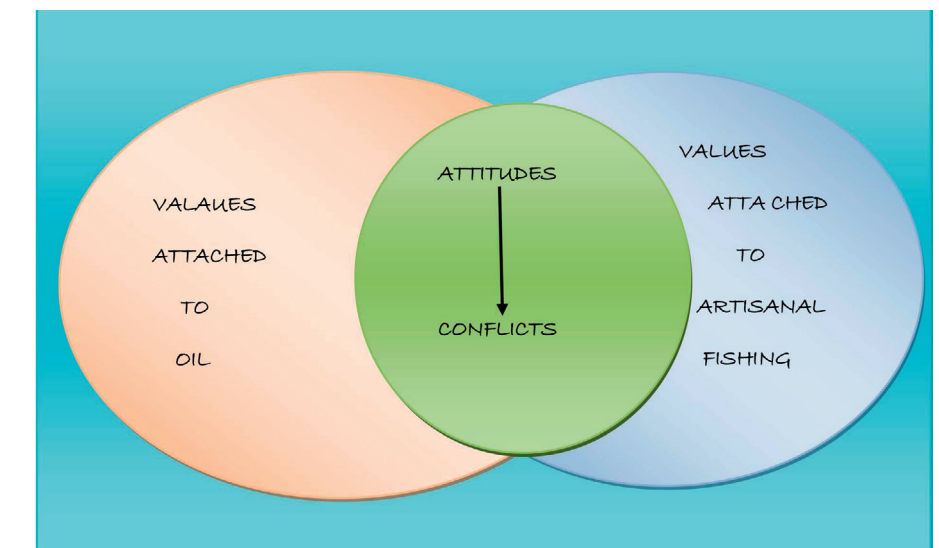


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Oil versus Fish: A Study of the Conflict between Different Resources Users in the Marine Commons of Cape Three Points-Ghana

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CHAPTER ONE

GENERAL INTRODUCTION

1.1 Introduction

Natural resources as defined by OECD (Organization for Economic Co-operation and Development), “are natural assets (raw materials) occurring in nature that can be used for economic production or consumption” (OECD, 2001). Inference from this definition implies that there are benefits humans derive from the use of natural resources, either for personal consumption or economic gains. People can have different benefits, either at the consumption level or at the economic production level. Some people can consume nature, literally by eating what they get from it, in this case, picking and eating wild fruits, while others can consume nature by admiring the aesthetic beauty of it. Economically, people may sell what they obtain or extract from the wild or nature just as it is, or may process it before they sell.

Natural resource area is likely to be used by many people, thus making it a Common Pool Resource area from which individuals use or extract different items with different benefits (Nathalie A. Steins and Edwards, 1999). All Common Pool Resource area hosts a variety of resources units and it will be inappropriate to think that people would only extract for instance fuel wood, if they or some others can extract wild berries from the same resource area (Nathalie A. Steins and Edwards, 1999), giving a forest for an example.

Common Pool Resource users, with different benefits have different values attached to these benefits. Common Pool Resources are naturally subjected to depletion or reduction in quantity as humans use or extract them (OECD, 2001). Based on this, if the extraction activities of one resource users affect the quantity and quality of the other resource users, there is the likelihood of conflicts occurring. I would want to emphasize here that, the kind of conflict I am referring to is that of social conflict. However unmanaged and unresolved social conflicts could aggravate to armed conflict.

Normally, people tend to focus on Common Pool Resources on land. The sea, which is mostly called the “Marine Commons”, is a Common Pool Resource which people use to satisfy their various needs. Some people obtain fish from it, others produce salt from it, and some go to the sea to have fun and aesthetics, and some use the sea as a medium to reach hydrocarbon bearing rocks beneath the sea. Depending on values placed on the various resources tapped from the Common Pool Resource and the effects ones exploitation methods have on the other resources, degradation, and consequently conflicts could result.

This research focuses on the social conflict between two major resource users of a Marine Commons off the shores of Cape Tree Points in Ghana, where oil is been drilled and produced in commercial quantities. It delves into the various values attached to the different resources, which in this case is oil and fish by the respective “resource users”- the oil companies, also referred to as “Jubilee Partners” in this study and the local fishermen. It also studies what according to the local fishermen

is the cause of the conflict and what they suggest could resolve the conflict, and further goes on to suggest measures that could be used to resolve the conflict.

1.2 Background to the research

Prior to the discovery of oil off the shores of Cape Three Points, the sea, as a common pool resource could generally be said to be of "single-use" resource base, in which individual resource users only extracted fish. Previous literature laid emphasis on single use of common pool resources at the local level (Nathalie A. Steins and Edwards, 1999), which presupposed that common pool resources had only one use for communities that depended on them. Further studies, by scholars such as Edwards Victoria and Nathalie A. Steins (1999), as stated in Zachrisson (2004), have criticized the idea of single Common Pool Resource usage, insisting that, Common Pool Resources have different relevance to different users as they evolve.

Introduction of off shore drilling on the seas of Cape Three Points can be said to have introduced a different resource user into the Marine Commons of Cape Three Points, with different resources, different values informing different attitudes, and overlapping interests. This has resulted in two major resource users in the sea, as a Common Pool Resource area. These are the Jubilee Partners and the local fishermen. These resource users have different values for the different resources they extract.

Individuals, groups, and organizations have different values based on how "Value items" meet, serve and satisfy their needs, (Jones, 1993). Value items, may be defined as elements on which certain values are attached to or placed in this case Oil and Fish.

The Jubilee Partners have different values for oil, while the local fishermen have different values for fish. The value placed on Oil by the Jubilee Partners, is that of Market value since there is a heavy reliance of the entire global community on oil and gas for consumption now and in the future, (E&P Forum/UNEP, 1997).

Market Value considers how relevant the resource in question is for profitable business enterprises. For this reason, governments place premium value on the oil and gas industry, as it holds a high place in the global sense. Individual oil companies also place high market values on oil and gas, and will invest in the best of technologies to make their exploration successful in order to meet the world demand.

Various countries would put various values on marine fish. Some may have a particular species of fish, and may have some form of identity value for them; example is the case of Norway, which is famous for its Atlantic salmon all over the world. Commonly, marine fish has subsistence values, which is, people fish in the sea to feed on, (Jones, 1993). Some marine fishers sell their catch to make money on which they depend. Though this is a form of market value, it would not have much significance on it, compared to revenues that are generated by the oil and gas industry.

Countries such as Nigeria and Angola who have oil rigs have experienced major conflicts between marine fishermen and oil companies (Jike, 2010a). With the inception of Oil rig activities in Ghana, some marine fishers complain to have lost their fishing rights because their part of the sea, where they fish is allocated to the Jubilee Partners. Some, who have not lost their fishing zone, face the problem of decreased catch due to fish loss as a result of oil production activities. In their report, E&P Forum/UNEP (1997) enlisted a number of major liquid streams that are harmful to fish when discharged into the sea and they include, produced water, drilling fluids, cuttings and well treatment chemicals among others. Decrease in fish catch by marine fishermen, who directly or indirectly depend on marine fish generates conflict between them and the oil producing companies. In Angola, conflict over degraded fish habitat has affected fishermen and their form of livelihood, and they now seek development support (SFCG). In the oil rich Niger Delta in Nigeria, host communities of oil companies have been plagued with the issue of unemployment, due to fishermen being displaced by oil companies (Jike, 2010a). This may lead to social vices as the unemployed would find ways and means on making ends meet (Jike, 2010a).

1.3 Problem Statement

Cape Three Points village, locally known as “*atinkyin*” (out of salt) in Ghana is located at the southernmost part of Ghana, close to longitude and latitude 0 degrees (WestCoast, 2010). The village has a population of about 450-500 people, most of which are fishermen, and the main crops grown are oil palm, cassava and maize (WestCoast, 2010). Fishermen are posing threats to oil industries by blasting dynamites close to the rig area and tying their fishing nets by the legs of the rig (Aklorbortu, 2008). These activities of the fishermen are clearly causing problems to oil companies involved. Mr. Isaac Botchway, a Geologist at the Ghana National Petroleum Company (GNPC), said that the oil companies incur cost because they have to engage the services of divers to untie the rope before drilling activities are continued on a daily basis, and also said that “*the company involved in the exploration was threatening to suspend its well-drilling activities if the fishermen refused to respect the rules governing their activities*” (Aklorbortu, 2008). The Western Naval Commander, FOC F. Dalley, when contacted among other things had this to say, “*It is about time the fishermen realized the value of the investment and what the country stands to gain for the enhancement of its socio-economic development*,” (Aklorbortu, 2008). Following proceedings in the newspaper article, it was clear that there is some form of conflict between the fishermen in the village of Cape Three Points and the Oil companies undertaking exploratory and production activities off shore. This research seeks to study the conflict between the local fishermen and the oil companies.

1.4 Justification of research

The research is relevant because it studies how different values that are attached to different resources in a Common Pool Resource area can inform different attitudes of the users of different resources. Knowing the different values would help understand the conflict between the two different users in this “Marine Commons”. Understanding the conflict from the perspective of these users would help suggest good mitigation measures.

Also, this study is relevant because it will contribute to the numerous literature that emphasizes that common pool resources do not have a single use by the communities whose livelihoods depends on them, but it has a multiple usage.

I believe this will add to knowledge and shift some research attention to the marine ecosystems.

1.5 Research questions

- Matching the values of the Jubilee Partners against that of the local fishermen, which of these resource users are affected by the activities of the other?
- Has there been a loss of access to fishing land, considering the limits on artisanal fishing vessels, and if there has been, how can this be valued monetary wise for compensation?
- What mechanisms could be put in place to resolve the conflict?

1.6 Objectives of the research

OBJECTIVES

The broad objective of the research is to study the value conflicts between two different users co-existing in a common pool resource area.

Specifically, the objectives are to:

- Find out what the value(s) of the oil companies are
- Find out what the values of the local fishermen are
- To ascertain if a co-operation between these different users can resolve their value conflict

1.7 Organization of the thesis

The thesis is organized in eight (8) chapters. The first chapter gives a general introduction of the research and a background to the study. It also contains a problem statement, justification of the research, research questions and the objectives of the research.

Chapter two (2) dedicated to the area under research, which it Cape Three Points village and the Oil platform area, called Jubilee Field. It contains the location of the area in Ghana, the demography,

the social and economic activities of the people of the area. It also contains some information of the Jubilee field and the Jubilee Partners, since they form part of the study area.

Chapter three (3) deals with literature review, theoretical perspectives, concepts and models on issues concerning the interplay of values, multiple resource users and conflicts in multiple common pool resource regimes.

Chapter four (4) contains research methodology and process, trustworthiness of the research, Insider, outsider issues and also ethical issues related to ethnographic research.

Chapter five (5) deals with artisanal fishing, the types that are practiced in Cape Three Points, Seasonality and artisanal fishing, and the problems associated with artisanal fishing.

Chapter six (6) focuses on Oil Exploration and Production processes and how they affect fish and the marine environment.

Chapter seven (7) presents' key findings made in the study area, and discuss the research questions.

Chapter eight (8) concludes the study and also gives some recommendations as to how the conflict could be resolved

CHAPTER TWO

DESCRIPTION OF THE STUDY AREA.

2.1 General Information On Ghana

Previously known as the Gold Coast, Ghana is located in the Western part of the African continent. Ghana has a total area of about 239,540 square Kilometers, which is also 92,486 square miles. Ghana shares a northern border with Burkina Faso, western border with Ivory Coast, eastern border with Togo, and a southern border with the Gulf of Guinea, which is part of the Atlantic Ocean. The coastline of Ghana is about 539kilometers or 335 miles(nationsencyclopedia, 2012).

The economic activities in Ghana are divided basically into three. They are Primary, Secondary and Tertiary economic activities(ghanadistricts, 2012). The Primary economic activities are mostly Agriculture, which involves Farming, both livestock and crops, hunting, and fishing, and it employs about 60% of the total population of Ghana. The Secondary economic activities deals basically with processing and manufacturing raw materials or goods into semi-finished or finished products, and the Tertiary sector deals with the provision of services, such as Transportation, Security, Export among others(ghanadistricts, 2012). Ghana is divided into Regions, which are sub-divided into districts. The area in which this study is based falls in the Ahanta West District.

2.2 Geographical Location and Population Structure of Study Area

Ahanta West District can be found at the southern most point of Ghana, with Cape Three Points as its end point into the Gulf of Guinea. The district has a total land area of 591 square kilometers, and a total population of about 95,140 people as per the report of the year 2000 population census(Ahantawest, 2013). Generally, the district is a low lying area, with underlying rocks rich in Gold, Diamond, and Manganese. The soil is generally loamy and thus good for the cultivation of crops such as Palm fruits, coconut, maize and vegetables(Ahantawest, 2013)

Cape Three Points, locally known as "atinkyin:", meaning out of salt,(WestCoast, 2010)as has already been said, is the Southernmost part of Ghana and it is approximately 4° 30' north of the equator(www.photius.com, 2012). It has one of the most beautiful beaches along the coast of Ghana, which sometimes attract tourist to the place(WestCoast, 2010).

Cape Three Points itself has a population of approximately between 450-500 people,(WestCoast, 2010).

2.3 Economic Activities of Inhabitants of Cape Three Points

Cape Three Points is inhabited by the people of “Nzema” tribe in Ghana, and their primary economic activity is fishing. The men use big nets and wooden boats, powered by motor, or canoe, which they paddle daily to fish in the sea. When they return to the shore with their catch, they meet women who take the fish either to sell fresh, or process them before selling(Jackson, 2008). Some inhabitants also are engaged in fishing related self-employed activities such as canoe building and mending broken fishing nets to make money(Jackson, 2008). Fishing could also be said to be a source of subsistence for these inhabitants, since they eat some of the fish they catch after they have sold the major portion in the district capital, which is about two and half hours drive away from Cape Three Points. Some of the villagers engage in farming and hunting, but that is for subsistence(Jackson, 2008). Peak fishing season in this village is between July to October, and during these months, bumper catches are registered, but after the peak season comes the lean season(Marquette et al., 2002), and that is when they mostly fall on farming and hunting for subsistence.



The sea shore of Cape Three Points village.

2.5 Jubilee Field Described

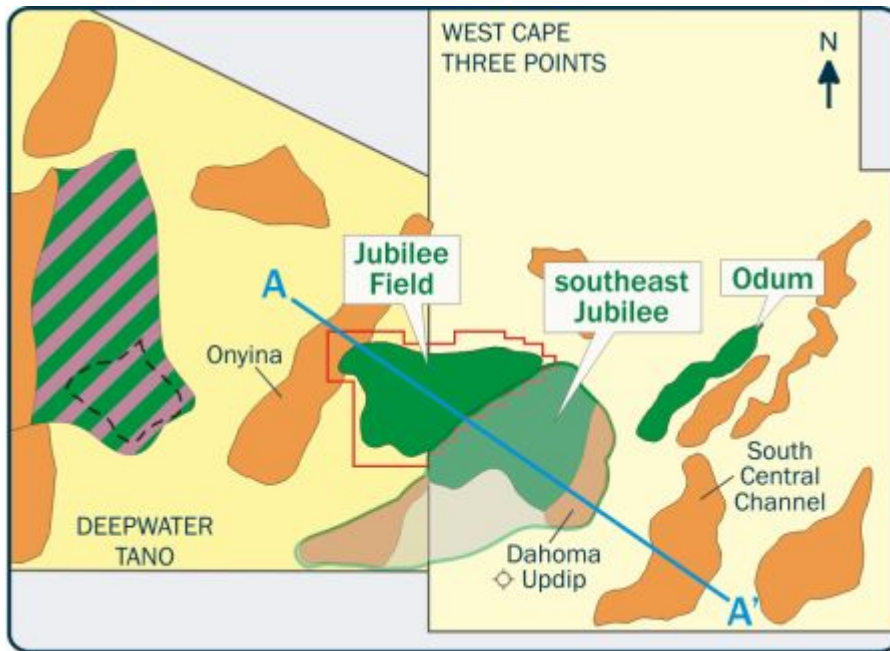
The name Jubilee field was given to the site where oil and gas exploration and production is taking place by the government of Ghana, in recognition of the golden jubilee anniversary of the country's independence in 2007(Tulloil, 2008). Prior to the naming of the field, exploration wells had been dug in the process of prospecting oil in commercial quantities in the same year. These wells and dates on which they were dug are listed in the table below:

Well Name	Date Dug
Mahogany 1	June 2007
Hyedua 1	August 2007
Mahogany 2	May 2008
Hyedua 2	December 2008
Mahogany 3	January 2009
Mahogany 4	October 2009
Mahogany Deep	December 2009
Mahogany 5	June 2010

Source: (ghanaoilinfo.com, 2010).

Jubilee field lies between the Tano and West Cape Three Points Deepwater, which is 60km offshore Ghana, and to the southwest of Takoradi, it is 130km(ghanaoilinfo.com, 2010).

Jubilee field has six different companies who have partnered to explore and produced oil and gas in the field. These companies have different percentage ownership in the field. Tullow Oil Ghana Limited owns 34.70% and is the unit operator of the Jubilee phase 1 development. Kosmos Energy Ghana HC owns 23.49%. This company is a USA based Exploration Company and was the technical operator in the Jubilee phase1 project. Anadarko WCTP Company owns 23.49% of the field, and it is a large USA independent Exploration and Production company with proven deepwater project capabilities. Ghana National Petroleum Corporation(GNPC) owns 13.75% of the field and it is the national regulator of oil exploration and production activities. EO Group Limited is a Ghanaian oil company and owns 1.75% of the field and finally, Sabre Oil & Gas Limited, a privately owned exploration company owns 2,81% of the field(ghanaoilinfo.com, 2010).



Jubilee Field:(ghanaoilwatch, 2012).

Chapter 3

Theoretical Basis for Study and Literature Review

3.1 Introduction

This chapter explains the conceptual basis of the study. It delves into how concepts surrounding Common Pool Resources, Values, Attitudes and Conflicts are linked to form the basis of this study. It also reviews literature on conflicts surrounding Oil companies and Fishing activities in the Marine Commons.

We live in a diverse society, where humans have different backgrounds, perspectives,, and different approaches to life(Thompson, 2010). This means people have different interests and values attached to natural resources they use to satisfy their needs. The same natural resource, say fish, could have different interest and values attached to it as per my judgment by different people. For instance, people fish for various reasons. Some fish for the fun of it, as in the case of sports fishing or angling. Others fish for sustenance, meaning, they fish to eat, and yet still some fish for industrial and manufacturing purposes, where fish is processed and canned for sale. From the above, all these people fish, but they attach different values and interest to fishing. People develop different attitudes, and conflicts occurs as a result of people having competing interests and views concerning the same issue, or the resources they depend on in the satisfaction of their needs(Thompson, 2010). From the above example given in the case of fish, if all these categories of fishermen fish in the same waters, there is bound to be competition, since one group of fishermen would want to catch more than the others based on their values and interests. Example, those fishing for industrial and manufacturing purposes would want to catch more, and device means of achieving this. Those fishing for sustenance, for the likely fear of not getting as much fish, are also likely to device a means of catching more. This may lead to the fishermen developing attitudes towards each other which may lead to conflicts.

In a nut shell, where there are different resource users in a Common Pool Resource area, there is bound to be conflicts between these users, since they may have different values and interests

for the resources they extract. This inevitably brings about competition, which leads to the users developing different attitudes towards each other, and eventually conflict.

3.2 Common Pool Resources (CPR) and Multiple Use Regime

From the dictionary definition of common as something that belongs to or shared by a group of people (Dictionary, 2004), I would define Common Pool Resources a resource that is based in a local area which is used and/shared by people in the local area.

Common Pool Resources networks or systems that produces resources that are finite so that one person extracting from this system reduces the quantity of resources available to other extractors (Ostrom et al., 2006)

Common Pool Resources is "a natural or man-made resource system that is sufficiently large as to make it costly (but not impossible) to exclude potential beneficiaries from obtaining benefits from its use" (Ostrom, 2002). Examples of such common pool resources includes the oceans, forests, fisheries, the internet, irrigation systems, and the atmosphere, as mentioned by Elinor Ostrom. From the above definitions given, it is clear that Common Pool Resources may be either man made or natural. Also, it can be established from the definitions above that Common Pool Resources areas have "potential beneficiaries" or many users who extract resources from this area for their use or benefits. These many users do not extract only one type of resource from the Common Pool Resources area. This introduces the issue of Multiple-Use Common Pool Resources.

Multiple-Use Common Pool Resources are resources that are used by different people, either for extractive or non-extractive purposes (Steins and Edwards, 1998). As Common Pool Resources evolve over time, they are used by different people for different purposes. "Common pool resources are resource systems that naturally contain both different resources, as in a forest for instance, where we find trees, berries, animals, and plants, and different uses, the tree can be used for wood or for heating, and the berries can be picked by humans or be food for animals, but the whole system can also be used for recreation" (Ostrom et al., 2006).

Common Pool Resources are not in any way different from Multiple-Use Common Pool Resources.

All through the world, Common Pool Resources are becoming complex due to the fact there have been new uses and interests for resources in these areas(Steins and Edwards, 1998). Increased demographic growth, rapid urbanization, high demands for food and natural resources, integration of resources into market, technological innovation and changes in living patterns of humans have impacted natural resources in many ways(Steins and Edwards, 1998).

The concept of Common Pool Resources has also been studied by Nathalie A. Steins and Victoria M. Edwards. They define Common Pool Resources as resource base or areas that have different users or user groups, each extracting or using different resources(Steins and Edwards, 1999).

Linking the above to the sea, preferably called Marine Commons in this study, it can be said that there are several resources that can be extracted from the sea. There are a variety of fish that can be extracted, salt can be processed from sea water, people use the sea as a travel way, thus in this case it serves as a medium to providing transportation route, people surf on the sea, swim in the sea for the pleasure of it, and more recently, technology and innovation has made it possible to use the sea as a medium to extract hydrocarbons or oil from the sea bed. Taking the sea as a Common Pool in this case has many users of this resource, and this makes it a Multiple-Use Common Pool Resource.

Common Pool Resources are said to have two major characteristics, which are Subtractability and Excludability.

By Subtractability, the continuous use of the resource diminishes or limits the resource in question. This is also termed as “rivalry”, where using resources by users or user groups removes the resource units from the base, and thus makes them unavailable to other users of the same resource(Zachrisson, 2004). Another angle to the characteristic of subtractability is that, the use of resource by a user takes away benefits from other users who could have had access to the same resource(Steins and Edwards, 1999). For example, if a fisherman catches

about a thousand pieces of fish, those fishes are not available for any other fisherman(Ostrom et al., 2006). Breaking this down, if there are five different fishing groups, and there are about three thousand pieces of fish in a particular area of the sea, where all these five groups fish. If one group catches a thousand pieces of fish, it means there is only two thousand pieces left for the other four groups to catch.

Excludability as another characteristic of Common Pool Resources on the other hand means that it is difficult to restrain or prevent potential beneficiaries from the use of the resource(Zachrisson, 2004). This means it is difficult to prevent people from extracting from Common Pool Resources, especially where it is a Multiple-Use Common Pool Resource area. For instance, it is not possible for a community to fence the sea in order to prevent people from fishing and others swimming. The value placed on goods and services are different due to how easy or difficult it is to prevent people who can benefit from it potentially from using them once nature has provided them (the goods and services). Preventing people from benefiting in a Common Pool Area is a major problem and this is as a result of many causes, some of which include the size of the resource pool and the physical attributes of the area. In the case of physical attributes, a Common Pool Area may contain both forest resources and water resources. Because there are different people with different interests, needs, approach to life and values, there are different uses for different resources in a common pool resource(Ostrom et al., 2006). Excluding beneficiaries from using Common Pool Resources must be backed by property rights of some sort, which are defensible in the legal system available to the individual within a setting(Ostrom et al., 2006). This means excluding people from using Common Pool Resource is possible in a way. Not by fencing the area, but by some form of rules set for that purpose.

Accessing and using Common Pool Resources may have some form of formal or informal property rights attached to them to ensure control of usage. The term “property” was adopted for their study (Steins and Edwards) so that resources would be seen as a benefit or reservoir, which has some rights attached to it(Steins and Edwards, 1999). Four types of property rights are identified. The first is Open Access property right. This type of rights is free for all. In an

Open Access right is attached to any Common Pool Resource area, it means anybody can access the area and tap or extract the resources they need. There are therefore no restrictions as to who should access the area and who should not. For example, the sea by a local community would have Open Access rights, and anybody in the community can extract or use the sea, either for fishing, or swimming, or local salt manufacturing. The second type of property right is Public Property. Under this type, the leaders of the community determine the accessibility to the Common Pool Resource Area. They decide when and how people or users should access and tap or extract the resources. The third is the Common Property or Commons. Here, access rights are given to specific user groups. Only these groups have the right to access and extract resources from the Common Pool Area. The last type of property rights is Private Property. It presupposes that some part of the Common Pool Resource area has been sold to private individuals or companies, who can also sell it to others.

In their article, "Platforms for Collective Action in Multiple-Use Common Pool Resources, Steins and Edwards makes an example of a lake as a Multiple-Use Common Pool Resource. *"Commercial fishing on the lake may be managed under a common property(where only the fishermen group have access right to use), waters may be open access for non-extractive leisure activities(that is to say, any and everybody can have access to the water once they are not extracting from it, but having fun with it), where stretches of beach may be held in private ownership(in this case, someone may buy a plot of land along the beach of the lake to invest in a resort, or for residential use), and where the state may have designated an area for public nature reserve"*(Steins and Edwards, 1999). Following this example, the sea, off the shores of Cape Three points may be termed as a Multiple-Use Common Pool Resource area, which among other resource users includes the oil companies, who are drilling and producing oil in commercial quantities and the local fishermen, who catch fish from this same sea.

It has been established from this section that several factors such as Urbanization, Increased Population, and subsequent increased demand for food and other services, coupled with technological advancement has brought about the interplay of different resources users and stakeholders in the Common Pool Resources area, thereby making it Multiple-Use Common

Pool Resource area. It is worthy to note that these different resources users or extractors may operate at different levels, with different sophisticated levels of technology and are likely to have different values for the resources they extract based on demand for them. This introduces us to the next concept employed for this study, which is Values attached to Natural Resources.

3.3 Natural Resources Values

Value is defined by the Oxford English dictionary as the importance or usefulness of something (Dictionary, 2004). From this definition, one can say Natural Resources Values are the importance or usefulness of natural resources to its users or extractors. In his paper, Michael Jones defines a resource as *"a resource is not just simply a thing or raw material such as oil. It is a means of satisfying human needs and desires"* (Jones, 1993). The various ways in which humans demand the supply of resources shows the various values they attach to the resources (Buckley, 2011). *"Whether something is a resource or not cannot be understood independently of the needs, objectives and assessments of individuals in a society"* (Jones, 1993). By this, resources are defined by the needs of humans for them, and the values attached to them. If there is no need for a resource by a group of people or users, that particular resource is nothing but an item or what is common termed as *"neutral stuff"*. It is the need human beings place on a particular item that makes the item a resource, and have some value attached to it. For instance, fish is on a high demand because people are increasingly turning to it as a good source of protein. Imagine, meat was the only source of protein in Ghana, and Ghana was a closed economy and did not know about fish or export and import fish. People would have ignored all the fish in the seas and fresh waters of Ghana since there is no demand for it at all. This would have made fish an item with no value at all in Ghana. Again, so many years back, when coal was the only source of energy, there was no value for hydrocarbons and crude oil, since there was no knowledge about it and its potentials of being a source of energy. In recent times however, there is barely any value for coal since increased technology and innovation has made crude oil a better source of energy worldwide with a very high demand and value. In a sum, it is the need and demand that people place on items that makes the items resources and

also give them values. Values placed on resources are not the same. There are different types of values.

Three different types of values can be attached to natural resources and they are Economic Values, Amenity Values and Security Values(Jones, 1993).

3.3.1 Economic Values

Economic values as a concept has its roots in Neoclassical Welfare Economics(Freeman, 1993), which has its foundation in Utilitarianism(Dziegielewska, 2009). Welfare economics as a concept has it that, individuals in a society indulge in economic activities in order to increase their well-being and as such these individuals will be the best tell how they really feel under certain situations and conditions(Freeman, 1993). Again, the welfare of people is not only dependent on their consumption of government provided goods and services, but also dependent on the total amount and quality of goods and services received from natural resources(Freeman, 1993) and maybe other sources. The measure of economic values can be done by the amount of hard currency one is willing to pay for a good or service or the amount one is willing to accept for compensation as a result of forgoing a good or service(Freeman, 1993)

Michael Jones distinguishes three Economic Values and these are; Subsistence Values, Market Values and Utilitarian Ecological Values(Jones, 1993).

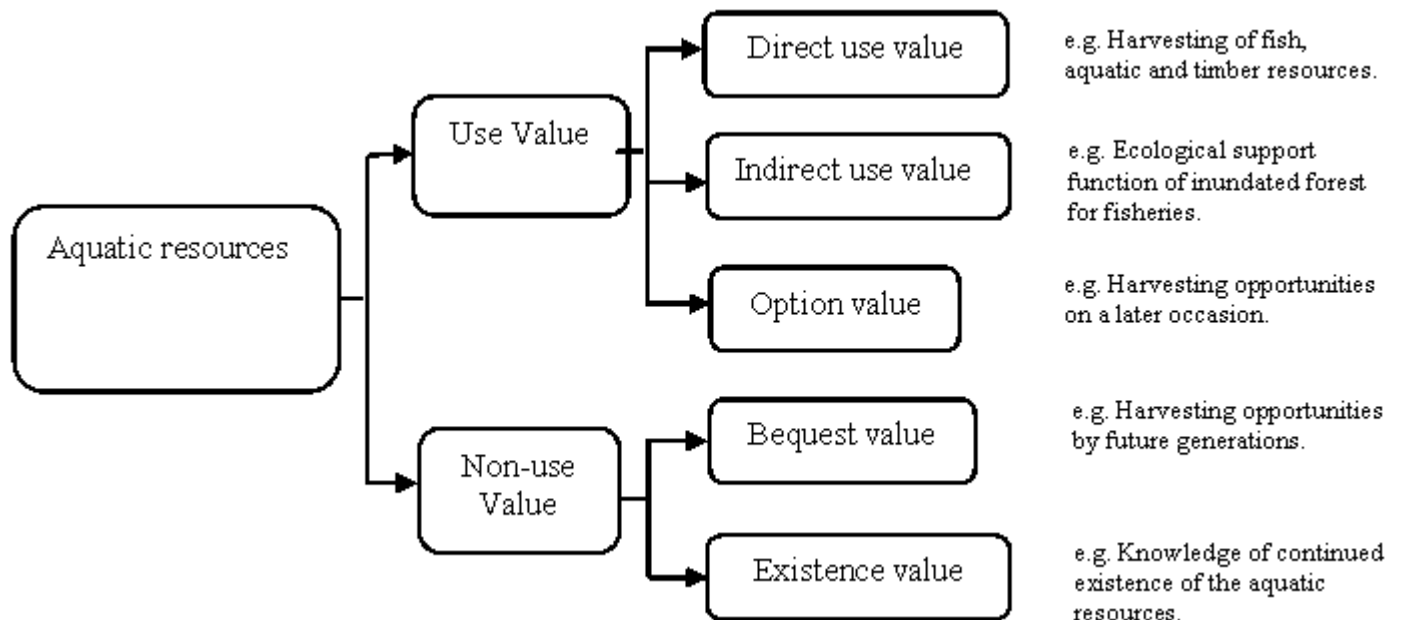
3.3.1.1 Subsistence Values

Subsistence Values are more like direct use values of resources. Here, resources obtained from Common Pool Resources are used for daily sustenance, and satisfying the needs of the household. Resources obtained from the Common Pool area are not sold on the market. For instance, people may fish only to feed themselves and their families. In this case their main purpose for extracting fish from the sea is mainly to meet their basic need of satisfying their hunger and that of their dependants.

3.3.1.2 Market Values

Market Values are attached to resources that are obtained from a Common Pool Resource area only to be sold on the market for income. This type of values looks at resources marketability and how profitable they are for business enterprises(Jones, 1993). Business enterprise could span from simple transaction of a fisherman selling his catch to a local fish monger at the sea shore to sophisticated transactions involving electronics. If a resource has a high Market Value, there is the likelihood of massive exploitation(Jones, 1993), which could lead to the depletion of other resources in the area. Totally, Economic Values has several components which includes Use and Non-use values(Buckley, 2011). Below is a diagram that shows the various components of economic values as described by Mark Buckley. The diagram shows there are two major types of economic values, which are use values and Non-use values. The Use Values are further divided into Direct and Indirect use. The Direct use value could be one catching fish from the sea and eating while the Indirect Use Value could be for example, fishing to produce Omega Three Oil which is a nutrient supplement needed by the human body. Direct Use Values could be linked to Subsistence Values since they are the same in meaning; directly using the resource extracted for the Common Pool Area.

Economic Value Diagram



Source: <http://www.fao.org>

The concept of Option Values was first introduced by Weisbrod in 1964 and it is the values attached to goods and services for their potential to be present in the future. It could be thought of as an investment, where people are willing to pay to have that resource in the future (Dziegielewska, 2009).

When there is competition between different types of Economic Values in a Common Pool Resource area, there is a direct impact on the common pool area. It is competition that determines the Economic Values of resources, and as such, resources that have weaker values like subsistence values give way to resources with stronger worldwide market values (Jones, 1993).

3.3.1.3 Utilitarian Ecological Values

Utilitarian Ecological Values, as identified as part of Economic Values by Michael Jones considers the ecological values of a resource. This value is more concerned with how resources can be used in the long term for economic gains, also the ability of natural resources to regenerate themselves, and prevent degradation. This type of value is of no relevance to my study.

3.3.2: Amenity Values

Amenity is defined by the oxford dictionary as “*a useful or desirable feature of a place*” (Dictionary, 2004). This type of values has to do with how pleasurable or agreeable it is to be in tune with a place, in this case nature or a resource (Jones, 1993). There are four kinds of values identified as Amenity Values of a resource.

3.3.2.1: Intrinsic Ecological Values

Intrinsic Ecological Values has it that, resources exist in their own rights. It has it that, natural resources has the right to exist, without being disturbed by humans. This could have a link with ecocentrism, which urges a fundamental respect for nature and natural resources (Castree, 2001). This type of value could be linked to Existence Value in the Economic Values diagram.

3.3.2.2: Scientific Ecological Values

Scientific and Educational Values, as a type of Amenity Value concerns itself with Common Pool Resource areas serving as a study grounds or cases for institutions, schools and even some private individual researchers

3.3.2.3: Esthetical and Recreational Values

Another type of Amenity Values is Esthetical and Recreational values, where the Common Pool Resource area serves as a place where people go to have fun. Some others go there to be in touch with nature, and yet other go there to be inspired towards their creative works. This could be the case of artists, poets, or even playwrights.

3.3.2.4: Orientation and Identity Values

Yet another category of values under Amenity Values is Orientation and Identity Values. Here, the Common Pool Resource area serves to orient people, in the sense that they serve as landmarks, by which people can find their way around. Again, there is some identity attached to these resource areas and even at time, the resources that are extracted from such area.

3.3.3 Security Values

These values are categorized into two types by Jones, which are Defense values and Demarcation values. Be defense, the Common Pool Resource area could serve as a hiding place in times of armed conflicts or local conflicts between the local inhabitants in the area. Again, the Common Pool Resource area could serve as a boundary, which separates towns' or villages. In this scenario, it serve to draw boarders or distinction between places or areas.

I must at this point say that it is not all the above values that are relevant for my study, but had to mention all for the sake of completeness. The most relevant ones for this study are Market Values, Subsistence Values and Identity Values.

People who tap or extract resources from Common Pool Resource area may all not have these values for the resources they use. People value natural resources differently, and this may determine their attitudes towards other resource users in the Common Pool Resource area. It is predicted that, the orientation of peoples values is highly likely to influence their attitudes(Vaske and Donnelly, 2010). Is it important to know values people attach to the resources they extract from Common Pool Resources areas, especially in a Multiple-Use Common Pool Resource area. Where group A of resources users do not consider the values of other user group, say B and make their extraction process and activities affect group B, group B is bound to develop attitude since their values and resources are being trampled on. This introduces the concept of attitudes into the study.

3.4 Concept of Attitudes

Attitude as a concept takes meaning and reality from an individual's introspection, and it is defined broadly as a hypothetical construct about a mental state, which can be inferred from people's spoken words and also by watching and observing their behaviour(Herberlein, 1981). According to Eagly and Chaiken, there may be various definitions of attitudes, but in general, the concept is about the fact that attitude is a mental state and refers to an object in question(Vaske and Donnelly, 2010), which could be the environment, natural resources and even politics.

Attitudes are made up of some components. They are the emotional component, the cognitive aspect.

The emotional aspect of attitude may be called evaluative component, and at a very deep emotional level, affect.(Herberlein, 1981).

The cognitive aspect does not involve emotions, but the use of reason or logic and does not necessarily obey the rules of deduction. This goes to say that, the specific beliefs does not make negative the more general statements(Herberlein, 1981).

The concept of attitude is relevant in this study because it helps in the understanding of human behaviours, and they are powerful, because changes in social structures are often influenced by attitude of the general public. Again, attitudes are based on values.

3.5: The concept of Conflicts

Conflict is defined as when two different groups are pursuing different interests(Jike, 2010a) *“Conflict happens when a situation, or the behavior, or attitude of others collide with values and needs that are important to us”* (Alman, 2010). That is to say that, when there is a clash of different resource users in a Common Pool Resource area, with different needs and values, the result is conflict. Again, access to some specific natural resources can be a motivation for some actors to resort to conflict as a means of control(Novikov, 2006).

Conflict is defined by the Oxford Dictionary as a serious disagreement, or an armed struggle(Dictionary, 2004). This presupposes that there are two main types of conflict, which are those that fall under the category of serious disagreement, such as between people’s views and opinions, and those that involved dangerous weapons, which is termed as “Armed Conflict”. This study is based on the first category of conflict, which may be defined as “Social Conflict”. I would like to define social conflict as a type of conflict that involves different people with different views and opinions. This basically has to do with people passing their grievances across to others, in words. In the issue of Common Pool Resources usage, such conflicts evolve as a result of different users with different values.

3.6: Literature Review

Conflicts over natural resources are generally difficult to resolve because it involves different stakeholders who have different values for the resources they extract in a Common Pool Resource area. Regarding this study, the concerned conflict under study is between eh local fishermen of Cape Three Points and the Jubilee Partners who drill and produce oil in the seas of West Cape Three Points to be specific.

The conflict may involve other parties such as the government, but the government was not focused on in the study.

The study rather focuses on the interplay of the concepts discussed in the first section of this chapter between the different major users in the Multiple-Use Common Pool Resource seas of Cape Three Points as a cause of the conflict.

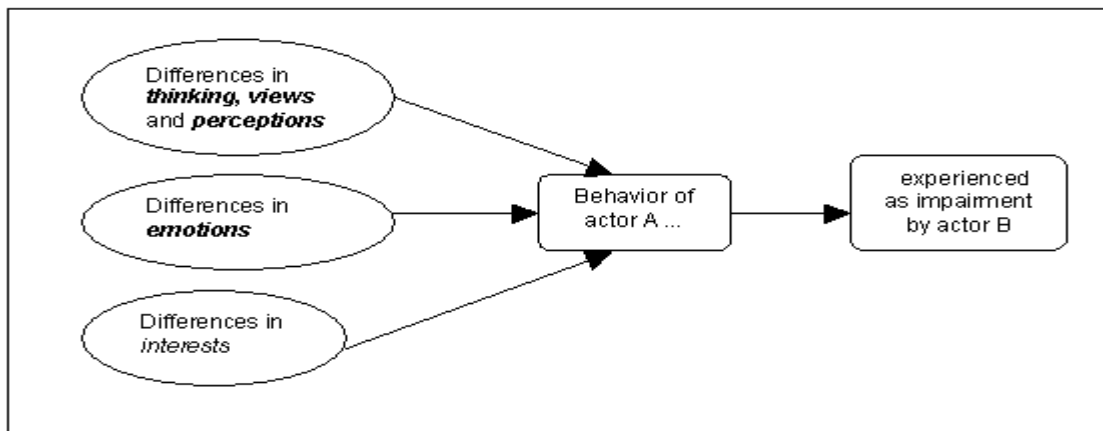
Between Oil and Fisheries, Oil generates more excitement and it is considered by many countries that discover oil that it can even provide jobs for fishermen. Turn over from Oil companies can be used to develop local fishing communities. Though Oil is considered superior to Fisheries, Oil has a high potential of causing conflicts in countries that discovers it(Collier and Hoeffler, 2000, Ross, 2001, Kaldor et al.,

2007). Because Oil is regarded as superior to fisheries regarding economic gains, there is the high tendency for the local people in hosting communities to be ignored at the expense of the Oil Companies.

As noted by Vatn in his work, if local residents are prevented from fishing without providing an alternative source of livelihood to sustain them, there is the likelihood of problems arising (Vatn, 2005), these problems are conflicts.

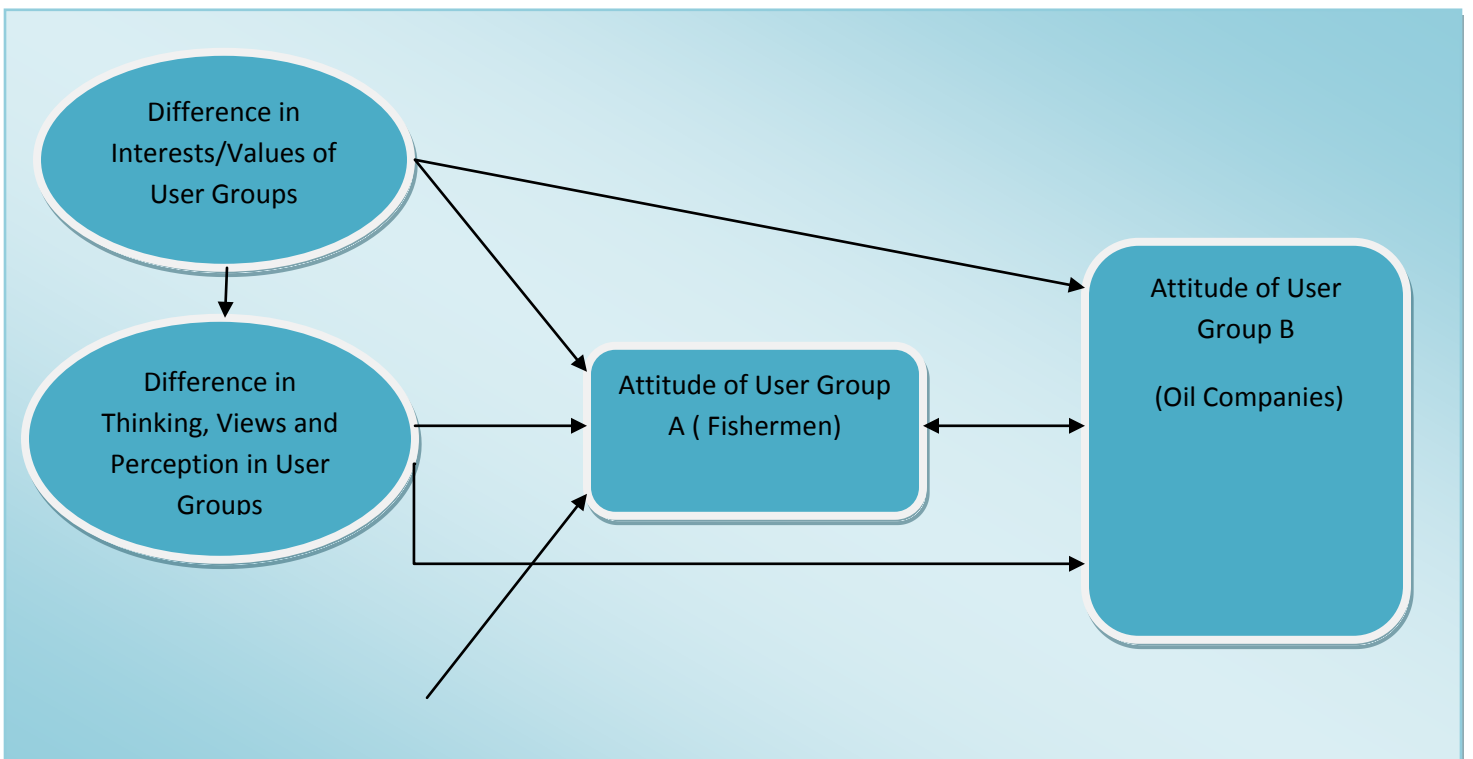
Glasl's model of conflict lends credence to the fact that differences in interests, which can be conveniently called Values, for the sake of this study, and also the differences in thinking, views, perception and emotions informs or stirs up an attitude, which he called behaviour in user group A, and this behaviour is experienced as impairment by user group B.

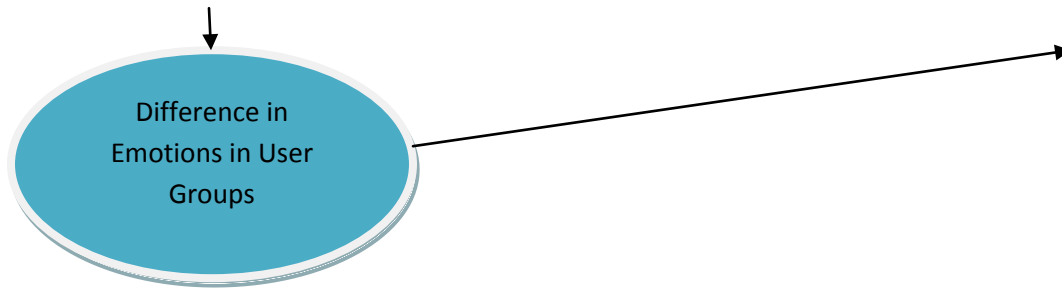
Below is Glasl's model of conflict.



Glasl's Model of Conflict (Glasl 1999)

A modification has been made to the Glasl's Model of Conflict to suit my study, and below is the modified model.





Modification Of Glas's Conflict Model by Author

From the diagram, the differences in Interests or Values of both Local Fishermen and Oil Companies could stir up differences in their Thinking, Views and Perceptions, which could result in differences in the Emotions of these different User Groups. These factors could either bring about differences in each other, as described above or on their own make the different User Groups develop attitudes towards each other.

For instance, difference in Interest or Values alone could stir up Attitude in any of the User Groups, likewise, the other factors. Again, all three factors can come together to stir up Attitude in any of the User Groups.

It is worthy to note that the Attitude can come from any User Group towards the other.

V. T. Jike(2010) in his study with the title; Oil Companies and Host Communities: A Probable Scenario for Reciprocal Empowerment, makes reference to the fact that the anxiety and hopeful expectations that came with oil discovery in the Niger Delta state of Nigeria has dwindled or died out mainly because people's lives have not been affected positively. It has rather resulted in conflicts between the Oil Companies and the Host Communities.

"Part of this conflict has been painstakingly traced to the vast environmental degradation and consequent social disequilibrium that have trumped up several paradoxes including large-scale unemployment in the midst of resources"(Jike, 2010a).

According to the study, the large scale unemployment has been as a result of fishermen and farmers losing their jobs due to pollution of the waters and land.

"Aquatic life has not fared much better. Some species of fish have migrated and others have become virtually extinct as a result of oil spillage and industrial effluents that are wantonly disposed in mangrove swamps and fresh waters across the Niger-Delta"(Jike, 2010a).

Making reference to the modified model at this point, the Values of the people in the hosting community are certainly different from that of the Oil Companies operating there. Pollution of their waters and land has made some lose their jobs and are now unemployed. This state of unemployment has most likely affected the Views, Perception, Thinking and Emotions of these unemployed farmers and fishermen. As a result, the fishermen and the farmers have developed Attitude towards the Oil Companies in the Niger Delta state. Examples of such Attitudes include inhabitants of the local communities vandalizing oil pipelines and seizing flow stations, and kidnapping expatriate personnel.

To conclude, Conflict between Oil Companies and local people of a hosting community, whose livelihood depends of the resources they extract from a Multiple-Use Common Pool Resource area are mostly complex since it involve several stakeholders with different factors. It is the interplay of these factors that is often the root of the conflict.

CHAPTER FOUR

Methodology and Research Process

4.1 Primary data collection tools

The main method of primary data collection was Qualitative methods, and the main tools that were used were observation and photographs and also interview tools. This allowed much exploration into intentions, meaning and values(Clifford, 2010). Qualitative method was the ideal choice for this study because taking into consideration how data is collected and analyzed, the knowledge that is obtained from the study is gives more information, it is more richer and it offers better understanding(Tewksbury, 2009). Again, qualitative method is focused on the meaning, traits and characteristics of events, people, interactions, cultures and experiences.(Tewksbury, 2009). There are some important factors that made qualitative

method the right choice for the study. These include the fact that the method helps one to gain true understanding of the social aspects of events or occurrences, their structures and processes. Yet another important factor is that qualitative method provides a deeper understanding of issues that may not be possible with quantitative methods(Tewksbury, 2009).

4.2 Overt observation and Photography

4.2.1 Overt Observation

Patrick Bright Mutegeki, describes observation as a data collection tool, as the gathering of needed information from the study group or area by a researcher, using his or her eyes(Bright, May 2006). Observation may be said to be made up of consistently noting and recording “objects” under study in the field of research(Sage, 2006). It is said to be basic and of high importance in qualitative research, and also useful in the discovery of the interviewee’s nature of social interaction in the natural social setting(Sage, 2006). The Oxford English dictionary defines “Overt” as “done or shown openly”. This means I did not participate in any activity related to fishing on the field of study, but observed activities related to and surrounded around fishing. Observation was used as one of the primary data collection tools in the study area. I started observing the road the leads to Cape Three Points village to see if I could realize any direct relationship between the village and the Jubilee Partners. I also walked through most part of the village to see if I could get a glimpse of any house or shed painted in any of the oil companies’ colours, there by signaling there is a direct contact between the companies and the village. I also observe the shores of the village and their local market place. I kept a field diary in which I wrote all my observations. I believe this enabled me gain much insight into how much the lives of these local inhabitants depended of fishing. I roughly counted the number of men I saw involved in the fishing business on shore. This was to know if there were some inhabitants who were not directly involved in fishing but involved in working on fishing equipments such as canoe, nets pedals among others.

During the time of my study, it was in June and their lean fishing season. As a result of this, there were not much fishing and trading activities on the shores of the village. This had an effect on the number of people that were interviewed since most fishermen didn't go fishing at all, and women didn't come on the shores to trade in fish since the little catch that was made was purely for subsistence. In all, I spent three days observing activities in the village and on the shores. All these were duly observed and written on, in the field.

4.2.2: Photography

Film and Photography, also known as visuals anthropology or film ethnography are sources of collecting primary data, and are very helpful in interpreting and validating other primary data collected (Sage, 2006). Photos were taken during the period of observation. This would add more weight to the written observations made and also help the audience of my final work, who were not on the field to get the meaning and understanding of what I have written. I also believe that, the photos would complement my writing.

4.3 Research Interviews

Another tool for collecting primary data in this research was interviews. As defined by Kvale and Brinkmann, an interview *"is an inter-change of views between two persons conversing about a theme of mutual interest"* (Kvale and Brinkmann, 2009) Interviews may be described as one of the commonly used primary data collection tools in qualitative research, and has the tendency of allowing the researcher to generate a high quality data in a setting that is not strictly formal (Kitchin and Tate, 2000). To elaborate, in a interview setting, the interviewer gets answers to his or her questions not only from the verbal answers the interviewee gives, but also the interviewee's facial expressions and body language. This helps the interviewer gets more meaning to the situation at hand.

Using interviews as a data collection tool helped me ask questions that can get answers to my research questions and objectives of my study. That was because I could ask follow up questions, when the response I got didn't really make much of a meaning to me. I could read the body languages of my respondents regarding sensitive issues and know what to say that would not get them angry. Basically, the study is to know the values that are attached to the resources each user group extracts from the sea and the reason for the conflict. It is thus basically about getting to know the values the various groups attach to the resources they invest physical energy and money into; their attitudes and perception towards the other party and why there is a conflict, and what they propose could be a solution to the conflict.

In all, in the village of Cape Three Points, I interviewed thirteen fishermen, one wood craftsman, which was an unplanned interview, and the chief of the village. I did not interview any woman. At my lodging place, I had an informal chat with the owner of the place as well.

4.3.1: Choice of Respondents

In my choice of respondents, I decided on the fishermen of the village of Cape Three Points and the local chief of the village. This was done in a judgmental manner, in accordance with Kitchin and Tate's definition of judgmental sampling which presupposes that the researcher selects sampling elements, in this case respondents, based on his/her experience that they(respondents) may be able to give the needed results(Kitchin and Tate, 2000). By this, based on my research objectives and questions, I could judge that dealing with the local fishermen and the chief of the village would give me the answers I needed for my study and not dealing with local pub operators or drivers in the same village.

The first group of informants was the local fishermen, who are inhabitants of Cape Three Points. This group was chosen because they are the principal group whose livelihood activities are being affected by the exploration and production of oil in the area where they access the resource on which their livelihood is dependent.

The Chief was among the choice of respondent because he is the head of the village and as such knows much about the conflict between his subjects and the oil companies

4.4 Choice of study area

The study area of Cape Three Points was chosen because it is a coastal village in which most of its inhabitant has fishing as their primary and main source of their livelihood. Most of the men there are fishermen, and their women are fishmongers. Fishing is thus their major income earner. Off the shores of Cape Three Points, there are oil drilling and production activities going on. The area was chosen because upon hearing news items on one of the Ghanaian local news channels, I realized there is a conflict between the fishermen and the oil companies. I got interested in it because it sounded and looked like a case of two different resource users in a common area, thus my choice of the study area.

4.5 Trustworthiness

Trustworthiness is a very important issue in all researches, and the social research is not an exception. In order to ensure this in my research, I employed E. G. Guba's criteria for assessing trustworthiness in social researches as explained in Andrew K Shenton's paper, with the title "Strategies for Ensuring Trustworthiness in Qualitative research projects". In the paper, Guba has four criteria's for ensuring trustworthiness, and these are Credibility, Transferability, Dependability and Conformability(Shenton, 2004, Guba, 1981).

4.5.1 Credibility

Credibility as a concept is a test of how research or study is valid internally. In qualitative research, credibility answers the question, " *how congruent are to findings with reality?*"(Shenton, 2004). There are some provisions that are made in order to ensure and promote confidence in qualitative study, thereby ensuring trustworthiness. These include; the adoption of research methods that are well established; random sampling and triangulation among others(Shenton, 2004).

Among the factors that make my research credible is my adoption of research methods that are most accepted and established. These include my use of different qualitative research method tools. This I believe would support each other.

Random sampling and allowing the informants to voluntarily give out information, was used as a strategy to ensure that information given by participants were not forced out of them, and also not through a “whom you know” basis. There was no method in choosing who among the fishermen should be interviewed. I just walked up to the first fisherman I met, introduced myself and my reason for wanting to interview him. Once he agreed to it, we started our section. This ensures credibility of information, since the fisherman willingly opened up to grant to interview, and was not forced in anyway.

Yet another factor that ensured credibility of information is triangulation. This according to Shenton (2004), is the employing of different methods of collecting data(Shenton, 2004). This is exactly what I did, by employing Observation, Photographs, and Interviews.

4.5.2: Transferability

Usually in scientific research or studies, the results are more likely and possible to be applied to other situations. The concept of transferability in qualitative research deals with the extent to which findings of one’s study can be applied to another situation(Shenton, 2004)

Quoting from Shenton’s paper, *“external validity is concerned with the extent to which the findings of one’s study can be applied to other situations”*. The question then is, can the result of my study be transferable? It is a difficult question to answer. This is because though it is based on the concepts and principles of established scholars, and also applies methodologies that have been tried and tested to work in the case of social research; situations are different with different conditions and processes. It may therefore be difficult to apply the result of my study to other situations, especially, one under which conditions and factors are different from the situation in my study area.

4.5.3 Dependability

Dependability in research has to do with the extent to which given the same situation, methods and participants, a similar results would be obtained if someone conducts the same research(Shenton, 2004). This could however be problematic since the observations of the researcher is limited to the situation under study(Shenton, 2004). For one to address the issue of dependability, he/she must report in detail his/her writing process so that this would enable future researchers, if doing the same work to obtain similar results(Shenton, 2004).

I would argue however that issues of dependability may in one way of the other depend on the skills and abilities of the researcher. In my case, I had limited resources, including time and money during my data collection period. I had to make the most of it and collect data even from unplanned and unscheduled informants as and when I had the opportunity. I could write down details of my writing process, but much would depend on the next researcher in terms of his/her skills and abilities to make good use of the limited resources.

4.5.4 Confirmability

This concept presupposes that the qualitative researcher is concerned about objectivity in his or her work. By this, the researcher must ensure that as far as possible, his or her findings are the results of the experiences and ideas of his or her informants, and not the researchers own ideas and preferences(Shenton, 2004).

Here again, triangulation is applied as the best way to promote confirmability in research, and as already stated, I used triangulation the best way I possibly could to ensure that I am recording the ideas and experiences of my informants and not diluting it with my views and ideas.

4.6: Power and Positionality

Regarding Power and Positionality, my case was a complex one because at a stage in my field work, I had power and at other stages, I did not. I was an outsider at a point and an insider at a point. In the village of Cape Three Points, I was an outsider. This is particularly because I am from a different tribe and do not really understand their language. As to whether I had power in

the field depended on different individual perceptions. This is because different people have different regards for people who have schooled to a certain extent. The fact that I am an overseas student might have drawn people to me, and might also repel some people. For example, on the field, after introducing myself to one fisherman, all he said was, "*that is what they always say*", and he didn't grant me the interview, asking that I talk to someone else. I was therefore modest in my way of dressing and talking, so that I in no way portrayed to them that I feel or I am superior because I have a higher social and academic status. I came down to their level so as to get the information I needed and build a better relationship with them, and most importantly, not to "spoil the field for future researcher".

I am not sure if my gender would have been a problem or not. This is because I went to the field with my husband. He helped because his presence did not make me feel intimidated in the midst in many men at the same time. Again, he helped with me expressing myself anytime I felt talking about the conflict was raise sentiments in the interviewee.

4.6 Ethical Issues

Ethically, in the village of Cape Three Points, I sought informed consent from the village chief, telling him and his subjects who I am and the purpose of my research. By informed consent, I mean to say, I introduced myself to the chief and told him my purpose and reason for my study. I would have been sure to abide by limits I was given, no matter what effect it was going to have on my study. There was however no limits given. Also, because I was not familiar with their local language, I asked the head of the community to give me a person to serve as an interpreter. This I believe served to benefit the chosen person, because he earned some form of additional income. The interpreter I had was a young boy in primary school, so all he did was to introduce me to the fishermen. Again, starting to talk to the local fishermen, I realized we could both speak a common language, so there was not so much need for the interpreter to make interpretation. However, walking with him I believe made a good impact since he happened to be the son of the village chief. I believe it gave a signal that I had obtained permission from the Village Chief. In making observations and taking photographs, I was sure to seek the consent of the fishermen at the shores of the sea. Fishermen granting me interviews

were voluntary so that there was no force or inducement for one to participate in giving out information.

In order to maintain confidentiality, I did not ask of the names of these fishermen, so that they are sure they would not get into trouble responding to my questions. I also made them understand that my study was purely academic, and I was in no way going to put them in trouble. I gave chocolate bars out as a way of saying “thank you” to those who agreed to grant me interviews. It could be that this served as an attraction to get some of the fishermen to talk to me. I say so because after I gave a bar out after our talk, he would gladly talk to another colleague in their local language, and ask me to go interview him. Some practically asked for some chocolate bars, but I told them it was for those whom I interviewed, and then they agreed to talk to me.

The themes on which the fishermen were interviewed were very familiar ones since it is what they do on daily basis, and their lifestyle.

Chapter 5

Artisanal Fishing in Cape Three Points

5.1: Introduction

This Chapter gives an insight into the type of fishing practiced in Cape Three Points, fishing seasons and fluctuations in catch and the problems associated with artisanal fishing. I would like to make known that there is no specific information on Cape Three Points per se, but the information cut across the whole of West Africa. The Gulf of Guinea waters, of which the sea of Cape Three Points is part, has similar characteristics with regards to the type of species of fish, fishing seasons and even the types of artisanal fishing practiced (Marquette et al., 2002).

5.2: Artisanal Fishing Described

The Dictionary defines “an artisan”, as a person who produces things or items in limited or small amount of quantities, mostly using traditional or orthodox methods (Dictionary, 2004).

Generally in Ghana, the fisheries sector is dominated by traditional production of fish by the use of dug-out wooden canoe and wooden paddles (Mensah and Antwi, 2002). Some of these canoes

sometimes are equipped with sails and have a number of men, depending on the size of the canoe. The number of men, range from three to seven(Mensah and Antwi, 2002). The art of catching fish is gender biased, and dominated by man and boys. However, the art of sorting the fish into different species, processing, and selling is the field of women and girls(Mensah and Antwi, 2002). These women involved in such fishing activities are usually family members of the men who indulge in the catching process. Some get the fish on credit from their male relative, and do payment right after they make money from sales of either processed or fresh fish(Mensah and Antwi, 2002).

There are various fishing gears used for artisanal fishing, but the main gears used in the coastal sectors in Ghana, and for that matter Cape Three Points includes nets, which are made up of cork, rope and twine(Mensah and Antwi, 2002). The other gears are hook and line, with baits(Mensah and Antwi, 2002).

5.3: Types of Artisanal Fishing

There are several types of net fishing operations. The main ones are “TENGA”, “METINAHA”, “CEDI” and “TANTRAEBOA”(Mensah and Antwi, 2002). These names are local and peculiar to the fishing community in the Central and Western regions of Ghana, of which Cape Three Points in part. Each of these operations are practiced in different fishing seasons, and also either at the bottom or the surface of the fishing zone(Marquette et al., 2002).

In the “Tenga” and “Metinaha” type of artisanal fishing, the canoe belongs to one person. He goes with about four or five other men, who come along with their individual nets. They join these nets together as one big net, and proceed to fishing. When fishing is over, the catch in the various nets belong to the owners of the net. They give the owner of the canoe their share depending on how they agreed to share the catch(Mensah and Antwi, 2002). However, with the “Tenga” type of fishing, the fishermen set out at either dawn or in the afternoon, while with the “Metinaha”, the fishermen stay out at sea overnight(Mensah and Antwi, 2002).

For the “Cedi” and the “Tantraeboa” type of artisanal fishing, there is the canoe owner, and the net owner, and other men, who join in the fishing. After the catch is landed, based on their agreement, the net owner shares the fish among the crew. With this type of fishing, the fishermen set off in the evening and stay overnight(Mensah and Antwi, 2002).

5.4: Seasons of Artisanal Fishing:

The waters of the Gulf of Guinea, of which the sea of Cape Three Points is part of has a seasonal phenomenon which is called “UPWELLING”(Marquette et al., 2002). Upwelling is defined by the dictionary as “the process or an instance of rising to the surface and flowing outward”, or “the process of upward movement to the ocean surface of deeper cold, usually nutrient-rich waters especially along some shores due to the offshore movement of surface waters”(Dictionary, 2004). There are certain times within the year when upwelling occurs. Around these times, the temperature of the surface of the sea falls, in brings cold and nutrient rich waters unto the surface of the sea. This boosts biological activities, and there is a mass production of phytoplankton and zooplankton(Marquette et al., 2002), which are both algae-like marine food. Around this same period, the temperature of the sea is conducive for the fish to spawn(Marquette et al., 2002). Spawning is a technical term used to describe the process where fish reproduce younger ones in large numbers. There is therefore fish in abundant

during this season. The process of upwelling is the cause of several fishing seasons in the Gulf of Guinea, and as such the seas of Cape Three Points.

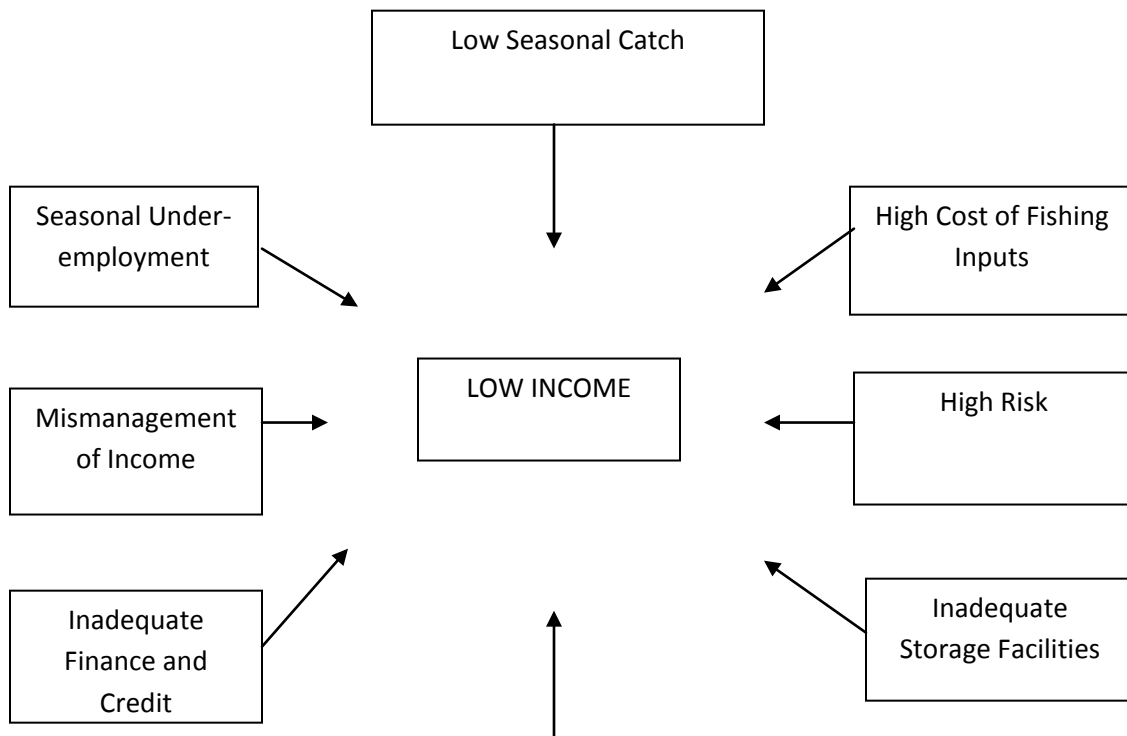
There are peak, medium and lean fishing seasons in the waters of Cape Three Points specifically, and the seas of the Gulf of Guinea at large (Mensah and Antwi, 2002). According to Catherine et al., 2002, there are several fishing seasons. There is the Major fishing season which spans from July to September. There is the Minor fishing season, which is between December to January, and again, there are off seasons, which are two. There is a long one which spans from February to June, and a shorter one, which is between October to November (Marquette et al., 2002)

During the peak fishing seasons, fishermen make a lot of catch and make a lot of money in turn. But during the off season, they barely catch anything to sell. Most of them therefore turn to other forms of economic activities such as farming and hunting for subsistence and to make some small money.

5.5: Problems of Artisanal Fishing:

The facts in this section are mainly adopted from data collected by Mensah and Antwi's research on "Problems of Artisanal Marine Fishermen in Ghana: The Way Ahead", in 2002. It is important to emphasize that these problems cut across the entire field of artisanal fishing in Ghana, of which Cape Three Points is part.

The diagram below is a pictorial representation of the problems faced by artisanal fishermen. This diagram has its source from the research of Mensah and Antwi.



Ineffective Association

A diagram representing the problems faced by artisanal fishermen(Mensah and Antwi, 2002).

From the diagram, it can be seen that, all the problems faced by artisanal fishermen lead to one major problem, which is low income.

From the previous section of this chapter, we realize there are seasons where there is abundant fish catch, and there are seasons where there is low fish catch. During the low catch seasons, the fishermen barely make money to feed themselves and their families. This results in the fishermen borrowing money to make ends meet. The seasonality nature of artisanal fishing in Ghana, and Cape Three Points for that matter leads to seasonal underemployments. Fishing is the main economic activity of the people of Cape Three Points(WestCoast, 2010). The men engage in catching the fish and the women process and sell the fish to also make some money. During the low catch or lean fishing season, there is the problem of underemployment. Most people lose their jobs and some even migrate to other towns to look for other jobs. Most men however turn to farming and hunting for subsistence. Due to generally low income, and the elimination of subsidies on fishing gear by the government of Ghana, the fishing gear is generally expensive, and this is why there has been to development and adoption of the various types of artisanal fishing, where some crew members will bring their own gear and some others only labour with those who have the gear. The business of artisanal fishing could be very dangerous, and highly risky. This is because the fishermen do not even check for the weather forecast before they set off to fish. Again, the nature of their canoe, it provides no safety during high tides. The fishermen are therefore exposed to much danger at high seas during fishing.

There is yet another problem of no storage facilities during the high peak season. The fishermen of Cape Three Points do not even have access to electricity, and therefore no storage facilities. This is a problem because where there is abundant catch, and there is no place to store them, some of the fresh fish may go bad. The local women have other traditional ways of preserving the fish such as Drying, Salting and Smoking. The problem then becomes how to keep the processed fish until customers are ready to purchase.

Mismanagement of income is another problem that was stated as part of problem facing artisanal fishermen by Mensah and Antwi. They argue that the artisanal fishermen mismanage the money they make during the peak season, and that they sell some catch directly to middle women in order to make money to depend on(Mensah and Antwi, 2002). My argument on this would be, people have different reasons why they work, with different priorities. Ones priority is different from others. It is therefore wrong to generalize that there is the mismanagement of funds or money of the side of the local fishermen.

There are fishermen group in Cape Three Points who have leaders, which are built to serve the common interest of the fishermen. These groups or associations are not effective (a local fisherman pointed out in an interview section), even at the local level. This makes it difficult to even access financial support from external bodies. There is inadequate finance or credit facilities for these local fishermen, and the reason could be that people who are supposed to give out the financial credit or loans may not see the local fishing business as a viable one. Again, the local fishermen themselves may not be well organized in their business in the sense that they maybe do not document their sales, and profits, and therefore may not even have any document to serve as a proof to local money lenders that they are capable of repaying loans given them.

Reflecting on the chapter above, I realize that these problems have been with these fishermen for a very long time, probably since the beginning to their fishing career. It is nothing that started in just ten years. The question that comes to mind is, why are they, the fishermen blaming the oil companies as a cause of their problems? Is it that the fishermen are aware the oil companies make more money and feel by making the companies their source of problem, they would be compensated with money?, or it is just a case of attitude the fishermen have developed only because there is another resource user in the Common Pool Resource area? Could it be also that before the oil exploration and production activities, the problems the fishermen faced were manageable, but the activities of the Jubilee Partners have introduced new problems or have compounded the already existing problems?

Chapter 6

EFFECTS OF OIL PLATFORMS/RIGS AND PRODUCTION ACTIVITIES ON FISH

This chapter is on how the oil platforms and their production activities affect fish population. To begin, I would like to shed some light on fishing population dynamics and migration, then move on to oil rigs attracting fish. It also talks about oil production activities that increase or decrease fish population, then finally Corporate Social Responsibilities of the oil companies.

6.1: Fish Population Dynamics

“Fish Population may be defined as a group of individuals of the same species or subspecies that are spatially, genetically or demographically separated from other groups”(Pope et al., 2010). The size of a fish population, its structure and distribution tends to fluctuate due to the variations in environmental conditions. Disturbances to the environment in which fish lives which are natural such as flood or fire are likely to cause fish population to fluctuate. Again, man-made factors such as new fishing technologies may also cause changes in fishing population(Pope et al., 2010). In the entire life span of fish, they do not life or stay in one place because their needs cannot be met by one habitat. This is due to the variability in the habitat conditions, such as changes in temperature from time to time or to the changing needs of the fish population(Binder et al., 2011). For instance, fish have different habitat for spawning and a different habitat for foraging(Binder et al., 2011). Because of this,

some fishes have life history that involves coordinated movement from one habitat to another.

6.2: Oil Rigs and Platforms Attracting Fishes

According to Mrs. Etonam Ashley Kassah (Marine Biologist), marine scientists are aware that oil platforms provide a "reef effect" and act as havens for fish (Kassah, 2013). It is an established fact that oil rigs and

platforms attract fish, but what actually attracts the fish is not clear. Talking to one oil field engineer who works for Schlumberger, a France based oil servicing company, he said "every single rig I have been on, we see a lot of fish around the ship every evening when the lights are on and we sometimes catch some" (Afriyie, 2012). Mr. Afriyie in our conversation was not sure what actually attracts the fish to the rigs. He mentioned it could be the lights or the leftover of biodegradable food thrown into the sea by the caterers (Afriyie, 2012).

Mrs. Kassah in her attempt to explain why Oil rigs attract fish from a Marine Biologist's point of view said that fish are naturally attracted to floating or submerged objects, which is termed as Fish Attracting Devices (FADs). Examples are floating logs, floating pieces of debris, submerged aquatic plants, shipwreck, and sea weed among other things.

Oil rigs are unique Fish Attracting Devices because they are pretty much stable and do not move due to sea currents (Kassah, 2013). When a rig is put in use, a microbial film develops, followed by a community of diatoms, bacteria and algae, depending on the season (Kassah, 2013). Diatoms are any class of minute planktons which are unicellular. Bacteria is a large domain of microorganisms, and Algae are very large and diverse group of simple autotrophic organisms, which are either single celled or have multiple cells (Dictionary, 2004). The development of these attracts herbivorous fish, which in turn attract larger fish that feed on them. This complex ecological system now begins to attract large fishes (Kassah, 2013).

The stability of rigs and the development of the complex species of community also make them an ideal ground for nursing juvenile fish, since they are assured of food, shelter and shade from the sessile organisms found attached to the oil rigs. Fish use rigs as nursery grounds until they are big enough to be on their own (Kassah, 2013)

6.3 Overview of Oil Production Activities and its impacts on fish:

There are two main parts or sectors in the oil production process. The first is the Upstream. This is made up of exploration and production. The second part or sector is the Downstream. This deals with processing, refining or crude oil, distribution and marketing (E&P Forum/UNEP, 1997).

There are series of activities involved in the upstream sector of oil production and exploration that affects the marine environment, and likely to reduce fish population.

6.3.1 Exploratory Survey: The stage involves the review of maps of the geology or rocks in the area to identify hydrocarbon bearing rocks or rocks that may contain some oil. This is mainly office work. After mineral bearing rocks are identified, one out of three survey methods are used. These survey methods are Magnetic, Gravimetric and Seismic method (E&P Forum/UNEP, 1997).

Magnetic method for several years has been used in assisting oil exploration (Rajaram, 2008). As a secondary method, it helps to tell and define the basement structures that control emplacement of hydrocarbon overlying sedimentary basin (Rajaram, 2008). As a method, it is dependent on the measurement of the variations in intensity of the magnetic field which gives a reflection of magnetic character of the various rocks (E&P Forum/UNEP, 1997).

The Gravimetric method has to do with the measurement of minute or small differences in the field of gravity at the surface of the earth. If the oil field is on land, an aircraft is used for these measurements, but on the sea, a survey ship is used (E&P Forum/UNEP, 1997).

Seismic survey method is usually the first field activity that is done and is the common method of assessment. This method identifies different reflective properties of sound waves sent to the various rock strata, either beneath land or ocean surface(E&P Forum/UNEP, 1997).

6.3.2 Exploratory Drilling: After it has been detected that there is a likelihood of hydrocarbons; this is confirmed by drilling a reservoir and exploratory boreholes. These exploratory boreholes or wells are technically referred to as “wild cats”. The site of the exploratory well is dependent on the features and characteristics of the geological formations beneath. It is however possible to strike a balance between the criteria of environmental protection with logistical needs and the need for efficient drilling.

6.3.3 Appraisal: After a successful exploratory drilling, more “wild cats” are drilled in order to determine the quantity of hydrocarbon reserves. These additional wells are referred to as “outstep or appraisal” wells. Again, appraisal wells are sunk in order to evaluate size and nature of the reservoir. It is also done to be sure of the number of appraisal wells required.

6.3.4 Development and Production: Once the size of the oil field is established, “development or production” wells are drilled. Depending on the size of the oil field, 10-100 production wells are dug or sunk with installations done to suit the field. During the production, the facility processes hydrocarbon fluids and also separates oil, gas and water. Produced oil must not contain dissolved gas before it is exported, in the same way, gas must be stable and void of liquids and impure components such as hydrogen sulphide and carbon dioxide. Water that is produced as a result is treated and disposed.

6.3.5 Decommissioning and Rehabilitation: Usually, the commercial life of oil production fields last between 20-40 years. Decommissioning oil fields include the removal of installed equipments and buildings. It also includes restoring the site or field to environmentally sound conditions, putting in place measures that would encourage site revegetation in the case of land. Decommissioning and Rehabilitation plans should be an integral part of the whole projects.

6.4 Impacts of Oil production:

Oil production activities have a potential of affecting various aspects of the environment, depending on the stage, the size of the project and how complex it is, also how sensitive the environment is, and mitigation measures put in place. Aspects that can be affected by oil production processes include Human, socio-economic and culture settings; the atmosphere; ecosystems and the aquatic or environment, which in this case is of major concern to the study.

The major waste that results from oil production processes and has the potential of polluting the marine environment are Produced Formation Water; Drilling Fluids and Cuttings; Sewerage, sanitary and domestic wastes.

It is worthy to note that these wastes that are produced depend on the stage of oil production.

Produced Formation Water is oily water that is released from a platform after it has been separated from oil. It is made up of water mixed with oil in its crude state and also water that is pumped into the reservoir to maintain pressure(Holdway, 2002). Produced Formation Water contains different chemicals and concentration range. This waste, when discharged into the sea is likely to have acute effects on marine organisms only in the immediate mixing zone around the platform. Marine organisms that feed on plankton who are exposed in the mixing zone experience developmental defects, and this is likely to have profound effects(Holdway, 2002).

Drilling Fluids and Cuttings are waste materials generated during the drilling or sinking wells. It is made up of fluids and cuttings generated as a result of drilling. There is not much evidence on the negative effects of drilling fluids and cuttings on marine life(Holdway, 2002). Studies have shown that marine organisms in response to discharge of this waste either only reduce few species individuals or increase abundance of species close to the source of contamination(Holdway, 2002).

Some of these waste fluids or liquids contain chemicals that are non-toxic, while some are biodegradable. Yet still, some others that contain heavy metals have minimum effects on the marine environment because they have limited bioavailability. On the other hand, some waste fluids discharged in the ocean, such as water-based mud and cuttings has negative effects on benthic organisms within the distance of 25 meters from the discharge point to about 100meters(OSPARCommission, 2007).

Generally, waste disposed into the sea causes some form of imbalance in the environment. This may have negative effects on marine life. Emissions and disposal of waste from well test operations produced water, burning and flare causes' noise in the environment. Again there is loss of access and disturbance to other marine resources users(OSPARCommission, 2007).

In reference to previous studies do, to lend credence to the above, even though done outside the African continent, it could be the case of Cape Three Point since the same oil production activities are undertaken. Monitoring activities and studies on the impact of discharge have been performed in three different countries. These are Netherlands, Norway, and the United Kingdom(OSPARCommission, 2007).

In Norway, the study revealed the impacts of Seismic surveys on fish, including fish mortality happened immediately adjacent the source of the sound. This effect however was not significant at the population level(OSPARCommission, 2007). There is however no documented impact on marine mammals regarding how

the sound waves from seismic survey affected them, except for their behavioral response, where they moved away from the sound(OSPARCommission, 2007).

In all three countries, studies show that there are still some areas at the bed of the sea that were affected earlier by fluid waste discharges. There is therefore both a chemical contamination and a low extent of biological disturbance(OSPARCommission, 2007). The Norwegian study however shows there is a

significant disturbance of the benthic fauna(tiny creatures that are found on or within the bed of the sea) at the sites, but in short distances from the point of waste discharge. Results from studies conducted under water column shows that fish are exposed to hydrocarbons which are contained in produced water, but level of effect decreases with increase distance from discharge point(OSPARCommission, 2007).

Conclusively, oil platforms attract fish among reasons such as the massive presence lights, and installation pipes acting as reefs, and because they serve as Fish Attracting Devices.

Contrary to providing a form of habitat for fish, the processes involved in oil exploration and production processes have some negative impacts on the environment at a whole and specifically on fish, though there may not be high. Oil companies knowing their potential negative impact have structured Corporate Social Responsibilities set out for communities who in one way of the other depends on the sea for their basic resources and livelihood.

6.5: Corporate Social Responsibility of the Jubilee Field Partners

Corporate Social Responsibility (CSR) is an integral part of every corporate entity or business.

Many authors in the field of economics and corporation studies have defined Corporate Social Responsibility variously, but all have one central focus. Bowen(1953) defined CSR as *“It refers to the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society”*(Carroll, 1999). William C. Frederick also defines Social Responsibility as: *“Social responsibilities means that businessmen should oversee the operation of an economic system that fulfill the expectations of the public. And this mean in turn that the economy’s means of production should be employed in such a way that production and distribution should enhance total socio-economic welfare. Social Responsibility in the final analysis implies a public posture toward society’s economic and human resources and the willingness to see that those resources are used for broad social ends and not simply for the narrowly circumscribed interest of private persons or firms”*(Carroll, 1999). Yet another definition by Joseph W. McGuire states that’ *“the idea of social responsibility supposes that the corporation has not only economic and legal obligations but also certain responsibilities to the society which extend beyond these obligations”*(Carroll, 1999).

All these definitions presuppose that businessmen or corporate bodies operating in a society have an obligation to improve the living conditions of that society and its members.

The Jubilee Field Partners have developed Corporate Social Responsibility to cover the districts that falls within the frontiers of Jubilee Field(Ghanaoilinfo, 2010). There are six main districts that fronts the Jubilee Field and they are Shama District, Sekondi-Takoradi Metro, Ahanta District, Axim District, Ellebelle District and Jomoro District(Ghanaoilinfo, 2010).

The Jubilee Field Partners have defined Corporate Social Responsibility as *“an expression of a company’s concern and sensitivity to the needs of all its stakeholders in its business operation”*(Ghanaoilinfo, 2010).

The vision of the Jubilee Field partners is to, in the long term, develop oil business in Ghana in a profitable way that enhances sustainable economic growth in the future, and they have Corporate Social Responsibility values of which the most relevant to my study is the value of Contributing to and giving support to the local communities in their catchment zone and a core element and strategy that is relevant to my study is the promotion of effective community inclusionary approach in planning and establishing effective partnership with the various stakeholders involved (Ghanaoilinfo, 2010). From the above, it can be said that the Jubilee Partners have plans of working together with the local communities, which include local fishermen and other people or bodies who are stakeholders.

In the Corporate Social Responsibility document, the Jubilee Partners have listed some factors that are risk factors which could hamper the production activities as well as their relationship with the local communities. These factors include Poor environmental stewardship on their part as Oil Producing companies. This has to do with them not keeping to the rules and regulations regarding the environment and the operations. Another factor is inadequate involvement of stakeholders, such as NGO’s and other relevant institutions. This is because NGO’s act at the link between the Jubilee Partners and the local communities. They depend on researches of the NGO to know what

the grievances of the local communities are concerning their operations, and try to provide solution to them. If the NGO's and other relevant institutions do not cooperate with the Jubilee Partners, many of their goals set towards the local communities may not be achieved. The last risk factor listed is Intrusion of fishermen into the Jubilee field. The impacts of this intrusion may include fatalities, conflict between them (Jubilee Partners) and the fishermen and loss of reputation. Some of the fatalities may include carrier shipping transports bumping into canoes of local fishermen and killing them, fishermen activities causing wreck to installation pipes among others.

The Jubilee partners believe that this could be mitigated through community information, where the local communities are educated and informed about happenings on the rig and how the intrusion could affect the Jubilee Partners and them as well; Policing of the exclusion zone, where naval officers guard the exclusion zone in order to prevent local fishermen from fishing within; and the execution of the CSR program which is providing for local communities some basic amenities. Among the reasons for the fishermen intruding the rig the Jubilee Zone are: The rigs attract fish, because of the lights around the rigs and the fact that rigs are Fish Attracting Devices (FADs). This inturn attract fishermen because of the likelihood of dwindling fish stock in familiar waters. Also because artisanal fishing as a form of livelihood, the fishermen would go any length to harvest plenty fish in order to make money. Another reason given as a reason for fishermen intruding the rig area is speculative ventures for compensation, which presupposes that, constant intrusion from the fishermen, resulting in disturbing the work of the Jubilee Partners would lead to the Partners paying off the fishermen in order to have their peace to carry out their daily oil production activities. Tourism and curiosity is another reason the fishermen and local people intrude the rig areas. Some are believed to go there to only watch and see how oil drilling is done.

Some steps have been taken to start this CSR program. There is on-going consultation with the various districts at the frontier of the Jubilee Field, which are districts that have fishing as their main source of livelihood and fish in the Gulf of Guinea, there has been the drilling of water wells for some communities, which serve about 30,000 people currently, and there has been a refurbishment and re-equipment of a science laboratory in one of the schools in one of the frontier districts(Ghanaoilinfo, 2010).

Conclusively, the Jubilee Partners are aware of their responsibilities towards their hosting communities, and have plans of executing them. Again, they are aware of the risks and dangers that are likely to occur if they do not develop good relationships with their hosting communities and other stakeholders involved.

Chapter 7 Key Findings and Discussion of Research Questions

7.1: Data Collection Methods Used

The basic methods used for collecting primary data were observation, structured interviews and photography.

In all, 13 fishermen were interviewed. The styles of interview were based on recommendation. That is to say that, after interviewing one, I would ask to be led to another fisherman to be interviewed.

Again, I had a one on one chat with the owner of the lodge where I stayed during my study in Cape Three Points.

Observation was started right from the vehicle that took me to the village. In the village, I made observation of their local market place, their behaviour and attitude towards fishing, their general lifestyle and how fishing was part of their lives.

Photographs were taken at the shores to help give details of the lifestyle and activities of the local fishermen.

Secondary data was collected mainly from documentaries made on local fishermen and oil companies in Cape Three Points, which was posted on the website of some NGO's.

7.2: Overview of the Chapter:

This chapter presents key findings from primary and secondary data collected from and on the field of study. It analyses the extent to which the local people depend on artisanal fishing. Again, it brings to fore, whether there is a direct relationship or contacts between the Jubilee Partners and Cape Three Points. It again looks into why there is a conflict between the local fishermen and the Jubilee Partners.

7.3: Dependence on Artisanal Fishing as A Source Of Livelihood:

"...almost everybody in this our village, from the chief to a child in the mother's womb depends on the fish we catch." A local fisherman.

Inferring from this statement, it could be generalized that the entire village of Cape Three Points to a large extent depends on fishing in one way or the other, directly or indirectly for their basic needs. All the men who were interviewed were fishermen. During my section with them, most made known the fact that they have other several fishermen colleagues who had gone either to farm or hunt at that particular time. The men who were interviewed attest to the fact that almost all women in the village, with the exception of a few are engaged in fish selling business. During bumper fishing season, the women who are involved in the fishing business transport the catch to a nearby village, which is the district capital to sell. In the lean season however, some women sell the catch in their local market, others trade in local foodstuff which their husbands brings from the farm, while others join their husbands to farm.

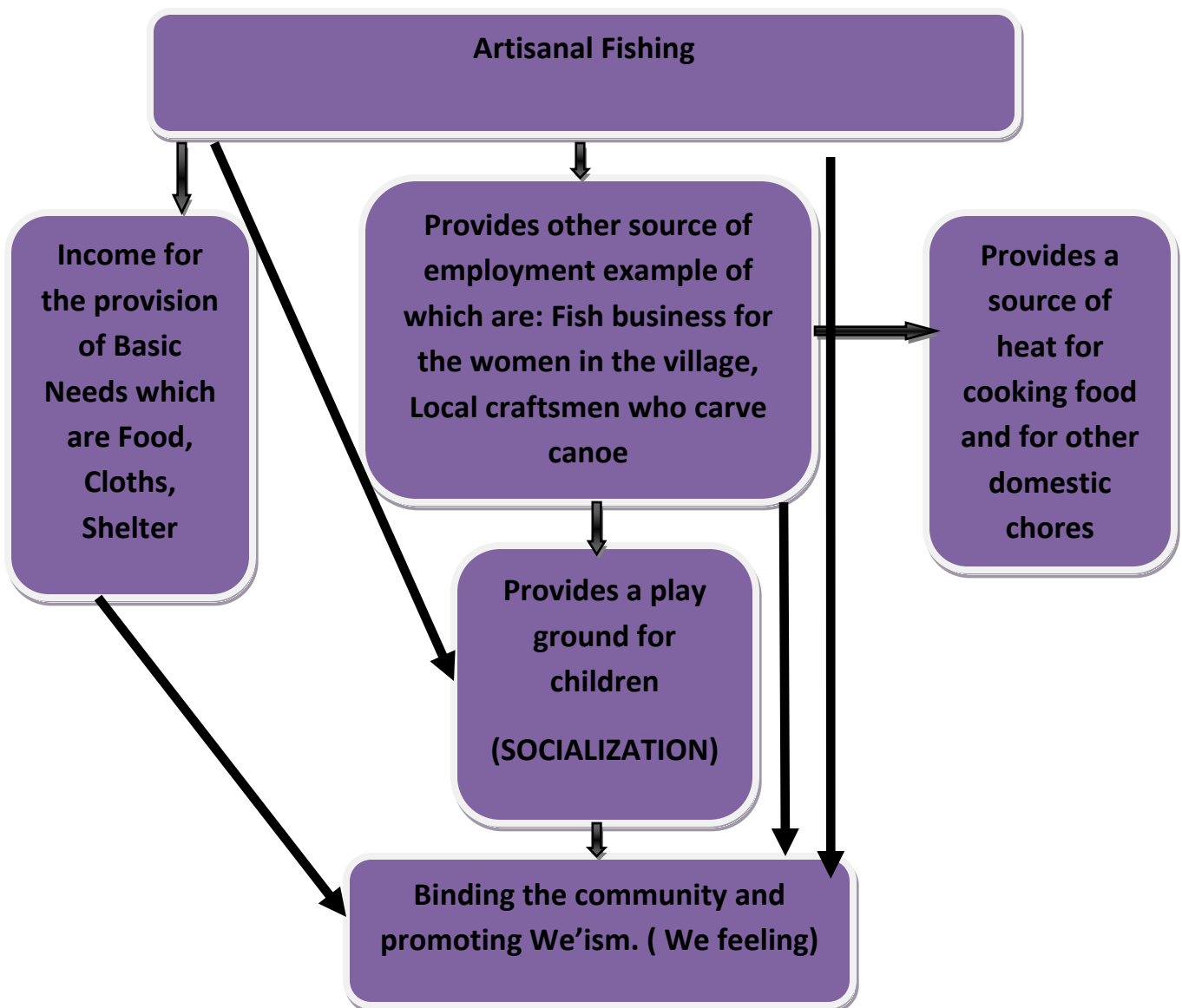
From the interviews, I concluded that though fishing is the main source of income for most people in Cape Three Points, they have other minor source of income which is farming and hunting.

In my observation, I realized that there were people who depended indirectly on fishing. These are local craftsmen who carve canoes which are used as the main fishing equipment. An unplanned and unscheduled interview with one of such craftsmen revealed this.

“... I work with some men to build canoe and repair broken and old ones for some fishermen. Some pay us money, which they spread over time, others also give our wives fish on credit to sell in order to make money...” A Local Craftsman.

I would at this point refer to the dependence of some women and children on the byproducts of the wood craftsmen. The children play with saw dust and wood cuttings, while the women use these by-products as firewood/fuel wood to cook, warm water and heat up their homes. It can be concluded from data gathered on Cape Three Points that there is a general dependence on fishing for livelihood.

Below is a diagram that represents the web of benefits the people of cape Three Points village obtain from artisanal fishing. Diagram was created by author based on her findings.



As noticed from the diagram, artisanal fishing in Cape Three Points provides a web of benefits for its inhabitants.

7.3.1: Income for Basic Needs:

First of all, fishing provides a source of employment for the fishermen. The fishermen earn money from selling their catch, either for immediate cash or on credit. Mostly, they use the income they earn from fishing to provide their basic needs of food clothing and shelter. They also care for their dependents using part of the income they earn from their fishing business. It also provides income for other workers whose jobs are related to artisanal fishing.

7.3.2: Provision of Other Source of Employment:

Artisanal fishing provides other source of employment, from which those involved gain some form of income. There are jobs provided for most of the women in the village as fish traders. This category of fish related workers specialize in selling fish, be them raw or processed. There are some women who specialize in processing and preserving the fish. These women clean the fresh fish, smoke some, dry some and salt some. All these are preservation methods that ensures the fish lasts a while longer, especially in situations where due to lack of electricity in the village, there are no storage facilities for fresh unprocessed fish.. It also helps to meet the demands of different customers who have different preferences for fish

Again, artisanal fishing provides a source of employment for a different category of people, who are not directly involved in fishing. These are the local wood craftsmen. This group of people builds new canoes and repair old ones to earn some money from the local fishermen. Some wood craftsmen through this form of employment sets their wives up for fish trading business by taking their payment in fish, for their wives to sell. It may be possible that they do not only set up their wives for fish trading business, but their close relatives as well.





Above are pictures of local wood craftsmen building a new canoe for some fishermen of Cape Three Points.

7.3.3: Source of Heat:

Cape Three Points is a village without electricity. Their main source of heating is firewood or fuel wood, and this is either obtained from, saw dust and wood cuts which are by-products from building the canoe, or fetching firewood/fuel wood from the forest. Fire wood obtained from the forest is mostly sold by those who go to fetch them. I would believe that women would prefer the free by-product from the sea shore rather than buy. This fuel wood obtained from the sea shore is used to heat water, cook and to perform other house hold chores that required the use of heat. Some even use it to iron their cloths, and heat their rooms in cold weather conditions.

7.3.4: Provides a Socializing Ground:

Through observation, it was realized that the shores of Cape Three points attracts a lot of different class or group of people. These include fishermen, wood craftsmen, women who want fish to sell and children playing with the saw dust and wood cuttings from logs of wood used for carving canoes. All these people interact with each other. During such interactions, social norms and values are shared and passed on, life styles are adopted and a whole lot happen within this complex social network.

7.3.5: Community Building:

One major characteristics of the Ghanaian traditional community is the feeling that binds people together. Artisanal fishing in one way or the other promotes what is generally termed as we'ism, By this, the inhabitants feel they belong to each other and as such seek to work towards the interest of one another. This enhances community building since individual or group problems are shared during interactions, and solutions are proposed to these problems. It must be noted however that this is done informally.

7.4: Relationship between Jubilee Partners and Cape Three Points

In my observations made travelling from Takoradi which is the capital city of the Western Region of Ghana to Cape Three Point, it was realized that the road is very poor, and in a day, a public minivan travelled there just two times.

Upon reaching the village, there were no signs of any merchandized or branded oil company items to indicate the presence of any of the Jubilee Partners. In an interview with the local chief however, I gathered that some of the Jubilee Partners visited him and made known about their plans to acquire some plots of land in the village so that they set up a base for their staff. In line with that, the Jubilee Partners who visited provided the village with electricity poles in order to provide electricity. The chief however said this happened about some four to five years back, and he has since not heard from the Jubilee Partners who visited him.

Data gathered from a personal friend who is an engineer and works for one of the Jubilee Partners, specifically Tullow Oil revealed that the partners have no direct contact with the village of Cape Three Points. He said...

... "we go to our rigs using choppers, and this picks us from the Takoradi airport. As far as I know, none of us goes to the rig through Cape Three Points. I do not even know there."

From my observations, and the above written referring to the information from my friend, and also from the interview with the local chief, there is no direct contact between the Jubilee Partners and the Village of Cape Three Points.

7.5: Cause of Conflict and Ways to Resolve It (Local Fishermen Perspective)

Every fisherman who was interviewed accepted that there was a conflict between them as fishermen and the Jubilee Partners. The main cause of the conflict is due to the fact that they the fishermen have lost access to fishing land. To them, this is so because they used to fish within the zone where the Jubilee Partners operate now, but they are being prevented from fishing within that area now. This according to the fishermen has made them lost access to fishing land.

As a result, they catch amount of fish, even in bumper seasons and this has led to a decrease in their income.

It was inferred from the interview that some local fishermen have stopped fishing as a result of low catch and have migrated to other major towns to look for other jobs rather than fishing. One argument posed by the fishermen as a reason for their catch is that all the fish within the zones in which they are allowed to operate have migrated to the Jubilee field. This to them is the cause of the conflict.

When asked that they propose a way a way to resolve this conflict, most of the fishermen said if the Jubilee Partners give them money at the end of every month, they would be willing to stop fishing within the exclusionary zone. Others said they would even stop fishing on commercial basis.

However, most of the fishermen, about 60% of those who were interviewed demanded for some form of compensation for fear of future loss. They made mention of the fact that they know about oil conflict situations in Nigeria, Angola and Ivory Coast, and how it has rendered some fishermen jobless and penniless. They argued that in order for them not to lose their livelihood in the future due to any unforeseen damage or oil spill by the Jubilee Partners, they as fishermen should be compensated.

7.6: Discussion of Key Findings in Relation to Research Questions

7.6.1: Matching the values of the Jubilee Partners against that of the local fishermen, which of these resources users activities are affected by the activities of the other?

With reference to Michael Jones' literature on Values of Landscape, in relation to artisanal fishing in Cape Three Points, it can be confidently said that values involved are basically Economic values and Identity values. Under Economic Values, two main values are predominant with regards to the fishermen. These are Market Values and Subsistence Values.

Market values as has been defined earlier are attached to resources that are sold on the market for money or income. Referring to primary data gathered, the fishermen sell their catch to earn income. This makes the fish they catch have market value attached to it.

Also, part of the fish they catch is eaten by them and their household of family members. This satisfies the value of fish being subsistent or having a subsistent value. This is in line with the definition given by Jones of Subsistence Values being more direct use values of resources.

Yet another Value which is attached to artisanal fishing in Cape Three Points is Identity Values. Fishing has become a part of their daily existence and they are identified by it.

Delving a little deeper into what it takes to extract fish by these local fishermen of Cape Three Points, with regards to investment, the basic equipments are Canoes, Fishing nets, in some cases, motor to propel the canoe and lastly man power or labour. All these are available on the local market of Ghana and may be assessed easily. However, due to subjectivity and relativity in human judgments and different income levels, these basic items may seem very expensive to the local fishermen, while they may seem cheap for other group of people or workers in different income brackets.

What is the worth of these values and investment to the local fishermen? Does it mean so much to them that they are willing to willing to fight through or they are willing to give up on their source of income and livelihood for a monthly allowance from the Jubilee partners. As per my interview section with some of the fishermen, most admitted that they would accept a monthly compensation from the Jubilee Partners for lost access to fishing land. Others, according to a

secondary source have teamed up with some youth of the village to form a group called Cape Militia, posing as the mouth piece of the fishermen and the people of Cape Three Points(Ahantawest, 2010).

In an interview with the leader of the group, he had this to say...

"... We cannot be taken for granted; we cannot sit here and watch our livelihood being destroyed. We will strike when the time arrives."

According to the leader, the group holds their meetings in a nearby town, where they engage in the training and the use of fire arms. The leader also disclosed that they have identified some pipelines under the seabed and will soon start attacking them and threatened to start targeting rig and non-oil facilities belonging to oil companies in the area if they are not assured of equal opportunities(Ahantawest, 2010).

There are as such two sides to the attitude of the local fishermen. There are those who are willing to trade fishing in the exclusionary zone for monthly allowance, and there are those who are willing to attack the properties of the Jubilee Partners to force them into giving them what is duly theirs as fishermen and inhabitants of Cape Three Points.

On the other hand, the Jubilee Partners, referring to Jones' literature have only Market values for oil as a resource. They indulge in refining crude oil and selling the final product locally and internationally in order to make profits(Tullowoil, 2008).

Investment in the oil business is huge. It involves a whole lot of expensive machinery and experts, most of which are imported outside the shores of Ghana(Tullowoil, 2008). This is because referring to Chapter 6 of this work, the oil exploration and production processes involves different stages, and each stage needs to be worked on very carefully, paying attention to the dangers surrounding the processes in themselves and the environment.

What is the worth of this market value and investment to the Jubilee Partners? Are they willing to put in their best in order to protect their investment and market value, or they would rather allow the fishermen and the militant group the destroy some of the expensive equipments they have invested in?

Which of these resources users' activities are being affected by the activities of the other?

The local fishermen have always had problems of low fish catch during their off peak season, and therefore low income during such seasons. According to the fishermen, however, the Jubilee Partners interfere in their fishing activities by preventing them from fishing within the exclusionary zone.

On the contrary, a reference to an article written by AKroboto, a Ghanaian journalist, the Jubilee Partners in the early stages of the oil exploration and production threatened to boycott their activities and leave since the activities of the fishermen were disturbing their own activities and costing them financially(Aklorbortu, 2008). The Jubilee Partners had to hire divas on daily basis to untie nets that had been tied by the fishermen on the legs of oil platforms in orders to catch much fish before they, the Jubilee Partners commenced daily activities(Aklorbortu, 2008), which is a complete waste of time and financial resources.

Again, in a personal chat with a Ghanaian Navy officer, who is also a relative Sub-Lieutenant Jarvis Williams, he said this...

"...the fishermen are really worrying the oil companies. Some of our men in Takoradi are dispatched to the rigs on day and night basis to prevent the fishermen from fishing around..."

I would believe that the Jubilee Partners pay much to the Ghana Navy to provide this security service.

It's a two way affair since each resource user has reasons to claim that their activities are being affected by the other. It however depends on the perspective and perception one assumes when dealing with this particular issue.

7.6.2: Has there been a lost of access to fishing land, considering the limits on artisanal fishing vessels? If there has been how can this be valued in terms of money for compensation?

An online data source, in an interview with Alhaji Inusah Fuseri , former Deputy Minister of Energy and Mines in Ghana had this to say when questioned about fishermen complaining that oil exploration and production activities is affecting their source of livelihood.

"...we have been told that the Jubilee Platform is 60 Nautical miles offshore. Indeed, 60 nautical miles is in the region of about 100kilometers. Before the oil was found, no fisherman went there. Even by the laws of Ghana, artisanal fishing is just 5 nautical miles. They cannot have even bones to go there. Now so this thing about fishermen fishing around the platform came about as a result of the activities of the oil companies around that area, and the fact that because they were, the human activities and food that they were dropping into the sea attracted fishes, and the platform itself attracted fish, and drew the fishermen into that area." (Badgley, 2011).

Daniel Amlalo, who was the acting Executive Director, Environmental Protection Agency, also had this to say when questioned about the fishermen saying they have lost access to fishing land:

"...What is the size they are talking about compare to the very vast ocean? I remember the FBSO is about 60-70 kilometers offshore. So for the fishermen to talk about this, we know some of them go to that area, but not many. So the impact can be a perception, but not reality..."(Badgley, 2011).

Making reference to these two responses given, the artisanal fishermen are by the laws of Ghana not supposed to fish where the oil platforms are. Judging from the perspectives of these two officials, and according to the laws of Ghana bothering on artisanal fishing, the local fishermen have not lost access to fishing land.

Taking this however from the perspective of the local fishermen, they may not know what the limits to artisanal fishing are by law. Some are likely to go any length to catch lots of fish since their lives mostly depends on the catch they make. It is possible that some were sailing even beyond that limit only to make a god catch.

Assuming the fishermen have lost access to fishing land as they claim, and the government, together with the Jubilee Partners agree to compensate, what would be the factors to consider? Personally, I believe some of the factors that would go into planning the compensation packages may include the following:

Verify if all applicants for compensation are true fishermen, or they have only been added to the list because it involves money; how can fish catch made be quantified in terms of money? What will be the yardstick, since all catch are not the same on daily basis, and also considering difference in seasonality. There are several other factors that may be considered. Will the payment come from the government of Ghana, or the Jubilee partners, since the partners pay the government

a percentage of the profit they make. It could be quite a controversial venture, and may take a long time to settle some of these factors if compensation would be given out to the fishermen.

There have been some moves to work on compensating fishermen in the event that there is a spill, but not in terms of lost access to fishing grounds (Badgley, 2011). There are however no reports on how far work towards oil spill compensation has come.

Drawing a compensation scheme for lost access to fishing land, if even it will be done would not be an easy task since a lot of factors would go into the quantification. It may involve and require different specialists in the field of accounting and finance, and also some research personnel's since there would have to be a research done before anything concrete can be concluded on.

7.6.3: What Mechanisms could be put in Place to Resolve the Conflict?

Conflict resolution has emerged as an alternative to settling disputes (Jike, 2010b). After conflicts have been resolved, mechanisms are put in place to ensure that the conflict does not occur again and this promotes peace building (Jike, 2010a). According to V.T. Jike, peace building is *"an attempt to overcome the structural, relational and cultural contradictions which lie at the root of conflict in order to underpin the processes of peace making"*. There are two schools of thoughts within the framework of peace building. They are the TOP-DOWN approach and the BOTTOM-UP approach (Jike, 2010a). The Top-Down approach school of thought has it that efforts towards conflict resolution should employ experts and their concepts and rather ignore the local cultures and capacities (Jike, 2010a). Contrary to this, the Bottom-Up approach promotes the use of local human resources, as well as cultural resources in conflict resolution and peace building processes (Jike, 2010a).

According to ExxonMobil, they, as an oil producing company has recognized that in order for them to succeed in their business, they must co-exist with the fishing industry peacefully and share the ocean and its sea bed (ExxonMobil, 2011). They believe that *"consultation is the rule"* and recognize that good communication, building trust, and a sense of good will are important elements for successfully co-existing with the fishing industry.

Employing the Bottom-Up approach and elements of success as stated by ExxonMobil could be a better way and strategy of resolving the conflict between local fishermen of Cape Three Points and the Jubilee Partners.

This would put the two parties on a common platform, where they would be able to articulate their grievances. Again, there would be no feeling of inferiority and/ or superiority since both parties would have the power to speak their minds.

This would promote respect, and together, they can come up with solutions that best suits both parties.

Chapter 8

Conclusion and Recommendation

8.1: Conclusion

In Common Pool Resource areas, there is always the likelihood of conflict when there are different resource users, especially of the same resource. The extraction of the resource by one group of users means the reduction of what is available to the other users. People being economic beings develop attitudes that place them at an advantage over the others in such situation.

This study has been about entirely different resource users, who extract different resources in a common pool area. In this situation, the extraction of a resource does not directly reduce the availability of the other resource to the other users.

It is rather the extraction activities of these different users that seem to affect one other and is generating some form of conflicts.

The activities of the Jubilee partners as it were, from the perspective of the fishermen is affecting their fishing activities and impacting on their lives.

From the perspective of the Jubilee Partners, the activities of the fishermen are impacting their extracting activities as well, and costing them extra money on daily basis.

The question then becomes whose story should be taken? Whose perspective should be taken into consideration?

This is a delicate and sensitive issue that must be dealt with in a way that promotes peace and equity for all these resource users. Leaving the conflict unresolved or partially resolved could lead to armed conflicts. There has already been the emergence of a militant group who are posing at the mouth piece for the people of Cape Three Points, and already threatening to attack properties of oil companies if they are not given what is rightfully theirs.

Discussions in an attempt to answer research questions have been made, but it depends on one's position in the situation.

Depending on which ever perspective or position one assumes, the conflict, if left unresolved could be detrimental to the nation as a whole.

8.2: Recommendations

As following the issue in question, some recommendations are proposed:

- The local fishermen should be properly educated on what their limits at sea is in terms of artisanal fishing.
- Again, the fishermen should be educated on the responsibilities of the Jubilee partners, so that they do not assume that once they share a common resource ground, the Jubilee Partners are entitled to settling them money wise.
- Lastly, it would be best if these two resource users could meet on a common platform to discuss their differences and involve all parties to resolve their conflict.

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