels remaining the same.

The most significant determinants of perceived levels of change in ICCD are again ethnicity, savings and self -employment. A fourth significant determinant, not seen to have strength previously in the other institutional contributions, is when the household has a secondary occupation. The details of the marginal effects on the levels of change are summarised in table 8.5.

Table 8.5 Determinants of perceived levels of change in institutional contribution to community development (ICCD)

Variable	**Perceived Levels of change**		
	Decrease	**Same**	**Increase**
Age			
Age (in years)	0.0009	-0.0002	-0.0007
Gender(*Female=reference*)			
Male	0.038	-0.007	-0.031
Marital Status(*Single=reference*)			
Married	0.006	-0.001	-0.005
Ethnicity(*Other Ethnicity=reference*)			
Ahanta	0.145**	-0.025**	-0.121**
Fante	-0.002	0.0004	0.002
Education(*no education=reference*)			
Primary	-0.068	0.013	0.055
Secondary	-0.069	0.011	0.058
Tertiary	-0.051	0.008	0.043
Income(*No savings= reference*)			
Savings	-0.208***	0.043***	0.165***
Occupation(*Others=reference*)			
Fishing	-0.135	0.020	0.116
Farming	-0.294	0.025**	0.269
Trade and Service	-0.162	0.033	0.130
Employment status(*Employee=reference*)			
Self- employed	0.235**	-0.013	-0.222**
Secondary occupation(*None= reference*)			
Yes	0.010*	-0.022	-0.080*
Socioeconomic change based on wealth status of household in 2012 (*Highest= reference*)			
Lowest	-0.093	0.015	0.078
Second	-0.004	0.0008	0.004
Third	0.004	-0.0007	-0.003
Fourth	-0.113	0.017	0.096

Source: Author's own computation from Field data, 2013

***Significant at the 1 percent level, **Significant at the 5 percent level, * Significant at the 10 percent level

Table 8.5 shows that Ahanta households have a higher probability of perceiving a decreased ICCD than other ethnic groups (except Fantes) by 14.5 percent in the two affected districts at a 5 percent level of significance. Their probability of perceiving ICCD to have remained the same between 2007 and 2012 is however reduced by a 2.4 percent at 5 percent significant level when compared to the households of other ethnic origin (excluding the Fantes). Ahanta households are less likely to perceive an increased level of change in ICCD by 12.1 percent at a 5 percent significance level.

Households that save are less likely to hold the perception that ICCD has decreased as compared to those that don't save by 20.8 percent at a 1 percent level of significance. Such households also have an increased probability to perceive that ICCD has remained the same between 2007 and 2012 at a1 percent significant level. Savings finally increase the probability of a household's perception that ICCD has increased by16.5 percent at a 1 percent significance level.

Self-employed household heads have an increased probability of perceiving a decrease in ICCD than employee household heads by 23.5 percent at a 5 percent significance level. The probability that they perceived an increased ICCD is on the other hand reduced by 22.2 percent at a 5 percent significance level. Secondary occupation previously not a strong determinant of institutional contribution now increases the probability of a household perception that ICCD has decreased as against households that have a single occupation. Again such households have a reduced probability of perceiving ICCD has increased as compared to those without a secondary occupation by 8 percent (at 10 percent significance level).

8.4 Institutions and Socioeconomic Change as Total Well Being - an Ordered Probit Approach (Scenario II)

Table 8.6 shows regression results of an ordered probit of institutions and socioeconomic change. The independent variable determining socioeconomic change in this scenario is changed to total well- being at the household level (TWB). The aim here is to investigate the links with an alternative socioeconomic change variable which depends on perception while controlling for wealth status. Three models are specified in scenario II.

Table 8.6 Ordered Probit Regression of the determinants of perceived levels of change in institutional contributions (Scenario II)

Variable	**Perceived Institutional contributions**		
	PICEA	**PICHI**	**PICCD**
Age			
Age (in years)	0.087**	-0.001	-0.001
	(2.38)	(-0.28)	(-0.37)
Gender(*Female=reference*)			
Male	-0.188	-0.232	-0.105
	(-1.24)	(-1.33)	(-0.62)
Marital Status(*Single=reference*)			
Married	0.164	0.210	0.027
	(1.14)	(1.21)	(0.16)
Ethnicity(*Other Ethnicity=reference*)			
Ahanta	0.210	0.074	-0.341*
	(1.27)	(1.41)	(-1.86)
Fante	0.539***	0.451**	0.076
	(2.64)	(2.27)	(0.34)
Migration Status *(Indigene=reference)*			
Migrant	-0.000	-0.026	-0.176
	-(0.00)	(-0.18)	(-1.29)
Education(*no education=reference*)			
Primary	0.135	-0.130	0.098
	(0.89	(-0.78)	(0.58)
Secondary	0.182	-0.036	0.193
	(0.89)	(-0.16)	(0.90)
Tertiary	0.152	0.743*	0.184
	(0.33)	(1.66)	(0.35)
Income(*No savings= reference*)			
Savings	0.081	0.228	0.450***
	(0.60)	(1.59)	(3.00)
Occupation(*Others=reference*)			

Fishing	-0.491*	-0.453	0.171
	(-1.66)	(-0.92)	(0.29)
Farming	-0.666**	-0.508	0.537
	(-1.97)	(-1.03)	(0.91)
Trade and Service	-0.338	-0.354	0.201
	(-1.18)	(-0.76)	(0.36)
Employment status(*Employee=reference*)			
Self- employed	0.593	-0.556*	-0.926***
	(0.82)	(-2.47)	(-4.26)
Secondary occupation(*None= reference*)			
Yes	0.073	0.160	-0.2005
	(0.54)	(1.10)	(-1.32)
Perceived level of change in TWB between 2007 and 2012 (*Same= reference*)			
Increase	0.434**	0.634***	0.518
	(2.44)	(3.85)	(2.92)
Decrease	-0.009	-0.177	-0.167
	(-0.06)	(-1.15)	(-1.05)
Number of Observations	348	348	348
Wald Chi2(17)	29.80	67.10	70.73
Prob>chi2	0.0172	0.0000	0.0000
Pseudo R-squared	0.0408	0.0736	0.0757

Source: Author's own computation from Field data, 2013

***Significant at the 1 percent level, **Significant at the 5 percent level, * Significant at the 10 percent level: t-ratios are in the parentheses. This Ordered Probit regression was done with robust standard errors.

Table 8.6 shows the regression coefficients of three variants of perceived levels of change in institutional contributions between 2007 and 2012 in Scenario II. Another important attribute of the head of household 'migrant status' is included in the model. In the first model of scenario II, the perceived level of change in institutional contribution to economic activity (ICEA) is determined by age of household head, the ethnic background of the household, the occupation of the household and the perceived change in total wellbeing of the household . Age remains a positive determinant as was observed in

scenario I. If the ethnic background of the household is Fante (19.3percent) as against other ethnic backgrounds (19.6percent) with the exception of Ahanta (61.2percent), again as in scenario I there is higher probability that perceived level of change in ICEA is an increase. Fishing and farming households are negative determinants of institutional contribution to economic activity. As the households in either of the two occupations increases, when compared to the other occupations of households in the two affected districts (except those in trade and services), there is a higher probability that perceived level of change in ICEA decreases. Socioeconomic change is also a positive determinant of ICEA.

In model two of Scenario II, the perceived level of change in institutional contribution to household income (ICHI) is determined by the ethnic background, a tertiary level of education, self-employed household head (as in scenario I) and again socioeconomic change. When the ethnic background of the household is Fante (19.3percent) as against other ethnic backgrounds (19.6 percent) with the exception of Ahanta (61.2percent), there is an increased probability that the perceived level of change in ICHI increases.

A tertiary level of education for households is also a positive determinant of institutional contribution to household income. Households who are self-employed still have a reduced probability of perceiving the change in ICHI to have increased. When the perceived level of change total well- being increases, there is a higher probability that perception on the level of change in ICHI also increased.

Perceived level of change in ICCD in this scenario is determined by Ahanta households, households that save, self-employed households and socioeconomic change in the

household. Whereas ethnicity and self-employment are negative determinants, savings and increased socioeconomic change are positive determinants.

8.4.1 Marginal effects of household attributes and socioeconomic change (total wellbeing) on perceived institutional contributions

Tables 8.7, 8.8 and 8.9describe the main determinants of the different institutional contributions at every perceived level of change when TWB is introduced to represent socioeconomic change.

Table 8.7 Determinants of Perceived level of change in institutional contribution to Economic Activity (ICEA)

Variable	**Perceived Levels of change**		
	Decrease	**Same**	**Increase**
Age			
Age (in years)	-0.003**	-0.0004	0.003**
Gender(*Female=reference*)			
Male	0.056	0.011	-0.065
Marital Status(*Single=reference*)			
Married	-0.050	-0.004	0.054
Ethnicity(*Other Ethnicity=reference*)			
Ahanta	-0.063	-0.007	0.070
Fante	-0.137***	-0.058	0.195**
Migration Status *(Indigene=reference)*			
Migrant	0.0001	0.00001	-0.0001
Education(*no education=reference*)			
Primary	-0.040	-0.006	0.046
Secondary	-0.051	-0.013	0.063
Tertiary	-0.043	-0.011	0.053
Income(*No savings= reference*)			
Savings	-0.024	-0.003	0.027
Occupation(*Others=reference*)			
Fishing	0.160	-0.011	-0.149*
Farming	0.222*	- 0.029	-0.194**
Trade and Service	0.097	0.019	-0.116
Employment status(*Employee=reference*)			
Self- employed	-0.208	0.047	0.161
Secondary occupation(*None= reference*)			
Yes	0.021	-0.004	0.025
Socioeconomic change using perceived change in TWB of household (*Same= reference*)			
Increase	-0.117***	-0.037	0.154**

Decrease	0.003	0.0004	-0.003

Source: Author's own computation from Field data, 2013
***Significant at the 1 percent level, **Significant at the 5 percent level, * Significant at the 10 percent level

The results in Table 8.7 show the marginal effects of household attributes and socioeconomic change perceptions that the levels of change in ICEA has decreased, remained the same or increased between 2007 and 2012 in the two affected districts. As age increases, the probability of the household's perception that there is decrease in ICEA is reduced by 0.3 percent (at a 5 percent level of significance). Alternatively as age increases this probability is raised by 0.2 percent (at 5 percent significance level).

Fante households, when compared to other ethnicities except Ahantas, have a reduced probability of perceiving ICEA to decrease by 13.4 percent at a 1 percent level of significance. Alternatively, the probability in their perception that ICEA increased is raised by 14.5 percent in comparison with the other ethnicities (at a 10 percent level of significance).

If the occupation of the household is farming, then as compared to other occupations (fishing, trade and services excluded), there is a higher probability in their perception that ICEA has decreased. Farm households in the two affected districts have a 22.2 percent higher probability of perceiving ICEA to have decreased than the other occupations in the districts at a 10 percent significance level. On the other hand, they have a lower probability in their perception that ICEA increased during the time period.

Another occupation which significantly determines perception that ICEA increased is fishing. Though they are not the strongest determinants of perceived decreased ICEA,

fishing households have a lower probability by 19.4 percent (at a 10 percent significance level) in perceiving that ICEA increased when compared to other occupations (trade, services and farming excluded).

Discussing the links between socioeconomic change, households who perceived their total well-being had increased between 2007 and 2012, have a lower probability by 11.7 percent at a 1 percent significance level to perceive that ICEA has decreased when compared to those who perceived that their total well-being remained the same. Where perceived ICEA increased the probability of it being a household with perceived increase in TWB, it is higher by 15.4 percent when compared to households where perceived TWB remained the same.

Table 8.8 Determinants of Perceived Levels of change in Institutional Contribution to Household Income (ICHI)

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Variable	**Perceived Levels of change**		
	Decrease	**Same**	**Increase**
Age			
Age (in years)	0.0005	-0.0002	-0.0003
Gender(*Female=reference*)			
Male	0.092	-0.028	-0.064
Marital Status(*Single=reference*)			
Married	-0.084	0.030	0.053
Ethnicity(*Other Ethnicity=reference*)			
Ahanta	-0.029	0.010	0.019
Fante	-0.178**	0.044***	0.134**
Migration Status *(Indigene= reference)*			
Migrant	0.010	0.003	-0.007
Education(*no education=reference*)			
Primary	0.052	-0.017	-0.034
Secondary	0.014	-0.005	-0.093
Tertiary	-0.277**	0.025	0.251
Income(*No savings= reference*)			
Savings	-0.091	0.031	0.059
Occupation(*Others=reference*)			
Fishing	0.176	-0.071	-0.105
Farming	0.197	-0.081	-0.116

Trade and Service	0.149	-0.044	-0.097
Employment status(*Employee=reference*)			
Self- employed	0.213***	-0.033***	-0.181
Secondary occupation(*None= reference*)			
Yes	-0.064	0.020	0.044
Socioeconomic change using perceived change in TWB of household (*Same= reference*)			
Increase	-0.247***	0.058***	0.190***
Decrease	0.071	0.024	-0.046

Source: Author's own computation from Field data, 2013
***Significant at the 1 percent level, **Significant at the 5 percent level, * Significant at the 10 percent level

In Table 8.8 perceptions that the levels of change in ICHI has decreased, remained the same or increased between 2007 and 2012 in the two affected districts shows that ethnicity, self-employment and socioeconomic change are significant determinants. When the level of change in ICHI is perceived to have decreased, Fante households have a lower probability of having such perception and so do households with a tertiary level of education. Self-employed households have an increased probability in perceiving there was a decrease in ICHI when compared to employee households by 21.3 percent at a 1 percent level of significance.

When the perceived level of change in ICHI remains the same, Fante households again have an increased probability of perceiving ICHI to have increased when compared to other ethnicities, except Ahantas by 4.3 percent at a 1 percent level of significance. Self-employed households, on the other hand, have this probability reduced by 3.2 in comparison with employee households. Perception that socioeconomic change has increased has higher probability of also perceiving ICHI to be the same.

Alternatively, where the perceived level of change in ICHI increased, the probability that the household is Fante, increases by 13.4 percent as compared to other ethnic households,

excluding the Ahantas. There is a lower probability that the household is self employed by 18 percent at a 5 percent significance level compared to employee households. Again households where socioeconomic change increased between 2007 and 2012 are less likely to perceive a decreased ICHI in that same time period.

Table 8.9 Marginal Effects of household attributes and socioeconomic change as TWB on Perceived Levels of change in institutional contribution to Community Development (ICCD)

Variable	**Perceived Levels of change**		
	Decrease	**Same**	**Increase**
Age			
Age (in years)	0.0006	-0.0001	-0.0006
Gender(*Female=reference*)			
Male	0.041	-0.008	-0.034
Marital Status(*Single=reference*)			
Married	-0.010	0.002	0.008
Ethnicity(*Other Ethnicity=reference*)			
Ahanta	0.135*	-0.024*	-0.111*
Fante	-0.030	0.005	0.024
Migration status *(Indigene= reference)*			
Migrant	0.069	-0.013	-0.056
Education(*no education=reference*)			
Primary	-0.039	0.007	0.031
Secondary	-0.077	0.012	0.064
Tertiary	-0.073	0.008	0.062
Income(*No savings= reference*)			
Savings	-0.175***	0.036**	0.138***
Occupation(*Others=reference*)			
Fishing	-0.068	0.012	0.056
Farming	-0.211	0.025**	0.186
Trade and Service	-0.079	0.016	0.063
Employment status(*Employee=reference*)			
Self- employed	0.340***	0.007	-0.347***
Secondary occupation(*None= reference*)			
Yes	0.078	-0.017	-0.062
Socioeconomic change using perceived change in TWB of household (*Highest= reference*)			
Decrease	-0.204***	0.028***	0.177***
Increase	0.066	-0.013	-0.052

Source: Author's own computation from Field data, 2013

***Significant at the 1 percent level, **Significant at the 5 percent level, * Significant at the 10 percent level

Variations in the determinants of perceived levels of changes in ICCD are again similar to earlier observations. Ahanta households in Table 8.9 are shown as having a higher probability of perceiving a decreased ICCD than other ethnic groups (except Fantes) by 13.5 percent in the two affected districts at a 5 percent level of significance. Their probability of perceiving ICCD to have remained the same between 2007 and 2012 is however reduced by 2.4 percent at a 5 percent significance level when compared to the households of other ethnic origin (excluding the Fantes). Ahanta households are less likely to perceive an increased level of change in ICCD by 11.1 percent at a 1 percent significance level.

Households that save are again as in Scenario I less likely to hold the perception that ICCD has decreased as compared to those that don't save by 17.5 percent at a 1 percent level of significance. Households that save also have an increased probability to perceive that ICCD remained the same between 2007 and 2012 compared to those who do not save, by 36.4 percent at a 1 percent significance level. Savings finally increases the probability of a household perception that ICCD has increased than those who do not save at all by 13.8 percent at 1 percent significance level.

Self- employed household heads have an increased probability of perceiving a decrease in ICCD than employee household heads by 34 percent at a 1 percent significance level. The probability of them having perceived an increased ICCD is, on the other hand, reduced by 34.7 percent when compared to employee households at a 5 percent significance level. Socioeconomic change previously not a strong determinant of institutional contribution to community development now reduces the probability of a

households perception that ICCD has decreased if the perceived socioeconomic change between 2007 and 2012 increased. Again households with perceived increase in socioeconomic change, have a higher probability of perceiving ICCD has remained the same than those who perceive socioeconomic change remained the same at a 1 percent significance level. Even more significant (at a 10 percent significance level) is the fact that perceived increase in socioeconomic change also determines perceived increase in institutional contribution to community development.

8.5 Conclusions on findings of the links between institutions and socioeconomic change

The links between socioeconomic change and the three institutional variables have been depicted in foregoing discussions on the results in scenario I and II. A myriad of explanations were given by households for their perceptions on institutional contributions and some of these better explain the observed significant determinants of the changes in perceptions. When socioeconomic change is measured as wealth, the only observed link occurs between the lowest wealth group and perceived institutional contribution to economic activity as against the highest wealth group. This relationship is significant and negative, indicating when there is low socioeconomic change, households perceive that institutional contribution to their economic activity is also low.

In scenario II, increased socioeconomic change between 2007 and 2012 is found to be significantly linked to the three variants of institutional contributions. This positive socioeconomic change increasingly influences the perception that institutional contributions increased within this same time period. Households who perceived that total well -being increased (26.3 percent) were less than those who thought it decreased

(57.3 percent) in the study area. This finding then underscores the less than 30 percent of households who perceived that there was an increase in the level of any of the institutional contributions between 2007 and 2012 (refer to Appendix 6).

The study finds other significant determinants of institutional contributions aside socioeconomic change. Households in farming and fishing are significant negative determinants of perceived levels of increased institutional contribution to economic activity in Scenario II. The farm households complain that extension services received from the agricultural departments of the assemblies have been absent, especially in recent years. Palm fruit growers receive more support since palm fruit is recognised more as a cash crop, leaving those growing food crops, fruits and vegetables with very little attention from agricultural extension services (Osei-Amponsah et al., 2012).

Some households who confirmed the perceived decrease (23.8 percent) in the contribution of institutions in their economic activities between 2007 and 2012 explained this decrease was due to their past affiliations with the institutions. In the past (previous government administrations 2000- 2008) they had frequent visits from the extension officers brought to their communities.

An even greater percentage (48.9) perceived that within the time period there had been no change in institutional contribution at all. One common theme for this perception is that no knowledge of such help existed. '*No one comes here to help us. We do everything ourselves. If anyone tells you they help us it isn't true. Until elections are drawing near we hardly see any of the officials in our community'* (Source: Participant, Male FGD,

Ahanta-Mampong, 2013). This means over 70 percent of household do not think they benefitted much from institutional contributions in their principal economic activities.

The age of head of household in both scenarios is a significant positive determinant of institutional contribution to economic activity. Households who had more years in the same occupation explained that at times their experience facilitated access to the provisions given by the state and non- state institutions. Older household heads in the study had been engaged in the same activity longer than the younger household heads during the focus group discussions in the communities.

The major ethnic groups in the two affected districts are the Ahantas who are indigenes of the Western Region. The second are the Fantes who are from the Central region (refer to Appendix 7) and then the others. There are more Fantes in Sekondi-Takoradi than in Ahanta West.

This ethnic difference is found to be a strong determinant of institutional contributions in the study. Fantes are strongly linked to institutional contributions to economic activity and household income, whilst the Ahantas are linked to community development. The links, however, rather provide another avenue for analysis. Communities in Sekondi-Takoradi have more Fantes who see their communities to be adequately provided with more facilities such as schools, roads hospitals, banks, hotels and other infrastructure which is confirmed in the medium term development plans. They are therefore more concerned with institutional contributions to their economic activities and household income.

On the other hand the communities in Ahanta West perceive their communities need more of community development projects that results in better infrastructure provision. For instance, the Ahanta West assembly reports that over 85 percent of the road network in the district lacks asphalt. Households in Ahanta West are more concerned with institutional contributions in this area. '*We would be happy if more community development projects are embarked upon since there is oil money. It will benefit everyone. Our children need more books to learn and entice them to stay in the classroom. The whole district is also serviced with two senior high schools making competition for higher education very keen, which also discourages our children from continuing their education'*(Source: Participant, Female FGD, Ewusiejoe, 2013).

Self-employment also determines the levels of change households perceived have occurred in institutional contributions to household income and community development but not to economic activity.

Savings in the study is also a significant determinant of perceptions of institutional contributions. When households save, it positively influences their perception on institutional contribution to household income and to community development. Evidence from cash hand out systems such as the Livelihood Empowerment Programme Against Poverty (LEAP) shows increased savings as one impact the programme has on the beneficiaries (Hand & Park, 2014; Osei & Osei-Akoto, 2014; FAO, 2013). Currently the programme is available in four communities in Ahanta West and one of these was a study community.

CHAPTER NINE

SUMMARY, CONCLUSION AND POLICY RECOMMENDATIONS

9.1 Summary and Conclusions

The main aim of this study was to determine the links between the role institutions play in the oil sector of Ghana and the socioeconomic change in two oil affected districts in the Western Region of Ghana. In relation to this the role of institutions was first discussed. Then the knowledge, fears and expectations of households in the affected district were determined in relation to the type of economic activity. The socioeconomic change which had occurred in the two oil affected districts was the third objective, seen through changes in occupation, growth in trade and service and the wealth status of households. Finally the links between the functions of the institutions and the socioeconomic change in the affected districts was investigated.

This study finds that Ghana has done well in establishing a legal framework to guide all activities in the oil sector. It was from this framework that institutions have roles with a legal backing. The state institutions in the oil sector are centralised and interact with each other in their activities. Funds flow from the Ministry of Finance which is the governments' purse to all the state institutions either directly or indirectly. The flow of information is centralised. The Ministry of Energy and Petroleum has superiority over the other institutions.

Ghana has by this legal framework set up an IAC and PIAC as monitoring institutions. These roles being performed by these institutions are supported by literature on the issues of transparency and sustainability in natural resource management. However, the

institutions assert that they are severely constrained in their roles due to inadequate resources.

At the regional level institutional interaction becomes limited as the Western Region Coordinating Council becomes the major institution assigned with responsibilities. The district and metropolitan assemblies interact better with the institutions at the community level and also with the households in the communities.

The flows indicated by the net- map shows that the interaction between some institutions can be strengthened to provide better links to communities in oil affected districts. Few of the key institutions operate at the district and community levels. The traditional authorities, the metropolitan and district assemblies are interacting with the communities through a flow of resources, information and authority. The Petroleum Commission has initiated interaction with communities to enforce Corporate Social Responsibility activities in the affected districts. The NGO's and the IOC's are also interacting with the communities through the flow of information and some resources. There are still open avenues for more interaction between institutions in oil sector activity and communities in oil affected districts.

Households in the study know that Ghana owns the oil resource and the products to be derived from it, but know less on the institutions and laws for the sector. People in affected districts, like many others, are passive participants in the public discussions on the use of the oil revenue. They are also not aware of the limitations in the sector in terms of job opportunities and are expectant that a transformation is going to eventually take place.

Occupations have changed as fishing and farming become less viable. This cannot however be attributed solely to the oil sector. The trade and service sectors have grown between 2007 and after 2012 and more households are attracted to these occupations in the last five years. The resultant wealth changes show a picture of socioeconomic change pattern. It is rather evident that the spatial differences that exist in communities of affected districts have been an influencing factor in the changing socioeconomic positions of households.

Most households (57.3 percent) in the communities perceive that the contribution of institutions in general has decreased. Between 2007, when oil was discovered, until 2012 the development plans targeting the communities have been limited, more as a result of funds. There are a 122 communities in Ahanta West for instance. The resources are not enough to undertake projects in all the communities, so the very pressing needs are dealt with first.

There are indirect links between institutions and socioeconomic change at the community and household levels. These links discussed through perceptions on institutional contributions also conclude, though, that despite the low interaction, institutions are perceived as important for households in affected districts. Of importance in the observed links are the deterministic effect of certain household attributes on the socioeconomic change level between 2007 and 2012.

The study does agree with other studies that the explanations on the occurrence of the resource curse are varied with the institutional argument having an important role to play. This role is multi- dimensional and can only be directly linked to the resource

exploitation, production and management through effective, transparent and accountable laws. The indirect links can be fostered through special effort made at ensuring some level of the participation of the people for whom the resource belongs. These and other links which are important and have not been well catered for as yet in the oil sector of Ghana.

The study finds that the institutional argument is also more linked to socioeconomic change in the two affected districts. The links are however not mutually exclusive but allow for other links such as that with savings, employment status and secondary employment. The study therefore agrees with literature that the relationship between institutions in the natural resource discourse is not simple and direct.

The reality has always been how the growth in resource development translates into the situation existing in the average Ghanaian household. The concentration on the resource region is of interest in avoidance of an oil led conflict which history has proven originates in these regions.

9.2 Policy Recommendations

The independence of institutions is a necessary part of managing wealth. The study therefore recommends that committees such as the Public Interest Accountability Committee (PIAC) and the Interim Advisory Committee (IAC) should be independent of receiving funds from a government institution. This stems from the finding shown by the net map indicating the flow of funds for these institutions are mainly from the Ministry of Finance. The literature indicates that monitoring and evaluation is compromised once an institution becomes a government funded one. As a policy, a fund must be established

within the oil regulatory framework which directly apportions funds from the central bank to pay for the cost of monitoring and evaluation of collection and utilisation of oil revenue.

There is the need to allow dissemination of more information which can boost the confidence of the regional administration to be more involved in oil activity. If the flow of information is strengthened it could lessen the burden of national departments who can better reach the districts and communities. This also means better interaction with traditional authorities and the local communities.

Parliamentary participation is gathered to be very important from the flow of authority and information seen in the net map of institutions with roles in the oil sector activity. In decision making they must be strengthened through capacity building programmes which include selected members of parliaments responsible for petroleum activities. This can be extended to the judiciary as well. They are the legal checks on the discretionary powers given to institutions such as Ministry of Energy and Petroleum.

Information must be provided for more effective participation of households in the activities of the oil sub sector. It is recommended that comprehensive all- inclusive programmes for inland fish farming is started to help fishing communities revitalise their main occupation. The implication of the radio as the most used source of information affirms there is a wider coverage area, and encourages forums in the oil and other sectors through this media. A purposefully set time where a programme on oil activity is aired to create awareness will be a step in the right direction.

Chiefs are still the head of traditional institutions and continue to wield a lot of power and authority in their communities. There should be policies or guidelines to that effect which not only sees them as stakeholders in decision making but as implementers of projects which benefit their communities.

Institutional contributions must continue to recognise the influence of spatial characteristics on the socioeconomic change in households and communities of affected districts. Community development programmes should also be given the needed attention to improve total well-being of households in these districts recognised as most likely to be affected by oil.

Local content and participation is not linked to the communities. The roles played by institutions in oil sector activity are highly centralised with no specific allocation to the affected communities who wait in anticipation for institutional links to eventually benefit them. It is therefore prudent that the institutions that have links and interact with communities from this study are channelled to make more effective contributions to ensure continued positive socioeconomic change. Within these initiatives consideration must be given to the fact that the provision of certain amenities such as roads will improve farming activities while cold storage facilities and subsidised pre mix fuel would improve fishing activities.

The study concludes that though households in communities of oil affected districts are not directly engaged in the oil sector, they have been identified to be the region's most likely geographic locations to be affected by the activity. This is a step in the right direction. However, further steps are necessary to ensure that the institutions assigned

with roles and responsibilities are better linked to the communities with specific functions such as in local content. This will go a long way to ensure the oil sector activities does not become an enclave in the oil affected districts.

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APPENDIX

Appendix 1

INTERVIEW GUIDE FOR STATE INSTITUTIONS IN THE OIL SECTOR-NATIONAL LEVEL

Background or law to institutions establishment
1. Name of Institution
2. Is it a main authority or a subdivision?
3. Oil Sector Roles and Responsibilities
4. Can you summarize in brief the main responsibilities assigned to your authority for oil sector activity?
5. Was your department or authority currently created for this role or has it always performed in a similar manner in the past?
6. Was there/ is there a law establishing this role?
7. How long has this authority been assigned this role / responsibility?
8. Briefly describe the role assigned to you in oil sector activity.
9. Would you say that there are enough resources at your disposal to effectively perform this role?
10. Where do your funds for operating come from?
11. Name the other institutions you know have roles in the oil sector
12. Which of these institutions is the most powerful in the oil sector
14. Do you wish that the relationship between you and any other institution can be enhanced to help you perform your role better?

15. Does your authority have sub divisions at the regional and district levels in Ghana? Yes { } No { }
Please elaborate
16. Have these divisions been assigned with the same roles and responsibilities? Yes { } No { }
17. Do you face inadequate staff problems in your roles and responsibilities assigned you?
If yes, can you mention some?
If no can you explain why?
18. Are decisions and plans made only at the head office or you have authority to make you own decisions
19. Do the sub divisional offices have autonomy to make their own rules?
If yes, can you specify the extent?
If no, can you specify why?

20. Are there future plans of extending this role/ responsibility in the oil sector to the regional or district levels of administration?

21. Do you have any contact with the communities in oil affected districts and in what form is this contact?

THANK YOU VERY MUCH.

INTERVIEW GUIDE FOR INSITUTIONS IN THE OIL SECTOR- REGIONAL AND DISTRICT LEVEL

Background or law guiding the institutions establishment
Name of Institution

Oil Sector Roles and Responsibilities

1. Can you summarize in brief the main responsibility assigned to your institution for oil sector activity?
2. Was your department or institution currently created for this role or has it always performed in a similar manner in the past?
3. How long has the institution been assigned this role / responsibility?
4. Briefly describe the mode of operation for this institution.
5. Would you say that there are enough resources at your disposal to effectively perform this role?
6. Do you have any links with the other stakeholders of the oil, sector?
7. What are the other institutions you interact with in performing your role in oil sector activity?
8. Which one of these has the final say?
9. Do you have divisional offices which have autonomy to make their own rules?
    a. If yes, can you specify the extent?
    b. If no, can you specify why?
10. To what extent does the assigned role in oil sector activity link you to the communities in oil affected districts?
11. Are there any other activities linking you to the communities in oil affected districts?
    Any other comments?

    THANK YOU VERY MUCH.

Appendix 2

FOCUS GROUP GUIDE FOR COMMUNITIES IN AFFECTED DISTRICTS

The purpose of the Focus group discussions is to elaborate on issues of interest for this study. Each group will comprise 10 persons. The formation is based on common interest such as economic activity. Example Fishermen's group, fishmongers group, traders association and other relevant groups in the communities.
In effect the focus groups will be as follows:

- In each community there will be two focus groups male and female. This will also be done in each farming community.
- In the communities engaged in trade and the provision of services focus groups may not be gender sensitive but would rather be based on the associations or unions available.

After forming the groups discussions will be the same for all in three parts as elaborated below:

ECONOMIC ACTIVITY

Some of the issues for discussion are:

- A history of the activity in the community
- The general factors which have helped the activity to thrive
- Main changes in the activity between 2007 and 2012
- Reasons for these changes
- The factors that hinder the progress of the activity
- Ways of improving the activity
- Alternate economic activities in the community

KNOWLEGDE, EXPECTATIONS AND FEARS ON THE OIL INDUSTRY

- How do residents perceive the activities of the oil sector?
- The relevance and knowledge of the institutions in the oil sector.
- The demarcation area cut- off from fishing activities. The discussion on any other rules they have had to observe with regards to the oil? Observations and discussions on the problems in the fishing industry before and after 2007.
- Fears associated with oil activities
- Expectations of jobs and compensations etc
- Information on the knowledge of opportunities available in the sector.

SOCIO-ECONOMIC CHANGE IN COMMUNITIES

- The availability, accessibility and use of educational and health facilities in the community between 2007 and 2012

- The problems of educating children in the community
- Can oil be seen as an engine which can promote the growth of educated people in the community?
- Type of health facilities and the service provided in the last five years

- Government / NGO/ Other external intervention in health facilities.

- What type of water and sanitation facilities existed in 2007 and in 2012.
- Are there any problems with either of them?
- Are there any individual sanitation facilities in the community?
- Has waste disposal in the community changed since 2007?

Thank You Very Much

Appendix 3

INTERVIEW GUIDE FOR TRADITIONAL RULERS, ASSEMBLYMEN, OPINION LEADERS AND OTHER KEY INFORMANTS IN COMMUNITIES OF AFFECTED DISTRICTS IN THE WESTERN REGION

BACKGROUND INFORMATION AND VISIBLE CHANGES IN THE COMMUNITY

1. Name:
2. Title of Respondent
3. Can you discuss any noticeable changes in the community between 2007and 2012"?
4. What are some of the factors contributing to this change or no change?
5. What would you say accounts for this increase or decrease mentioned above?
6. What have been some of the benefits of this?
7. What have been the disadvantages?
8. Do you have any suggestions how the benefits of this can be enhanced and the disadvantages curtailed?

OIL ACTIVITY- KNOWLEGDE ON RULES, REGULATIONS, EXPECTATIONS AND FEARS

9. Are you fully aware of the rules that have been introduced since oil discovery?
10. Have you any part to play in the oil sector activity under these rules and regulations?
11. Do you perform any other role or responsibility in oil activity
12. Did you expect the oil discovery to bring a lot to your community?
13. Have you any fears on how the oil will change your community?

INTERVENTIONS, LOCAL CONTENT AND CSR AT THE COMMUNITY LEVEL

14. What other institutions do you interact with in the oil sector activity
15. What are some of the contributions institutions have made to your community between 2007 and 2012?
16. Which institution was this- State or non state?
17. Was it a planned intervention from the government/ private provider or requested from the community?
18. Describe the specifics of this provision and the terms and conditions if possible
19. Are the people of the community satisfied with this intervention
20. Can you briefly discuss the change (if there is) the intervention has brought?

21. Do you have knowledge of persons employed in any of the oil companies
22. If yes, is the person a resident of this community or a neighbouring community?
23. What do you think are some of the jobs available for individuals in the oil industry?
24. Are there any groups/ forums/ organizations seeking for jobs in the oil sector
25. Finally, which issue about the oil sector do you think should be critically addressed?

    Any other comments

    Thank you very much.

Appendix 4

SECTION A: BACKGROUND INFORMATION Socio-Demographic Characteristics

	1	2	3	4	5	6	7	8	9	10	11
ID	NAME (first name only)	SEX 1... Male 2...Female	Relationship to household head 1….Head 2… Spouse 3….Child 4…. In-Law 5… Grandparent 6…Parent 7… Sibling 8…Grandchild 9…Uncle/ Aunt 10…nephew/ Niece 11...Non Relative (specify)	Age of(name) in completed years	Marital Status 1…Monogamous marriage 2… Polygamous marriage 3…Con. Union 4… Divorced/ Separated 6… Widowed 7… Single 8…Child(age below 10)	What is name's religion? 1…Christian 2…Muslim 3...Traditionalist 4…Buddhist 5…No religion 6…Other (specify)	Nationality 1… Ghanaian 2…ECOWAS 3…Other AFN 4… Non AFN	Ethnic background 1…Ahanta 2…Fante 3…Nzema 4…Wassa 5…Sefwi 6… Guan 7…Ga-Adangbe 8… Ewe 9… Hausa 10. .Ashanti 11.. Other Akan 96….Other(specify)	Region of origin. 1…Western 2…Central 3… G. Accra 4...Volta 5…B/Ahafo 6…Eastern 7…Northern 8…Ashanti 9…U/East 10…U/ West	How did (name) come to live in this community? 1…Birthplace (>>12) 2…Migrant 96…Other (specify	What made name migrate to this community? 1… economic 2… social 3… cultural 4… medical 5…political 98..Dont know
01											
02											
03											
04											
05											
06											
07											
08											
09											
10											
11											
12											

Socio- Demographic Characteristics contd.

	12	13	14	15	16	17	18	19	20
ID	What is (name's) highest level of education completed? (Specify) 1… None 2… Primary 3 …Middle/ JHS 4… Secondary/ SHS 5… Training college 6…Tech/ Prof 7… Tertiary 8…Koranic 96 Other	Can (name) read or write in English? 1…Read only 2 …Read and write 3 …Read other language(specify) 4 …Read and write other language 5 …None	Was name living in this community before 2007? 1..Yes 2…No	Has (name) got the desire to move to another place? 1… yes 2… no (>>18) 98…don't know (>>18)	14 Where would (name) move to? 1…within Western Region 2… Outside of Western 3… G. Accra 4…Abroad 96… Other (specify) 98..don't know	Can (name) give a reason for answer in 15 1… economic 2… social 3… cultural 4… medical 5…political 98..Dont know	What is names occupation? 1…Fisherman/monger 2…Farmer 3…Trader 4… Artisan(state type) 5…Clerk/ professional (Specify) 6… Retired (>>29) 7…Unemployed (>>29) 8…Student(>>29) 96…Other(specify)	What sector does this belong to? 1…Agriculture 2…Mining Industry 3…Oil sector 4…Manufacturing 5...Services 6…Trade 7…Communications 8….Hospitality 96…other (specify	What is (name's) status in their occupation? 1…Self employed with employees 2 …Self employed no employees 3…Apprentice 4 …Family worker 5…Domestic help 6...Employee 96…other (Specify)
01									
02									
03									
04									
05									
06									
07									
08									
09									
10									
11									
12									

(i) Economic Activity

	21	22	23	24	25	26	27	28
ID	How long has (name) been engaged in this occupation ? (in completed years) 1..(0 -5yrs) 2...(5-10) 3..(10 & above)	Does (name) intend to remain this occupation for the next 5 years? 1 …yes 2… no 98…Don'tknow	Does (name) have an alternate economic activity besides their main occupation? 1… Yes 2… No (>>27)	What s does (name) do? 1…Fisherman/monger 2…Farmer 3…Trader 4… Artisan(state type) 5…Seamstress/ tailor/ hair dressesClerk/ professional (Specify) 96…Other(specify)	What sector does this belong to? 1…Agriculture 2…Mining Industry 3…Oil sector 4…Manufacturing 5...Services 6…Trade 7…Communications 8….Hospitality 96…other (specify	What is (name's) main reason for this alternate economic activity? 1… economic 2… social 3… cultural 4… medical 5…environmental 96...other (see below for details)	Does (name) save any income? 1…Y Daily 2…Y Weekly 3..Y Monthly 4…YQuarter 5…Y Annual 6 …Y Inconsistent 7…Not at all (>>29) (Y= yes)	Where has name been saving? 1… Bank 2… Credit Union 3…Susu group 4…Saves at home 96… Other (specify)
01								
02								
03								
04								
05								
06								
07								
08								
09								
10								
11								
12								

26.**Some examples of categories** Economic- income, expenditure etc Social-community work, education etc Cultural-religion, beliefs, traditions Medical- health Environmental- seasons, resource discovery etc	

SECTION C: KNOWLEDGE, EXPECTATIONS AND FEARS ABOUT OIL

	29	30	31	32	33	34	35	36
ID	Has (name) heard about Ghana's oil discovery? 1… yes 2… no(>>44)	What was the source of this information? 1…Radio 2 …TV 3… Newspaper 4 …Internet 5 …Public Address system 6… Friend 96…other (specify) 98…don't know	Prior to Ghana's oil discovery did name have any knowledge about oil? 1…Yes 2…No 98…don't know	What was names first reaction to the oil discovery? 1…Happy 2…Confused 3…Indifferent 4…Inquisitive 96 Other (specify)	Who does (name) think owns the oil of Ghana? 1…Western Region 2… All Ghanaians 3…The Government 4…The chiefs of the region 5…Oil companies 6… Fishermen 7… God/ Allah 98…don't know	Can name give some of the products derived from oil? 1… One 2 …Two 3 …Three 4 …Four 5 …Five 6… Above five (please see list below and tick accordingly) 98…don't know	Is (name) aware of any of the institutions (bodies) of the oil sector? 1… One 2… Two 3… Three 4… Four 5…Five 6…Above five (interviewer should please note the list below) 98…don't know	Has (name) attended any of the forums/ meetings organised by these institutions to discuss issues on oil? 1…yes 2…no(>>39)
01								
02								
03								
04								
05								
06								
07								
08								
09								
1								

0								
11								
12								

For 34. list of some petroleum products

Petrol, gasoil, diesel, kerosene, gas, bitumen, detergents, house paint, putty, nail polish, glycerine'

Shoe polish, Oil filters, fertilisers/linoleum, motor oil, aspirin, artificial limbs, bandages, tents telephones, footballs, lipstick, nylon ropes, water pipes, dresses, cassettes, ink, solvents, tires, Floor wax, perfume etc

Knowledge, expectations and fears about oil contd.

	37	38	39	40	41	42
ID	If yes where did you attend the meeting/ forum? 1…this community. 2…a community in this district. 3…a community in another district.	Who organised it? 1…Jubilee partners 2…District/ Metro Assembly 3…NGO's 98..dont know	Did name have any expectations on Ghana's oil find? 1…Yes 2…No 98…Don't know	What most important development does (name) expect oil will bring this community? 1…More jobs 2…Improved Roads 3…Improved education facilities 4…Improved health facilities 5…Hotels 6…Industries 7…Recreational facilities 96… Other (specify) 98…Don't know	Would name like to work in an oil company? 1…Yes 2… No	Has name any fears concerning Ghana's discovery of oil? 1…Yes 94…No fears 98…Don't know
01						
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43. Does {name} have any of these listed fears on what the oil activities can bring to the community?

	43a Economic	43b Social	43c Environmental	43d Medical	43e Cultural	43f Political
ID	1…Loss of income 2…higher costs of living 3…loss of labour in main economic activities to oil sector employment 4…Increased immigration 5…higher unemployment 94…No fears 96…other (specify)	1…Lower education standards/ school dropouts to work in oil sector 2…increased social vices 3… crime 4…conflicts 94…No fears 96….other (specify)	1…Contamination of sea water. 2…Ballast water hazards 3…Gas flaring 94…No fears 96…other (specify)	1…Spread of Diseases(STDs) 2…respiratory diseases from pollution from oil activities 94…No fears 96…other (specify)	1…Foreign practices which erode cultural values 2…removal of taboos and beliefs 94…No fears 96…other (specify)	1…Domination of government projects verses community projects 2…confiscation of land and property for government project use 3…Corruption 94…No fears 96…other (specify)
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SECTION D

(i) Institutional Contribution

After 2007 your community was identified by the state and non state institutions as being in an oil affected district. Indicate what change has occurred between 2007 and 2012 through the following:		1…Decrease 2…The same 3…Increase	
		Change	Explain
44.	The level of change in institutional contribution to your (occupation) economic activity		
45.	The level of change in institutional contribution to your household income? (include cash remittances)		
46.	The level of change in the involvement of institutions in the development of your community		

(ii) Socio- economic change

Compare your standard of living before 2007 to that after 2012 and indicate if there has been change in the following by choosing an option		(Q47- Q57) 1…Increase 2…Decrease 3…The same 4…Cannot tell	
		Change	Explain
47.	Level of education of household members		
48.	Health Status of household members		
49.	Occupation (use main and indicate if it has changed or name has an added activity).		
50.	Savings		

51. **Total Well Being** is defined in this study asthe totality in satisfaction you receive from the following…your income, health and education, your time for relaxation and the peace of mind. Between 2007 and 2012 indicate the level of change you think has occurred in your total well being. 1= increase; 2= the same and 3= decrease.	

(i) Assets Record

52. Indicate if you had the following assets in working condition before 2007 and today. Yes= 1; No= 2			
No.	**Assets**	**Before 2007**	**Today**
1	Electric Iron		
2	Refrigerator		
3	Television		
4	Radio/Stereo System		
5	Furniture		
6	Clock/Watch		
7	Sewing Machine/Hairdryer		
8	Jewellery		
9	Electric/Gas Stove		
10	Bicycle		
11	Motorcycle		
12	Car/Truck		
13	Mobile Phone(s)		
14	Fan		
15	Plot(s) of Land		
16	Uncut Cloth(s)		
17	Cattle		
18	Sheep/Goats/Chicken		
19	Boat		
20	Canoe		
21	Outboard Motor		
22	Shop/ Market Stall		
23	Tractor		
24	Other(specify)		

(ii) Housing /living conditions

	Before 2007	After 2007	Explain
53. Type of Dwelling 1…Single house dwelling 2…Apartment / Flat 3…Room(s) (Compound house) 4…Several Huts/Builds (Same unit.) 5…Several Huts/Builds (diff. unit.) 6…Other (specify)			
54. How many rooms does this household occupy? (Do not include Bathrooms, toilets, kitchen)			
55. What is the material of the walls of the house? (Not the surface but the inner wall material) 1…Mud/Mud bricks 2…Stone 3…Burnt bricks 4….Cement/Sand Crete 5…Wood/Bamboo 6…Iron Sheet 7…Cardboard 96 Other (specify)			
56. What is the material of the roof of the house? (Observe and record if possible, if not, Ask) 1…Mud 2…Thatch 3…Wood 4…Iron Sheets 5…Cement/Concrete 6…Roofing tiles 7…Asbestos 96…Other (specify)			
57. What is your present occupancy status? 1… Renting 2… Perching 3… Owns this household (>>67)			

4… Provided rent free (>>67)			
58. Who pays the rent? 1… Self 2… Relative 3… Private employer 4… Govt. public employer 96… Other(specify)			

	Before 2007	After 2007	Explain
59. What is the main source of drinking water for your household? 1… Indoor plumbing 2… Water truck/tanker service 3…Water vendor 4…Pipe in neighbouring household 5…Private outside standpipe/tap 6… Public standpipe 7…Sachet/bottled water 8…Borehole 9…Well 10…River/stream 11…Rain water/spring 12…Dugout/pond/lake/dam 96…Other(specify)			
60. Does this serve as a source for other household chores? 1…Yes 2…No(State the other)			
61. What is the main source of lighting for your dwelling? 1…Electricity (mains) 2…Generator 3…Kerosene, Gas, Lamp 4…Candles/torches (flashlight) 96…Other (specify)			
62. How does your household dispose of refuse?			

1… Collected 2…Public dump 3…Burned/ buried by household 4…Dumped elsewhere 5…Other (specify)			
63. What type of toilet is used by your household? 1…Flush toilet (WC) 2…Flush toilet (WC) in another household 3…Public Flush toilet (WC) 4…Covered Pit latrine 5…Uncovered pit latrine 6… Pan/bucket 7…KVIP 8…No toilet (bush) 96…Other (specify			
64. What is the main fuel used by the household for cooking? 1 Wood 2 Charcoal 3Gas 4 Electricity 5 Kerosene 96 Other (Specify)			

Appendix 5 Main and Secondary occupation in study communities

Main Occupations	Secondary Occupations					
	Fishing	Farming	Trade	Artisans	Professional	Others
Fishing	4	4	5	5	0	0
Farming	0	3	3	9	0	3
Trade	2	2	2	5	0	1
Artisan	1	14	3	10	0	2
Professional	2	8	2	2	0	0
Others	0	5	1	2	0	0

Appendix 6 Levels of change (percentages) in perceived institutional contributions

Type of Institutional contribution	Perceived levels of Change in percentage of households		
	Decreased	Same	Increased
ICEA	27.4	48.9	23.8
ICHI	53.5	26.3	20.2
ICCD	57.0	16.6	26.3

Appendix 7 Ethnic background of households by districts

District/ Ethnic Group	Ahanta	Fante	Others
STM	81	59	41
AWD	159	16	36
Total	240	75	77

Appendix 8 Employment status of household heads

Employment Status	Households (Frequency)
Self employed with no employees	240
Self employed with employees	127
Employee	3
Unemployed	22

Appendix 9 Summary of Households sampled from the Communities

Community	No. of Households	No. of Individuals	Average H. size
Dixcove	73	325	4.5
AgonaNkwanta	68	332	4.9
Ewusiejoe	68	298	4.4
Takoradi Central	60	239	3.9
European Town	50	163	3.2
AhantaMampong	73	314	4.3

Appendix 10 Chi Square test between wealth status and occupations

Occupation	RECODE of bstandardweatlhgrp: Lowest	Second	Middle	Fourth	Highest	Total
Fisherman/monger	4	4	17	23	27	75
Farmer	22	19	11	7	11	70
Trader	12	12	18	11	11	64
Artisan	22	25	16	22	12	97
Clerk/ professional	11	13	9	12	10	55
Retired	5	2	4	0	2	13
Unemployed	1	1	2	1	4	9
Other	1	2	2	2	2	9
Total	78	78	79	78	79	392

Pearson chi2(28) = 60.8667 Pr = 0.000