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Co-management and Traditional Fisheries: The Case of Fante Fishers in Elmina, Ghana.

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CO-MANAGEMENT AND TRADITIONAL FISHERIES: THE CASE OF FANTE FISHERS IN ELMINA, GHANA.

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Abstract

Co-management has widely been recognized as an alternative approach to addressing natural resource crises and diverse environmental concerns. In line with this, the Ghanaian fishery sector introduced co-management as an institutional approach to manage natural resources. However, studies still reiterate that, the traditional fishery sector is still in decline, which have affected the livelihood of communities that depends on the resource and resulted in Ghana becoming a net importer to meet the country's fish requirements, which is likely to increase due to the growing population. The aim of this study therefore is to understand the factors contributing to the decline of the sector despite the adoption of co-management. Following a qualitative approach, the study involved Fante fishers in Elmina to understand how co-management have influenced traditional fishing. The study further seeks to identify constraints that impede the successful implementation of co-management. By exploring the economic, social and environmental impacts of co-management, divergent issues were raised from respondents. Research findings reveals that weak institutional framework, lack of active participation, empowerment and trust as the challenges that contributes to the underperformance of co-management. From discussions and analysis, general lessons and recommendations are drawn from the study.

Keywords: Co-management, indigenous, traditional fisheries, Fante people.

List of Abbreviations

- ACHPR - African Commission on Human and Peoples Right
- CBFMC - Community Based Fisheries Management Committee
- GDP - Gross Domestic Product
- IUU - Illegal, Unreported and Unregulated Fishing
- KEEA - Komenda Edina Eguafo Abrem
- MOFAD - Ministry Of Fisheries and Aquaculture Development
- SDG - Sustainable Development Goals
- SFC - State Fishing Corporation
- SWOT - Strength, Weakness, Opportunity and Threats
- UNDRIP - United Nations Declaration on the Rights of Indigenous People

Table of Contents

Chapter One: Introduction	1
1.1. Introduction.....	1
1.2. Problem Statement.....	2
1.3. Research Questions	4
1.4. Relevance.....	4
1.5. Thesis Structure	5
Chapter Two: Background Information.....	6
2.1. Introduction.....	6
2.2. Ghana: Its Location and People	6
2.3. The Fante People of Ghana.....	7
2.4. Indigeneity in the context of Africa (the case of the Fante group)	7
2.5. History of Fishing in Ghana.....	9
2.6. The current state of Ghana’s fishery.....	10
2.7. Importance of the traditional fishery sector.....	12
2.8. The traditional fishing governance structure	12
2.9. Fishing activity among the Fante in Elmina	13
2.10. The role of women in traditional fishing	15
2.11. Chapter Summary	16
Chapter three: Research Methodology.....	18
3.1. Introduction.....	18
3.2. Indigenous Research Approaches	18
3.2.1. Ethical considerations	19
3.2.2. Reflexivity.....	20
3.3. Study Area	21
3.4. Access to field and respondents.....	21
3.5. Sampling size and informant selection	22
3.6. Data collection methods.....	23
3.6.1. Interviews.....	23
3.6.2. Observation	24
3.6.3. Recordings and transcription	25
3.6.4. Secondary Data.....	25

3.7. Limitations	25
3.8. Chapter Summary	26
Chapter Four: Previous Research and Conceptual Framework	27
4.1. Introduction.....	27
4.2. Previous Research.....	27
4.3. Why manage common resources?	29
4.3.1. Co-management	30
4.3.1.1. Defining Co-management.....	31
4.3.1.2. Forms of Co-management.....	32
4.3.2. When Co-management fails.....	33
4.4. Guiding principles of co-management.....	33
4.4.1. Co-management as Institution Building	34
4.4.2. Co-management as Participation	35
4.4.3. Co-management as Empowerment.	35
4.4.4. Co-management as Trust	36
4.5. Co-management Policy in Ghana	36
4.6. Chapter summary	37
Chapter five: Data Presentation and Analysis	38
5.1. Introduction.....	38
5.2. Brief background of informants.....	38
5.3. Study results and analysis	39
5.3.1. Co-management’s influence on traditional fishing.....	40
5.3.1.1. Economic Impacts.....	40
5.3.1.2. Social Impact	45
5.3.1.3. Environmental impact.....	50
5.3.2. Constraints of co-management	52
5.3.2.1. Institutional Challenges	52
5.3.2.2. Participation	55
5.3.2.3. Empowerment	57
5.3.2.4. Trust.....	61

5.4. Chapter Summary	66
Chapter Six: Summary and Concluding Remarks	67
6.1. Introduction.....	67
6.2. Summary of Findings.....	67
6.3. Recommendations.....	68
6.4. Conclusion	69
7. References.....	70

Chapter One: Introduction

1.1. Introduction

Indigenous¹ (traditional) fisheries are recognized as the cornerstone for coastal economies and have been an important source of livelihood particularly across the developing world (Allison & Ellis, 2001; Berkes, 2001). Traditional fishing has been historical knowledge and a practice passed on from generation to generation. Globally, these fisheries generate over 274 billion USD in revenue per year, supporting about 22 million small-scale fishers and 38 million full time jobs for men, women, and children. In addition, an additional 100 million people are estimated to be involved in the small-scale post-harvest sector². Furthermore, the economic impacts of traditional fisheries can contribute significantly to national economies.

In Ghana, traditional fisheries provides many rural people with revenue, jobs, livelihoods and also constitutes approximately 70 – 80% of the country's over-all yearly volume of marine fish (Quagraine & Chu, 2019). The importance of this sub-sector to local and national economies makes it essential for the sustainability of the fisheries sector. However, sustainable development of the traditional fisheries remains a considerable challenge due to high dependency of the growing population on their resource. This has led to overexploitation and illegal fishing practices in addition to the problems caused by climate change (Atta-Mills, Alder, & Rashid Sumaila, 2004). This trend is often considered a crisis of governance (Acheson, 2006). To resolve the situation, co-management arrangements have been introduced to deal with the main challenges faced by the fishing sector that are affecting fishing livelihood of the Fante people and also the fishery resources which they rely on.

Co-management is a strategy for managing fisheries resources where responsibility for decision-making on how the resources will be managed is shared between government, resource users and other stakeholders (MOFAD, 2019). It has been advocated as a potential way of fisheries resource management because of the inclusion of the users of resources, which leads to more effective collective action, conflict resolution, higher compliance and transparent decision making (Singleton, 2000). Nonetheless, it is now evident that over the years, managing the exploitation of the traditional fisheries sector has been unsuccessful. Whereas the government is unable to take advantage of the full benefits, it is a threat to the fishing communities that depend on the resource

¹ Indigenous and traditional will be used interchangeably in this thesis.

² (De la Cruz-González, Patiño-Valencia, Luna-Raya, & Cisneros-Montemayor, 2018)

for their livelihood (H Abane, Akonor, Ekumah, & Adjei, 2013). To get the situation under control, it is important to understand issues that have an effect on fishery performance and to recommend measures that seeks to address the demanding situation for the sustainability of the resource.

This thesis aims to fill this knowledge gap, I conducted research in the central region of Ghana specifically Elmina, where the indigenous way of life as traditional fishers among the Fante people dates back to centuries (Irene Odotei, 2002). The Fante are part of the Akan ethnic group, which is the most dominant in Ghana. Their main traditional occupations are fishing and farming. Of these activities, fishing has taken them to all the coastal areas of Ghana and beyond. Fante fishermen are found in practically all the West African countries and are thus regarded as Pan-African fishermen (Overa, 1992). I decided to focus on the Fante people because they are believed to have introduced ocean fishing in communities along the coast of Ghana (Overa, 1992) . Furthermore, even though there is no doubt that, their relations with European colonialists engendered significant transformation and modernization in many areas (from architecture to socio-political organizations) the Fante in Elmina preserved considerable continuity and resilience in their indigenous traditions (Walker, 2002). The fishing industry for instance remains relatively traditional despite the introduction of modern technology.

1.2. Problem Statement

The fast depletion of the world's oceans draws attention to the significance of fisheries management (FAO, 2009). Biologist have warned that the fish stock in oceans will be depleted by 2048 (Worm et al., 2006). In line with this, in its presentation on the State of the World's Fisheries and Aquaculture, the United Nations Food and Agriculture Organization continued warning about the exploitation or degradation of a significant percentage of the world's major fish stock (FAO, 2009). From a global perspective, these are issues to worry about but they are even more alarming with regards to food security and livelihood in developing countries where most rural people depend on fishery resources.

In Ghana, the situation is not different. Scientific evidence has consistently shown that marine fisheries are in crisis as a result of the decline in fish landings over the last decade (Adom, Sekyere, & Yarney, 2019). This has resulted in Ghana becoming a net importer of about forty percent (40%) of the country's fish requirements, which is likely to increase in the subsequent years due to the growing population (MOFAD, 2015). Fisheries management experts recognized that the underlining causes of the overexploitation of fisheries resources and coastal degradation are often

social, economic and institutional in character (Pomeroy & Williams, 1994). Thus, fisheries managers advised that those affected by management (fishers and other stakeholders) should be involved in making management decisions (Tilley et al., 2019). Consequently, as part of the Ghanaian's government plan to prevent further degradation of the fishery resources in the coastal areas of the country, the co-management framework was introduced to help address many problems of sustainability, efficiency and equity that confront the traditional fishery sector (Jentoft, McCay, & Wilson, 1998).

Co-management was introduced to fisheries management in Ghana through the formation of the Community Based Fisheries Management Committee (CBFMC) (MOFAD, 2019). The approach to-date in Ghana has been mainly a consultative form of co-management, which among others has failed to prevent overfishing of the majority of fish stocks in the marine (MOFAD, 2019). Recent studies reiterate that the traditional sector are still heavily utilized often overfished by both the commercial and subsistence users (Aikins, 2018). This shows that co-management has not, however, been seen to have led to better sustainability of the fish stocks. With growing population, increasing demand, climate change and other pressures, the challenges ahead are clear. It is worth noting that, should traditional fishing be left to die, many livelihoods will be ruined, and this will have serious implications for the country's economy. In fact, the dwindling of the fishing sector will also mean a failure in achieving most of the goals of the Sustainable Development Goals (SDG) such as eradicating poverty and hunger while promoting good health and wellbeing, good jobs and economic growth.

In light of these issues, it is ideal that research is conducted to address challenges of the traditional fishery sector. The results can help halt the further decline of the fish stock and rebuild them so that they will be available for future generations. The objective of this research therefore is to involve Fante fishers in Elmina to identify the major challenges they encounter in their fishing activities and how the introduction of co-management has influenced traditional fishing in controlling these challenges. Again, data gained from the narratives of traditional fishers will help identify measures that can help to strengthen the implementation of co-management and make recommendations for policy changes to provide for a sustainable fisheries sector. To achieve these objectives, two research questions are identified in the subsequent section.

1.3. Research Questions

- a) How have co-management influenced traditional fishing among Fantes in Elmina?
- b) What constraints impede the implementation of co-management in Ghana?

1.4. Relevance

The relevance of this study can be placed in three areas: the socio-cultural and economic domain and in academia. Socio-culturally, the study will help document and preserve Fante indigenous knowledge on traditional fishing. As Kuokkanen (2000) posits indigenous research forms part of the decolonization and self-determination process of indigenous people. It contributes to the process by emphasizing that indigenous issues, cultural practices, and morals that have been ignored in mainstream discourses. Accordingly, over the years, many indigenous movements around the world have emerged to challenge the mainstream discourses and to restore misrepresented identities and values, as well as their histories (Kuokkanen, 2000). Indigenous knowledge or practices are in continuous decline in Ghana. Those who still uphold their indigenous practices and act on their knowledge systems are often regarded as old-fashioned. Among the Fante people, traditional fishing remains an important aspect of their culture and identity. Thus, this study contributes to the efforts towards locating and highlighting aspects of the Fante culture and traditional knowledge through a study of their traditional fishing practices.

Economically, the traditional sector plays an essential role in the sustainable utilization of marine resources. It provides food for household consumption, and thereby plays a vital role by aiding nutrition, and meeting demands for both local and domestic markets (MOFAD, 2019). This sector serves as a source of employment for many Fante people, both directly and indirectly. Thus, one on one discussions with the Fante fishers in Elmina throughout this study will help attain a deep knowledge about and explanations of the challenges they encounter. The research conducted will then have “ the power to label, name, condemn, describe or prescribe solutions to challenges in former colonized, indigenous peoples and historically oppressed groups” (Chilisa, 2012, p. 7). Thus, findings from this study shall help by providing strategies that can be employed to improve the implementation of co-management. This will aid in the promotion of the best fishing practices and will in turn, ensure sustainable levels of fish stock, while mitigating the threat of food insecurity in the country. Further, the productivity of traditional fishermen would also be impacted positively when the quality of their catch improves, this will improve their livelihood, contribute

to national economy and will help achieve most of the sustainable developments goals such as eradication of poverty, zero hunger, and decent work.

Lastly, in the field of academia, research fisheries management in West Africa and in social science is limited and few studies have addressed the local features and demands of traditional fisheries and fishermen. As a result, researchers encourage more research into indigenous knowledge of fisheries management (Bortei-Doku Aryeetey, 2000). This study, contributes to this goal by focusing on the traditional fishing practices of the Fante to tell their stories and make their voices heard on issues concerning the challenges and constraints confronting their fishing livelihood. Additionally, my research will inform policymakers on the need to formulate and implement culturally responsive fishing policies. Further, it will be useful to government agencies, researchers and fishers in other regions as a potential plan for sustainable fisheries. Finally, the study contributes to the academic discussions on the use of bottom-up approaches in understanding common resource management, while providing a platform for future researchers to build on.

1.5. Thesis Structure

The study is arranged into six chapters. The first chapter has provided the background and introduced the main issues that inform the study. It has also formulated the research problem, research questions, and explained the significance of the study. The second chapter will look at Ghana and the Fante people. Furthermore, it will explore the various discussions on indigeneity in the African context and discuss its' relation to the Fante people in Elmina. It will provide an overview of the current state of Ghana's fishery sector, the structure of governance, the important contribution of the traditional fishery sector and the role of women. The third chapter will present in detail the methods used to gather data for the study. It will also shed light on methodological issues, especially the study area, data collection methods, sampling techniques and field experiences. The fourth chapter, will enumerate related literature to establish the academic vacuums that this study seek to fill and discuss the theoretical issues that form the fundamental notion of the study. Further, the fifth chapter will present, interpret, and analyze data obtained from the field to resolve research questions and objectives. The sixth and final chapter will summarize findings and offer recommendations relating to the issues discussed in the study.

Chapter Two: Background Information

2.1. Introduction

In this chapter, the study will present background information about Ghana and the Fante people. It also analyzes the various discussions on indigeneity in the African context, and present how these discussions relate to the Fante people in Elmina. In doing so, the study will provide an overview of the current state of the fishery sector in Ghana, the structure of governance over fishing activities, the importance of the traditional sector and the role of women in the traditional fishing sector.

2.2. Ghana: Its Location and People

Ghana is located between the Republics of Togo on the east, Ivory Coast on the west and Burkina Faso on the north with the Gulf of Guinea constituting its southern boundary (Bortey & Yeboah, 2006). Ghana was the first African country to attain independence from European colonization in 1957 (Mwakikagile, 2009). The Ghana statistical service projects the country's population to be approximately 30,955,204 by May 2020 (Statistical Service, 2020). The country practice a multi-party democratic state with sixteen (16) administrative regions and with Greater Accra as its capital city. Socio-culturally, the country has varied cultural practices based on the large number of ethnic groups. The largest are the Akan, Mole Dagbani, Ewe and Ga. There are nine (9) dominant regional languages; Ashanti Twi, Fante, Ga, Ewe, Dagbani, Nzema, Gonja, Dagare and Mampruli (Mwakikagile, 2009). However, as in the case in many ex-colonies in Africa, the official language of Ghana is English.

Ghana is a secular and multi-religious country, with Christianity and Islam being the most popular religions. In the past decades, the introduction of missionary activities has accounted for the growing practice of Christianity (Salm & Falola, 2002). Although the Christian faith is widely practiced among many ethnic groups, the traditional way of life is still a significant basis for social organization. This is evident from the fact that many of those who adhere to Christianity or Islam still retain their traditional beliefs and practices (Salm & Falola, 2002). Ghana is endowed with many tourist sites as well as natural resources. The country is one of the largest producers of gold. However, the gradual fall in prices of traditional export goods, such as gold and cocoa, has influenced foreign earnings. As a result, the government aims to increase the production of non-traditional export goods, such as fish, to meet growing domestic demand and to be able to export

them as well (Akapula, 2002). Ghana's economy relies on the agricultural sector (forestry, fisheries, agricultural products) and also employs a significant number of the workforce (Habeeb, 2014).

2.3. The Fante People of Ghana

The Fante mainly reside along the coastland of the central Region of Ghana. Their territories extend from the estuary of the Pra in the West to the border of Accra in the East. Oral tradition maintains that the Fante arrived in their present location from the north before the 17th century (Fynn, 1987). The Fantes' acted as trade intermediaries for domestic, British and Dutch merchants. This led to the establishment of the Fante confederation with the primary goal to define itself as a nation that is embraced by its European counterparts. The confederation was successfully established, but was later defeated by the British, who argue that it was a threat to their dominance on the coastland (Agbodeka, 1964).

Socio-culturally, Fante practice a matrilineal system of inheritance. They have a centralized system of governance like some other ethnic groups in Ghana. Oral tradition has been their major source of history, and a way of transmitting knowledge and culture. Fante is the language of the Fante people. Fantes who live along the coast rely heavily on fishing for both local consumption and for trade (Clark, 2013). They are believed to be pioneers of ocean fishing to other communities along the coast. The Fante believe in a supreme god who takes on different names depending on the particular region of worship (Clark, 2013). Fante mythology claims that, "...at one time, the god freely interacted with man but after having been repeatedly struck by the pestle of an old woman pounding "fufu"³, he moved far up into the sky. However, at the end of the 20th century, most Fante's became Christians".⁴

2.4. Indigeneity in the context of Africa (the case of the Fante group)

Indigenous people have a culture, language and history that are unique and distinctive. Most indigenous people have close ties with their lands and territories (APF, 2013). They also share common characteristics such as suppression, marginalization and violation of their human rights.

³ Fufu is a traditional dish made by boiling plantain and cassava or yam and then pounding them to a smooth consistency.

⁴ As narrated by a Fisherman from Elmina.

To resolve continues violations of their human rights, indigenous people and their organizations have mobilized both nationally and globally. After decades of fighting for their rights, indigenous people's voices have been heard at the international forums such as the United Nations (APF, 2013). Although there is no formal international definition of indigenous people, the Martin Cobo study provided a working definition of indigenous people as:

“Indigenous communities, people, and nations are those, which, having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing in those territories, or parts of them. They form at present non-dominant sectors of society and are determined to preserve, develop and transmit to future generations their ancestral territories, and their ethnic identity, as the basis of their continued existence as peoples, in accordance with their own cultural patterns, social institutions and legal systems” (Sissons, 2005, p. 18).

The above definition by Martin Cobo⁵ provides a strict distinction between indigenous and non-indigenous communities. It proposes some criteria to describe a kind of people. Conversely, the United Nations Declarations on the Rights of Indigenous People (UNDRIP) have not agreed to a strict definition of indigenous peoples. This is because they assert that circumstance of indigenous peoples in various parts around the world differs, thus, UNDRIP advocated a concept that acknowledges national and geographic features, and discusses the number of circumstances facing indigenous peoples globally (Saugestad, 2001). However, debates on a definition of indigenous people, have mostly centered on African indigenous communities. Although most Africans share common features with indigenous people, most importantly that they also suffered colonialism, it is much more difficult and problematic to identify which group should be called indigenous, since there are prolonged and ongoing records of migration, assimilation, and conquest (Pelican, 2009). In view of the multiple controversies concerning indigeneity in the African sense, the African Commission on Human and Peoples' Rights (ACHPR) has set out criteria that aim to make the concept more applicable to the African continent. The commission states that,

“The overall characteristics of groups identifying themselves as indigenous peoples are that, their cultures and ways of life differ considerably from the dominant society, and that their cultures are under threat, in some cases to the point of extinction. A key characteristic for most of them is that the survival of their particular way of life depends on access and

⁵ Former rapporteur of the United Nations on the Committee on the Rights of indigenous Peoples

rights to their traditional lands and the natural resources thereon. They suffer from discrimination as they are regarded as less developed and less advanced than other more dominant sectors of society. They often live in inaccessible regions, often geographically isolated, and suffer from various forms of marginalization, both politically and socially. They are subjected to domination and exploitation within national political and economic structures that are commonly designed to reflect the interests and activities of the national majority. This discrimination, domination and marginalization violates their human rights as peoples/communities, threatens the continuation of their cultures and ways of life and prevents them from being able to genuinely participate in decisions regarding their own future and forms of development”(ACHPR, 2006, p. 10).

Further, the commission states that, the question of aboriginality or the first inhabitant in a country or continent is not a significant character by which to identify indigenous people. Rather than aboriginality, the principle of self-identification is the key criterion for identifying indigenous people (ACHPR, 2006). This interpretation allows people to identify themselves as indigenous and as distinct from other groups within the state. Based on self-identification, which is a criterion for identifying indigenous groups, the Fante group in Ghana cannot be referred to as indigenous because they have not self-identified themselves as indigenous people. That notwithstanding, I view the Fantes traditional fishing practices as an indigenous knowledge system. Indigenous knowledge plays an active part in the culture of a given society and it is being preserved, transmitted, and used by its members to cope with their own socio-economic environment. It is often transferred through oral communication using stories and myths (Fernandez, 1994). In relation to the Fante people in Ghana, traditional fishing had been a traditional practice even before they came into contact with western Europeans (Irene Odotei, 2002). Hence, their method to gain knowledge in fishing is an indigenous and dynamic one. Their practices and beliefs, as well as the transmission of this knowledge's through generations constitute their indigenous knowledge.

2.5. History of Fishing in Ghana

Ghana has a long history of artisanal fishing. The Fantes' are believed to have introduced ocean fishing to communities along the coast of the country in the 1700's and 1800's (Marquette, Koranteng, Overå, & Aryeetey, 2002) . Fishery began primarily for subsistence purposes and was practiced by people living along the coast of the country. In lakes, lagoons, rivers and coastal waters, basic gears such as wooden boats with hook and line were used (Marquette et al., 2002). The common fishing craft was a dugout canoe carved out of a single trunk of wood, symmetrical in shape. Gradually, boats were modified to facilitate easier access to coastal resources in Ghana.

This resulted in the development of well-established inshore artisanal and commercial fishing sectors (Atta-Mills et al., 2004). Growing demand for fish in the late nineteenth and twentieth centuries, and the related trade and investments prospects, encouraged the establishment of fishing corporations with international offices managing semi- industrial fisheries in distant waters (Atta-Mills et al., 2004).

By the middle of the 20th century, the development of a semi-industrial fishing presence in foreign waters established Ghana as a power-house in the fishing sector in West Africa (Agbodeka, 1992). The government of Ghana recognized the importance of fishing and included the fishing sector in its development plans. Consequently, the government and private industry invested heavily in the fishing sector in the 1960s and 1970s (Adjetey, 1973). Ghana set up the State Fishing Corporation (SFC) to attract national entrepreneurs through the provision of loans. However, between 1970 and 1980 the country faced unfavorable political developments (coups d'état and economic mismanagement through lack of proper governance) and harsh economic conditions which eroded the profits and development contributions of the marine fishing industry (Aikins, 2018).

In the end, the State Fishing Corporation collapsed, together with some other state owned enterprises. Consequently, the government of Ghana, through its economic recovery program, privatized most of the failing state-owned companies including the fishing enterprise (Aikins, 2018). This led to an increase in private ownership and participation in the marine fishing industry, particularly in its semi-industrial and industrial branches. Nevertheless, the state continues to play a key role in the development of marine fishing in Ghana by implementing regulations and collaborating with other foreign countries on fisheries development, as well as engaging in joint local ventures that help the development of fisheries in Ghana (Aikins, 2018).

2.6. The current state of Ghana's fishery

Ghana's fisheries sector consists of Inland fisheries, aquaculture and marine fisheries .The Inland sector is comprised of fisheries from lake, rivers, dams and dugouts .They contribute significantly to the total production, employment, food security, nutrition and foreign exchange in the country. The Volta Lake is the backbone of the inland fisheries accounting for about 85% of inland fish production annually. Fishers use planked canoes, of which only few are motorized (Bortey & Yeboah, 2006).

Aquaculture has been in operation in Ghana for a long time and its practice is becoming widespread in the country especially in Ashanti, Central, Eastern and, Greater Accra and the Western Region.

Tilapia is the dominant species and the great demand for it has led to high prices and increasing foreign investment in its production and distribution (Bortey & Yeboah, 2006). The marine fishing industry forms the backbone of the fisheries sector in Ghana and is comprised of three sectors: traditional (small scale/ artisanal), semi industrial (inshore) and industrial sectors. Fishing is essentially a full time occupation for the fishers engaged in it whether in the artisanal, semi industrial or industrial sectors (Tobey, Normanyo, Osei, Beran, & Crawford, 2016). Thus, all marine fishers depend entirely on the availability of fisheries resources for their livelihoods (Cobbina, 2018).

Semi industrial fishing involves the use of some modern equipment and improved ways of fishing that make it less capital intensive. Usually, it involves the use of large, locally built 30-90 horsepower engine boats with or without refrigerators and a smaller landing base (Aikins, 2018; Bortey & Yeboah, 2006). As a result, fishermen engaged in this type of fishing spend considerably fewer days at sea than their counterparts in industrial marine fishing. They operate from places with harbor or semi harbor facilities such as Tema, Winneba, Apam or Elmina (Aikins, 2018; Bortey & Yeboah, 2006). This sector deploys only two (2) types of nets throughout the year: purse-seine nets then trawl net.

Industrial Fishing is capital-intensive form of marine fishing. Usually, it involves the use of foreign built fishing boats with 30-200 horsepower engines and other modern fishing equipment (refrigerators) and techniques (Aikins, 2018; Bortey & Yeboah, 2006). As a result, fishermen engaged in this type of marine fishing are able to travel considerably long distances in search of fish and spend a high number of days at sea. This type of marine fishing is commonly practiced in areas such as Tema and Takoradi (Aikins, 2018; Bortey & Yeboah, 2006). Some imported large vessels use trawl nets, shrimp nets, tuna poles and line and purse seine nets.

Traditional canoe fishery, which is the focus of this study, is the most prevalent type of marine fishing in Ghana. Mainly, it involves the use of dugout canoes, outboard motors and fishing nets. Except for the migratory purposes where fishermen travel to far away distant communities for fishing, artisanal fishing is mainly a relatively short distance commute daily fishing activity that usually ends in less than 12 hours (Aikins, 2018; Bortey & Yeboah, 2006). Most people in almost all of Ghana's coastal communities engage in traditional fishing. It is a source of employment and at the national level, contributes to the overall marine fish production (Quagraine & Chu, 2019). This makes traditional fishing important within the fishery sector and also to the economy of the country.

2.7. Importance of the traditional fishery sector

The sector offers job opportunities for a considerable portion of the labor force in fish operations, fish processing, fish distribution, marketing and canoe carving (Kraan, 2009). Further, as a food source, fish is considered a key source of protein. The yearly consumption of fish in Ghana ranges from 20 to 30 kg per capita making it a country with the highest fish consumption rate in Africa (Bortey & Yeboah, 2006). Thus, fish stands out as an important element in terms of food security. Furthermore, fish constitutes the country's most important non-traditional export commodity (MOFAD, 2015). The most important element of fish exports is tuna. Export earnings are a source of foreign exchange and revenue for the country (MOFAD, 2015).

The traditional fishery sector in Ghana also plays an important role in sustaining livelihood and reducing poverty. All these benefits notwithstanding, fishing is important to the culture and identity of traditional fishers. In sum, one can conclude that the importance of the traditional fishery sector plays an important role in the Sustainable Development Goal agenda (SDG). The traditional sector contributes to the development of communities and achievement of SDG goals mainly through providing jobs, income and human nutrition. Thus, many people in Ghana depend on fish to help meet basic needs because it is a main dietary staple and provides high percentage of animal protein for both the urban rich and the rural poor (Bortey & Yeboah, 2006). Similarly, many families along the coast rely on catching, processing and trading fish as their source of income. These benefits go a long way towards alleviating poverty and hunger, which are the first two goals of the SDG goals. Women when empowered in the fishery sector can be active in processing and marketing of fish thus, promoting gender equality. Proper management of fisheries the sector (which this thesis seeks to help establish) also ensures that community services are preserved thus promoting sustainable cities and communities.

2.8. The traditional fishing governance structure

In the Fante traditional fishing governance structure, a chief and his elders head the fishing operation. Under Fante customary, chiefs are selected from the royal family to become the custodians of customs and traditions of the people. The chief holds executive, judiciary and legislative powers in his communities under the traditional law, and is thereby regarded as someone of high prestige (Kraan, 2009). The chiefs maintain a link between their people and are responsible for the overall welfare of their states, maintaining law and order, and protecting their

people from hostile neighbors. The traditional fishing governance structure also features the institution of a chief fisherman that is responsible for liaising between the fishermen and higher level organizations such as the government. The chief fisherman is one of the sub-chiefs of the village chief, and chairs the fisheries committee which advises the chief on fisheries matters (Kraan, 2009). He assists the chief in settling issues regarding fisheries. He is elected by the fishermen and must be an exceptionally experienced, wise and respected fisherman who is capable of solving problems (Ragnhild Overå, 2001). The chief fisherman acts as a liaison between the government and his community by negotiating with government organizations about benefits, credit and inputs for the fishermen.

Through these structures and contacts, the traditional authorities regulate access to marine fisheries in Ghana and thereby contribute to conserving the fish stocks. In almost every fishing village, one day of the week (Tuesday) is non-fishing day when fishers maintain gear and equipment, resolve conflicts, rest and carry out other social activities. In some fishing communities or ethnic groups there is a total ban on fishing activities for various periods (up to two weeks) prior to and during annual festivals (Ragnhild Overå, 2001). In addition, there are taboos associated with the sea and fishing, which serve as checks on their fishing activities. The community acknowledges the sea as a god containing lesser gods and regard the sea as sacred therefore; they forbid the use the illegal fishing methods in order to preserve the sea from destruction.

2.9. Fishing activity among the Fante in Elmina

The town of Elmina in Ghana also known as “La Mina” by the Portuguese and “Edina”, Anomansa or Amankwaa Kurom by its native Fantes. Elmina is an important fishing town and the capital of the Komenda/Edina/Eguafo/Abirem (KEEA) district on the south coast of South Ghana in the Central Region (Ashun, 2017). Elmina is also referred to as “the little Europe” because the town was the first European settlement in West Africa (Adjaye, 2018). Elmina plays a significant role in African tourism industry not only because it is home to two World Heritage Sites (the Elmina Castle and Fort St. Jago) but also because it served as a preliminary point for searching slave routes due to its use as a port in the trans-Atlantic slave trade (Arthur & Mensah, 2006). The Portuguese used the castle as their headquarters in West Africa to retain their monopoly of the trade in West Africa (Adjaye, 2018). Thus, Elmina was Portugal's West African headquarters for trade and exploitation of the wealth in Africa.

Today, the colonial Portuguese and Dutch influence in Elmina is still evident through the presence of castles, fortresses, and cemeteries, Dutch streets including family names, and the celebration of Dutch Christmas (Arthur & Mensah, 2006). The beauty of the picturesque fishing port and the rich traditional culture of the indigenous people provide the uniqueness of Elmina and the main reason for the growth of tourism in the Central Region of Ghana. Even though the people's contact with Europeans led to a significant transformation and innovation of their belief systems, architecture, urbanization, socio-political organizations, Elmina maintained continuity and resilience in its indigenous traditions. While fishing is the main economic activity, other economic activities such as salt mining, canoe and boat building, trading and tourism are also present in Elmina (Ashun, 2017). Along the shores of the Benya Lagoon right outside the Elmina castle are countless traditional fishing boats. Many of the fishing boats are handcrafted and beautifully colored. Fish most frequently caught in the traditional sector include sardinellas, tuna, mackerels, red fish and flat fish species which are mostly considered high value fishes (Quagraine & Chu, 2019). The Fante people employ traditional fish preservation methods such as smoking, salting and drying to preserve and store excess catch. A distinctive feature of fishing practice among the Fante is that fishing is both a subsistence activity and a family business. As a family business, boat owners often employ male family members (brothers, nephews, cousins) to serve as the crew, while onshore sorting, processing, and marketing of fish are the domain of female family members (mostly the wives or females relatives).

The sea water in the Gulf of Guinea within which coastal Ghana and Elmina fall is characterized by a seasonal phenomenon called upwelling. During the upwelling period, high biological activity takes place such as fish spawning, which increase the fish population during the season (Marquette et al., 2002). Upwelling creates several clear cuts fishing periods along the coastal waters in and around Ghana with a major fishing season from July to September and a minor fishing one in December and January. There are also two off seasons, a long one from February till June and a shorter one from October till November (Marquette et al., 2002). Traditional fishers in Elmina share their waters with commercial fishing trawlers from foreign countries such as China. Although, industrial fishing activity has presented some new opportunities for the traditional sector in Elmina by selling bycatch from the commercial trawlers referred to as "saiko", (illegal) it also present major problems for Elmina fishers. The commercial trawlers often fish (illegally) in shallow areas where traditional fisheries operate, leading to territorial conflicts.

2.10. The role of women in traditional fishing

Women are indispensable in fishing societies, not only because of their domestic roles but also in fish related activities. The sustainability and potential of the traditional sector rests on gender complementarity in the delegation of work tasks (Overa, 1993). Usually, the men catch the fish while women engage in complementary activities such as exchanging, processing, and marketing. The Fante women in Ghana have been identified as having high entrepreneurial abilities because of their early involvement in fish trade (Walker, 2002). Although women do not join fish expeditions, the complementary roles they play make them very important for the survival of the traditional fishing sector. Just as sons follow their fathers or uncles to fish in the sea, daughters also follow their mothers or aunties in the fish business as fishmongers. Their activities of getting the fish from the sea to the consumer are described by R Overå (1992) as a chain of production, processing and distribution. Women can be described as direct participants in the production process due to the support they offer the fishermen. Exhausted men requires the support of the women in the post harvesting activities after a long fishing expedition. Fishing in Elmina is, therefore, a collaborative activity between Fante men and women. The women's role in post-harvesting makes them intermediaries, marketers, distributors, and creditors (R Overå, 1992).

The intermediary role of women begins at the shore after the return of the fishermen from sea. The women receive the fish from the men and process and sell them at shore or at community markets. R Overå (1992) identifies two categories of intermediaries depending of the role they play - the standing and the lodging woman. The standing woman is usually the wife of the canoe owner or is herself the owner of the canoe or a woman that the crew is indebted. She is the first point of contact when the crew arrives. Therefore, in this case she can be described as the intermediary between the fishers and the processors. The lodging woman, on the other hand, is a woman who receives trade women from other far away fishing communities who have travelled to sell their fish at the main market center in Elmina. I Odotei (1991) also identified two women groups based on their role in marketing and distribution: wholesalers and retailers. The wholesalers are very large processors and distributors. This group has direct access to fish because they deal directly with the fishers in order to obtain the bulk of the day's fish catch for subsequent resale to retailers. The retailers, on the other hand, buy fish in smaller quantities from the wholesalers for subsequent resale to individual households and consumers.

As stated earlier in section 2.5, locally made boats have over the years been modified to accommodate the use of outboard motors, which make it easier for the fishers to sail far and stay

longer at sea. Despite the advantages and convenience that the use of outboard motors offer, they are not easily affordable by most fishermen. Some of them resort to creditors for financial assistance to purchase the outboard motors. Although the government also provides loans for the fishers to enable them purchase the outboard motors, most of them continue to struggle to meet the requirements for obtaining the government loans (Tetteh, 2007).

Recognizing that the success of the fishing business depends on the constant supply of fish, the women who have gained wealth from fish trading have often taken the responsibility of extending credit to the fishermen in Elmina (Tetteh, 2007). One such important woman is the chief fishmonger (*Konkohene*) who is chosen by the community to head the women (Ameyaw, Breckwoldt, Reuter, & Aheto, 2020). She is recognized by others as very experienced in the fish trade and someone who understands the complex affairs related to women in the industry. The *konkohene* determines the price of fish on behalf of the women. Most women go to her for advice and ask her to settle disputes among them (Ameyaw et al., 2020).

2.11. Chapter Summary

In this chapter, I presented background information on Ghana and the Fante people who are the subjects of this study. To justify why I situated my research within indigenous studies, I briefly discussed who indigenous people are in general and in the African context in particular. I stated that Fante people have not self-identified themselves as indigenous hence they cannot be considered as such. However, their traditional fishing practices constitute an indigenous knowledge system.

Furthermore, I presented the history of fishing in Ghana and the current state of the fishing sector in the country. I also highlighted the importance of traditional fishery as the focus of this research. In addition, I presented some fishing activities among the Fante fishers in Elmina. The chapter concluded with the role of women in the traditional fishing sector. As this chapter provides readers with information on the traditional fisheries sector, it also prepares readers for the next chapters.

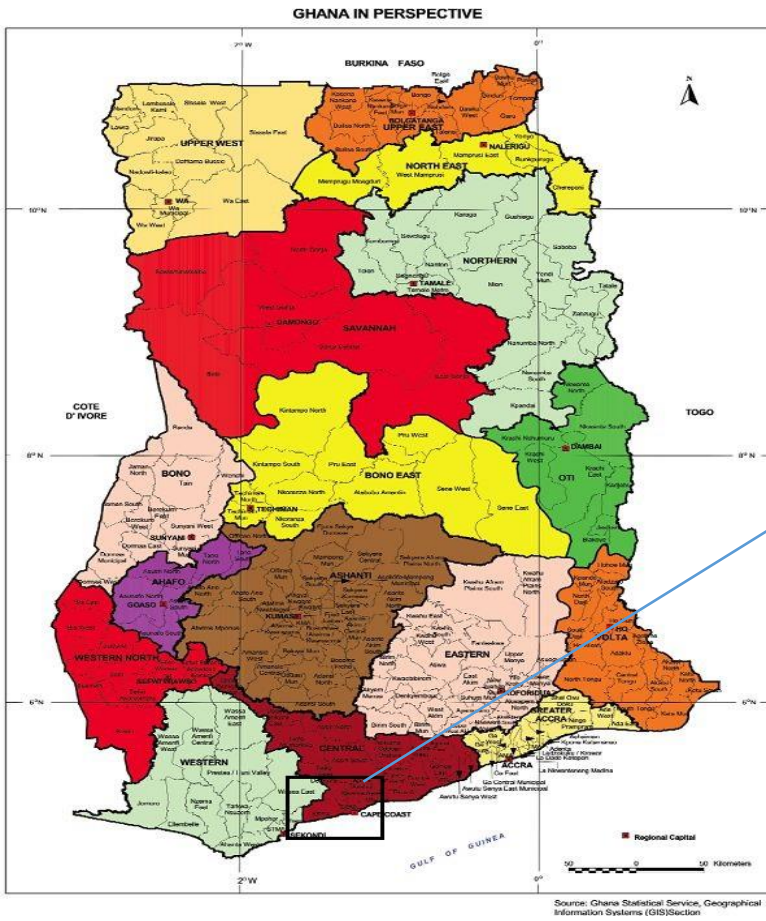


Figure 1: Map of Ghana (left) showing Elmina township (also see right)⁶. Sources: (Graphic, 2019)⁷ and (Google., n.d.).

⁶<https://www.google.com/maps/place/Elmina,+Ghana/@5.0955809,-1.3764248,13z/data=!4m5!3m4!1s0xfddfb94558e7037:0xf48e8df14e6d0264!8m2!3d5.1053378!4d-1.3421032>

Retrieved on: 5th November 2020.

⁷ <https://www.graphic.com.gh/news/general-news/new-ghana-map-with-16-regional-capitals.html>

Retrieved on: 5th November 2020.

Chapter three: Research Methodology

3.1. Introduction

Data collection is the method of collecting and evaluating information on the target variables, which then allows one to answer the related questions and analyze the results (Harrell & Bradley, 2009). Data helps clarify the meanings that individuals attribute to events, their interpretation of reality, and how information is acquired. It is obtained using numerous methods and instruments with cautious procedures. These methods and procedures are the means through which the central problem of the research is addressed (Harrell & Bradley, 2009). Therefore, the objective of this chapter is to outline methodological concerns and the methods that were chosen for this project. Indigenous research approaches, ethics and reflexivity are the underlying principles, which influenced and guided this research data collection process, thus they will be discussed first. This will be followed by study area, access to field and respondents, data collections methods and limitations.

3.2. Indigenous Research Approaches

Indigenous people often assert that research has been used as a colonizing process and that researchers from other fields have repeatedly failed to engage with indigenous peoples except by casting them as objects to be studied (Russell-Mundine, 2012). In line with this, indigenous scholars and activists have questioned the framework of knowledge formation and dissemination to ensure that indigenous people communicate their own truths and visions. Consequently, indigenous academics have developed a theory that is more in line with indigenous world-views and that focuses on decolonizing and reframing research (Porsanger, 2004). The process of decolonization requires critically evaluated methodologies and ethically and culturally acceptable approaches to the study of indigenous issues (Porsanger, 2004).

Linda-Tuhiwai Smith has set the stage for a paradigm shift and has encouraged indigenous academics and scholars to deal with research in a framework that advocates self-determination and promotes social justice for indigenous peoples (Smith, 1999). Others also argued that indigenous research should be focused on the values and desires of indigenous peoples in order to promote their rights and, if possible, to include indigenous languages and concepts (T. A. Olsen, 2017). In addition, researchers on indigenous issues have been urged to do so in a respectful, ethical, sympathetic and benevolent manner (Porsanger, 2004). With this in mind, throughout my

engagement with the Fante traditional fishers in Elmina, I tried to avoid repeating the errors of the past. I endeavored incorporating informants in the projects as collaborators by working together with them to make them feel like participants rather than research objects and to achieve the purpose of this research. Thus, in my interaction with them, I used appropriate language, was attentive to detail as participants shared their experience, respected and consulted them as every stage.

3.2.1. Ethical considerations

I must admit that meeting the demands of collecting data of an uncompromised academic quality and from the indigenous perspective has been an enormous learning experience for me. It aided me to understand the difference between research on paper and on the ground. I was a bit uneasy about my journey from the beginning but I must say it was a good experience. Going to the field and having no idea how the community was going to receive me was worrying. Nevertheless, sharing some traits: language and culture with the community helped me integrate easily. The people I encountered were hesitant to open up at first. The community had grown weary of researchers using them just for academic purposes and never gaining any positive effects from these studies. A person I spoke to clearly said he was not interested; researchers use them to make good grades for a better life without them gaining anything. Here, I had to act in a way that communicates and creates a state of peace between people with responsibilities towards others (Chilisa, 2012). I did this by engaging participants and their families in this research in a way that causes no harm of any kind: getting permission, respecting and preserving sensitive data.

I began with getting the consent of participants to participate in the research. Here, once access was gained, information about the purpose of the study, researcher's background, how the data will be stored and used, and what participation requires from interviewees were provided to potential participants. In addition, they were informed about the subjects likely to be covered; the length of the interviews and how participant's comments and information will be treated. In the early stages, respondents were hesitant to reveal vital information that would help in the research; however, they turned out to be more relaxed and opened up as their doubts were dispelled. Perhaps, assuring them of anonymity, confidentiality and informing them about the research purpose throughout the research process facilitated this change. There were still others who were hesitant for undisclosed reasons, which I respected.

Holloway and Wheeler (1995), argue that qualitative researchers work with a small number of participants, and that they tend to present everything in detail, which sometimes leads to exposing

participants' identity. Thus in this study, the processes of confidentiality and anonymity were important ethical guidelines that were considered. Participants became concerned when I told them about audio recording but I assured them that their identities would not be disclosed. Maurstad (2002) advises researchers to know the social and cultural context that knowledge is embedded in order to know what to protect and what to reveal. With this in mind, I assured participants that their identities would not be known and they were free to withdraw anytime during the interview session without being obliged to give reasons.

3.2.2. Reflexivity

For a researcher, it is essential to record his/her subjective feelings, thoughts and concerns throughout the study as he/she is the principal instrument who interprets, analyzes and writes the findings (Chilisa, 2012). The relationship researchers have or make with the community and the information carriers they work with can have impacts on the information gathered. Thus is important for the researcher to reveal their position. This should be by offering a reflexive statement whether the researcher is an insider or an outsider to the community.

According to T. Olsen (2016) an "insider", studies behavior from within a given cultural system, while an "outsider" does that from outside a cultural system. Reflexively, being an 'insider' - i.e. being a Fante - has a potential to affect the research. I share a common cultural and linguistic history with the Fante people. I come from the Central Region of Ghana with a patrilineal and matrilineal succession, hence my status as an insider. Due to how previous academic research has been used to exploit community members, researchers today mostly face trust issues in the process. Accordingly, informants are sometimes cautious and hesitant to uncover important data that would help in the research. However, my position as an insider made me more accepted by participants. The insider position created some degree of trust and cooperation required to obtain the needed information for the research. Participants were more willing to share their experiences because they felt I was one of them. Nevertheless, to avoid the risk of struggling between my role as a researcher and as a member of the community. I constantly engaged in reflexivity – thinking about my background, identity, ideological biases, and experience and asking myself how it is that I have come to think or know what I do (Chilisa, 2012; Smith, 1999). As Diefenbach (2009) maintains unlike positivist theories and models associated with quantitative research approaches where formulas and diagrams provide objectivity and truthfulness, the human factor in qualitative research has the potential to have an impact on the study findings. According to his view, qualitative research copes with issues that are, more often close to the researcher's own experience

and daily life, which makes it more vulnerable to subjectivity and may influence the research negatively.

3.3. Study Area

The research location of this study, Elmina, is located in the Komenda-Edina-Eguafo-Abrem District within the Central Region. One of the reasons for selecting this community is that it is one of the most important landing beaches in Ghana, and predominantly a fishing community, inhabited mainly by the Fante. It is a historical fishing community where such activities date back to the 1400s (Irene Odotei, 2002). The fishing industry in Elmina remains relatively traditional despite the introduction of modern technology. Outside the Elmina castle are countless traditional fishing boats along the shores of the Benya Lagoon. As a busy fishing community, many people migrate here to find jobs in fisheries. Similarly, some native fisher-folks of the town also migrate to other towns and countries during the lean season to find jobs. Indeed, during my fieldwork, the respondents confirmed they could travel for days, weeks and months to other fishing areas in search of a bigger fish catch.

3.4. Access to field and respondents

When conducting research, finding the right individuals to interview can be challenging without careful and strategic planning. This happens because people are very careful disclosing information to others they do not know enough to trust with their information. As (Reeves, 2010) note, in such situations, it is beneficial for researchers to use “gatekeepers”⁸, as individuals or organizations, who can help recruit informants. Based on Reeves’ premise, I carried out the fieldwork with the help of a “gatekeeper” who was a resident of Elmina. He facilitated my access to the local community, and helped to get fieldwork permission from the elders. Thus, with the help of the “gatekeeper”, I provided my personal background information and the purpose of my visit before my first meeting with the respondents. The introduction letter I got from my academic department also helped as they became more convinced that my presence was solely for academic purposes. I clearly outlined the purpose of the research and explained how the project would serve the community though their participation in the study was not going to earn them any direct material benefits. The only benefit I could provide was to contribute to the understanding of

⁸ A gatekeeper is a person who hinders or promotes a researcher’s access to the study (Reeves, 2010)

traditional fishing practice and the challenges they encounter in the community. Assuring them about the importance of their responses and feedback was key to this research. In the subsequent sessions with the other informants, I also shared with them details about my study intentions, and what their participation in the research process entailed. This proved useful as it reflected in their attitude during interview sessions even though some insisted on receiving material benefits.

3.5. Sampling size and informant selection

In total, fifteen (15) participants were interviewed (11 men, 4 women). This created a gender imbalance in the sample because in the fishing community in Ghana, men engage directly in fishing whilst women only partake in the marketing and processing of the fish. During this study, the women were reluctant to take part in the interview process. Only four (4) were willing and available for the interview. Most women I approached stated that fishing is in the domain of men, as such, fishermen were the right people to give information. Others declined due to their extra busy domestic schedules. Statistically, the total number of respondents might not provide a representative sample for a study that seeks to generalize findings. However, that is not the purpose of this qualitative study. As opined by Mason (2010), samples for qualitative studies are much smaller than in quantitative studies. Thus, such studies do not intend to provide general findings. With the few numbers, it is easier to guarantee that differences between participants' views are not lost in generalization. Furthermore, the small number can be advantageous for the researcher, as it opens space for the analysis of the diversity and richness in the data collected.

Respondents were purposely sampled for the analysis in regards to the particular topic under study. Sampling was focused on the expertise and knowledge of respondents with respect to information on the traditional sector. Respondents included the Chief fisherman⁹, and some of his elders, local fishers (which comprises of net owners, boat owners) fish mongers and processors, migrant fishers who were reportedly, more knowledgeable of the traditional practices and beliefs associated with a variety of resources. Purposive sampling and snowball sampling were employed in this study. As Bryman (2015) posits, purposive sampling is used to carefully select participants with the aim of obtaining rich and in-depth information related to the study. Hence, this method was used to select key informants such as the chief fishermen and his elders because they have the experience and insights needed for the research topic. Snowball sampling, also known as chain referral

⁹ The chief fisherman is the head of all fishermen. He is called 'Apohehe' in the Fante language

sampling, is designed to identify people with particular knowledge and skills that are needed for a process (Mack, 2005). Snowball sampling begins by identifying people who meets the criteria that has been determined useful for inclusion in the study and uses their recommendations to find people with the same specific range of skills (Mack, 2005). Its main value as a method lies in dealing with the difficult problem of obtaining informants where they are few in number, or where higher levels of trust are required to initiate contact. Thus, the snowballing technique was appropriate as I identified other informants based on the information and help from my initial field acquaintances. This aided me as a researcher to make use of community knowledge about those who have skills or information needed for the study. Snowball sampling was used to select informants such as the local and migrant fishers, fishmongers and fish processors.

3.6. Data collection methods

The study employed a semi-structured interview method to collect data. The implementation of this method led to an open discussion of issues with respondents. Additionally, some electronic media reports, documents were used as secondary sources of data. A qualitative was adopted because, it enables the researcher to listen attentively, understand and interpret situations from the interviewee's viewpoints which they have developed through their experiences (Bryman, 2015). The flexibility nature of the qualitative approach provides researchers with the opportunity to respond immediately to what the participants say by tailoring subsequent questions to the details given by the participant (Mack, 2005) Although it is not an easy act for the quantitative researcher to change questionnaire, qualitative researcher in interviews, will not see this as a problem. In the course of my research, this flexibility did not only guide my choice of informants, but also helped in identifying the appropriate methods to use which allowed for further probing during the process.

3.6.1. Interviews

The objective of my study required a method that allows participants to freely express their opinions. In this sense, interviews seemed the most method for data collection. Through direct one-to-one discussions between the researcher and his/her subjects, interviews “give voice to common people, allowing them to freely present their life situations in their own words” (Kvale, 2006, p. 481). To gain more confidence in the process, I employed semi-structured interviews; which allow the researcher to ask and be guided by few predetermined questions while the rest develops as the interview goes on (Bryman, 2015). Because of the flexibility of the interviews,

people had the opportunity to talk and thus other questions came up which enhanced clarity and further explanations during the interview process. I believe that this added to the richness of the information collected. In researching in my own cultural background, I enjoyed the advantage of communicating in our common local language (Fanti) which made communication easier. The majority of the sessions were carried out in the open space where interviewees fishing activity that place except for the chief fisherman who was some distance away from the fishing site. Interviews conducted at the fishing site which is located at the center of town with other many activities taking place were frequently interrupted with music, respondents taking a break to exchange pleasantries with friends or attend to customers and among others. To obtain as much detail as possible, field notes and tape recordings were taken with the permission of all informants. I conducted a few telephone interviews because I was not able to meet them in person. I also followed up the interview with some of the participants for clarification.

3.6.2. Observation

Observation, as described by Cohen and Crabtree (2006), is a method that offers researchers the opportunity to observe and engage with what is happening in social settings as they interact with participants. It is also said to offer insight into the aspects of everyday activities of research participants that are taken for granted, but can contribute to the richness of the field data (Patton, 1990). During this study, observing the Fante fishers in Elmina provided me with a direct experience of to their natural setting created an opportunity for me to see and hear what is happening in the social setting rather than focusing only on narrative descriptions from participants. During the course of the data collection, I had the privilege to observe some of the fishing activities at the landing sites such as the mending of nets, or women receiving fish from fishermen for processing. While observing the local fishing community, I took note of respondents' attitudes, choice of words and answers, mannerism as well as their day-to-day fishing lives were things of which I took note.

My observation confirmed that fishing in Elmina is still connected to the traditional way of fishing. Many of the fishing crafts are dugout canoes handcrafted with colorful paintings, biblical quotes and witty sayings like “divine favor”, “Nyame nye borafo”,¹⁰ among others. The design of the canoe is symmetrical, double-ended and carved from a single log of soft wood known in Ghana as the Wawa tree. Topside planking is added to increase the depth and width of the vessel. The main

¹⁰ This is a phrase in Fante and means, “God is my helper”.

fishing gears used are nets made up of cork, lead and rope twine, and hook and line. As part of my observations to gather nonverbal behavior, I took notes as I carried along my notepad each day.

3.6.3. Recordings and transcription

For a researcher to be more attentive in order to follow up conversations with questions on interesting points, and also probe for clarity, Bryman (2015) recommends qualitative interview should usually be audio-recorded and transcribed afterwards; these can perfectly be done when the researcher is not disturbed with having to concentrate on writing interviewees answers. During field research, some interviews were audio recorded. Recording interviews allowed me to examine interviewees' answers during and after transcription. This was beneficial because I carried out most of my interview in Fante. I knew I was going to face the challenge of finding the appropriate words during the process, thus, I resorted to audio recordings so I did not risk losing focus by taking notes instead of listening attentively.

3.6.4. Secondary Data

In order to achieve a better understanding of the topic under review and to support primary sources, the study also sorted to secondary data. This study benefits significantly from previous studies on a number of topics related to traditional fisheries. A research on traditional fisheries management cuts through several fields of studies from history, anthropology, natural science among others. The added depth and insight of secondary data in addition to its accessibility and efficiency also broadened my scope and made it easier to address this topic in a multi-disciplinary context. As a reference to my research topic, I reviewed online publications and documents from Ghana's Ministry of Fisheries and Aquaculture Development (MOFAD).

3.7. Limitations

This research was primarily focused on issues from a fishers' perspective and therefore the main respondents were predominantly fishermen. Despite the importance of women in the fishery during my interviews, there was gender imbalance in favor of men. It was difficult to interview women because of their busy work schedule, unavailability and unwillingness in some cases to participate.

Another challenge I encountered was the expectation of monetary gifts. Some people have the perception one is wealthy once one live or travel abroad “*Abrokyire*”¹¹. My case was not an exemption and some respondents insisted I gave them money or gifts in order to be granted an interview. In most cases I had to explain that, I am a student on research assignment for academic purposes and that I cannot offer money. Some understood but others who still insisted were not interviewed. Lastly, the period of the field work. The research took place in June and July 2019. It was around the time the fisheries department had placed a ban on the traditional sector. This made it difficult to get more fishers in the area to interview; some appointments were delayed or cancelled. Some might have perceived me as an instrument of top management placed there to spy on them.

3.8. Chapter Summary

This chapter has presented in detail the methodologies employed by the study to collect data. The chapter began by explaining indigenous research approaches, ethics and reflexivity that underpin the whole thesis. It presented the data collection techniques used during qualitative interviews, i.e. the semi-structured interviews as well as other useful techniques such as observations, recordings and transcriptions. The discussions in this chapter sets the stage for the research to present the co-management concept- the theoretical framework for the research. To begin with, I will present previous researches that have been done on traditional fishing in Ghana in the subsequent chapter.

¹¹ A phrase in Fante, which refers to overseas.

Chapter Four: Previous Research and Conceptual Framework

4.1. Introduction

Research is a dialectic process and previous research forms a key part of every research project. As (Seale, 2012) states, primary sources are used because of their relevance to the time and place of the phenomena being studied, while secondary sources offer the ability to provide background knowledge of what is being researched. In this chapter, a survey of literature relevant to the study will be presented from a theoretical perspective. While the review of previous research assists the study to identify a vacuum for departure, discussing theories will reveal the stream of academic ideas within which the study is situated.

4.2. Previous Research

Although literature on fishing has emanated from academic disciplines such as history, sociology, politics and anthropology, the majority of the recent scholarly works have been done in the field of natural science. Thus, most studies related to fisheries have concentrated on the scientific aspect and only a few investigated them from a social science perspective. Again, few studies have however, focused on co-management influence on traditional fishing activities in Ghana and how the application of its principles can contribute to better fishery management. This study therefore seeks to fill these scholarly gaps.

In his research on the challenges of sustainable marine fishing in Ghana, Aikins (2018) focuses on two key concerns: specific issues that challenge sustainable fishing in Ghana and strategies for achieving sustainable fishing. Although his research applies to the traditional sector, it is limited on issues specific to the traditional sector. Perhaps, the focus of the research, which was on the general conditions of the marine sector, did not permit him to provide an in-depth analysis of the challenges and sustainability of the traditional sector. Overfishing, the use of unapproved methods of fishing, limited collaboration on sustainable management of marine fisheries resources, pair trawling were some of the challenges Aikins identifies as affecting the marine sector. To him, among other things increased collaboration on sustainable management and conservation of marine fisheries resources and the application of a bottom-up fisheries management approach could help to sustain the fishery resource. He argues that this could help address the fishing needs of local fishers and increase their full participation in the management and conservation of local fisheries resources. However, Aikins studies fails to focus on an in-depth management system of

involving the local or stakeholders (co-management), an initiative he stated could aid to achieve sustainable fish production, food and nutrition security in coastal fishing communities (Aikins, 2018). To avoid shortcomings such as this, it is vital to conduct an in-depth study on co-management systems in Ghana in order to provide strategies that could be employed to enhance the management of traditional fisheries.

Furthermore, Mensah and Antwi (2002) studied the problems of artisanal marine fishermen in Ghana. The content of their study highlights the precarious occupational and living conditions of the artisanal marine fishermen and the chronic problems facing the traditional industry. Inadequate finance and credit, ineffective canoe fishermen's associations, high cost of fishing inputs, seasonal under employment are some of the challenges they identified. To solve the problems, Mensah and Antwi asserts the situation calls for the provision of supplementary employment opportunities, improved social services and the formation of solidarity groups to enhance access to micro credit. This they argued would require technical and management training as well as support services from government and non-governmental organizations (Mensah & Antwi, 2002). They posit that small-scale artisanal fishermen also need effective participatory associations to manage most of their fisheries activities. They assert that participatory associations are a prerequisite for efforts to influence central governmental and local authorities to accord a higher priority to their needs (Mensah & Antwi, 2002). Undoubtedly, all these are key issues that can help sustain traditional resources. Nevertheless, all these do not happen in a vacuum, effective management of the natural resources will be able to regulate internal use patterns and transform resources by making improvements. This is what the co-management framework seeks to achieve. Hence, the need to conduct research in the area of co-management, which encompasses most of the guiding principles of managing the fishery resource for sustainability.

Additionally, Nunoo, Asiedu, Olauson, and Intsiful (2015) maintains that, the fishery resource of Ghana is under stress from population pressure, increasing demand of fish and fishery products and an open access regime. According to them, traditional fisheries practices when combined with formal fishery management practices would help in solving these issues because fishers voluntarily obey local traditional rules instituted by traditional authorities. Hence, these authors suggest that both the formal and traditional fishing rules and regulations should be jointly enforced under the fisheries management to ensure sustainability. Their study also identifies Ghana's fisheries co-management system as weak and its sustainability under threat. Nevertheless, they failed to explore the reasons why co-management has been weak in Ghana. They state that fisheries co-management

programmes have been successfully applied in countries such as Malawi, Mozambique. The findings in their study suggest that co-management is a framework that does not fail in the fishing sector when implemented in ways that are responsive to local needs and accommodate local knowledge systems. In Ghana, co-management has not been successful due to implementation processes that ignore the knowledge systems and concerns of traditional fishermen (Nunoo et al., 2015). For this reason, this study attempts to explore how co-management initiative can help in reducing the challenges confronting traditional fishing practices in Elmina.

Finally, Henrietta Abane (2015) research shows that community-based fisheries management committees are relevant for managing fishermen's activities through the use of cultural values and norms, but for different reasons they have not been successful. Hence, she conducted a research on community-based management of artisanal marine fish resources in the Western Region of Ghana and focused on issues, challenges and the way forward. In order to understand factors that have either hindered or promoted the management of artisanal marine fish resources in Ghana, she employed Strength, Weakness, Opportunities and Threats (SWOT) analysis (Henrietta Abane, 2015). Based on her findings, she argues the community-based fisheries management committees' lacked institutional support, the requisite training, and legislative backing, amongst others. Thus, Abane's study identified that there is the need for financial and institutional stability as well as community collaboration and participation in fisheries resource management. Although these are concerns, she was silent on co-management. Hence, there is the need to use the concept of co-management as a whole to understand why it has failed in Ghanaian fisheries sector although it anticipated that co-management when employed could lead to sustainability of resource due to its inclusion of resource users.

4.3. Why manage common resources?

Common resources are those that are communally owned and can be subjected to degradation because of overuse (McCay, 1993). Common resources include fisheries, wildlife, forest and pasturelands. Common resources share two basic characteristics: excludability and 'subtractability'. With the former, the physical nature of the resource makes it costly or nearly impossible to control access by potential users. The latter implies that, an increase in the amount consumed by one individual reduces the amount remaining for others to consume (Feeny, Berkes, McCay, & Acheson, 1990). To avoid their degradation and ensure that future generations also

benefit from common resources, a sustainable mechanism ought to be employed. The pursuit of the sustainability of common resources' has influenced debates on how they should be managed.

4.3.1. Co-management

The characteristics of the common resources stated above reveals that common resources are potentially subject to over-exploitation, depletion or degradation if not properly managed. Hardin (1968) in his article titled "The tragedy of the commons" holds that common resource utilization must be equal to the productivity of the common resource base. Unregulated access to common resources depletes the resource, and it is in the best interest of common resource users to limit their use pattern below the carrying capacity of a common resource area (Hardin, 1968). However, as each resource user aims to maximize their profit by increasing their use of limited common resources, without control measures, exploitation of common property resources would unavoidably lead to tragedy (Hardin, 1968). Hardin proposed privatization or governmental control to deal with degradation and over exploitation of common property resources. Nonetheless, Hardin's argument, that only private or state property rights regimes could prevent the collapse of common resources has been influential, and has led to many interventions.

The top-down approach suggested by Hardin's model fails to acknowledge the importance of effective consultation with, or the participation of common resource users in maintaining the carrying capacity of a common resource area (Pomeroy, 1995). Thus, the centralized management system leads to a decision-making process that is detached from the resource users and their needs. Elinor Ostrom (1999) opines that while Hardin correctly points out that common property resource would be over harvested his conclusion of an unavoidable tragedy is far-fetched. She finds that e tragedy of the commons not difficult to avoid. To her, fishing communities that have developed effective collective control to reduce over-harvesting have increased returns from fishing while helping to ensure resource sustainability (Ostrom, 1999). Furthermore, the centralized approach overlooks traditional and customary knowledge and management systems in the belief that the state is the best guardian of society's interests. As a consequence tight government controls regulate fisheries (Pomeroy, 2001). In a nutshell, the promotion of centralization as a policy in the management of common resource has not addressed the issue of resource depletion and over-exploitation (Pomeroy, 1995). In order to avoid further degradation and over-exploitation better management of the fishery resource is imperative. There has therefore been a shift in governance towards an alternative approach, which requires the participation of fishers, local stewardship and

shared decision-making in the management of fisheries (Pomeroy, 1995). This system is called co-management.

4.3.1.1. Defining Co-management

Co-management has been increasingly proposed since the late 1980's as a partial response to the natural resources crises (Castro & Nielsen, 2001; Jentoft, 1989; Sen & Nielsen, 1996; Singleton, 2000). It has been suggested that co-management could work better in small-scale fisheries due to the long-lasting relationships among fishers (Jentoft, 1989). Although many scholars have defined co-management in various forms, they all share common ideas within their definitions that are reflected in the definition of co-management by the World Bank. The World Bank has defined co-management as “the sharing of responsibilities, rights and duties between the primary stakeholders, in particular, local communities and the nation state; a decentralized approach to decision making that involves the local users in the decision making process as equals with the nation-state” (Bank, 1999, p. 11). Co-management has also been defined as “a partnership arrangement in which government, community of local resource users (fishers), external agents (nongovernmental organizations, academic and research institutions), and other fisheries and coastal resource stakeholders (boat owners, fish traders, money lenders, tourism establishments, etc.) share the responsibility and authority for decision making over the management of a fishery” (Pomeroy, 2001, p. 116). Similarly, Borrini-Feyerabend et al. defines co- management as “ a situation in which two or more social actors negotiate, define, and guarantee amongst themselves an equitable sharing of the management functions, entitlements, and responsibilities for a given territory or set of natural resources” (Borrini-Feyerabend, Farvar, Nguingui, & Ndangang, 2007, p. 1).

From the definitions listed above, it is deduced that a co-management arrangement limits the bureaucratic role of the government in natural resource management. Instead, the concept calls for partnership and collaborative governance between the different actors involved for its successful implementation. Hence, the underlying principle for co-management is that those affected by management decisions should be involved in those decisions. Thus, co-management is not just about resources but also about managing relationships (Berkes, 2009). Even though they differ in points, most of the co-management definitions seem to agree on the purpose of its implementation. First, factors that initiated co-management implementation are connected to the perceived resource crisis such as over-exploitation and conflict between stakeholders (Pomeroy & Rivera-Guieb,

2005; Sen & Nielsen, 1996). Second, although it is often argued that co-management is not a universal remedy for the resolution of all fisheries management problems (Jentoft, 1989; Pomeroy & Rivera-Guieb, 2005), there are many grounds for the involvement of stakeholders in co-management agreements. According to these claims, some of the possible advantages of co-management include legitimacy and compliance (Pomeroy, 1995; Singleton, 2000), empowerment (Jentoft, 2005), efficiency (Hanna, 1995; Singleton, 2000), conflict resolution mechanism (Carlsson & Berkes, 2005; Sen & Nielsen, 1996) and sustainability (Hanna, 1995). Beyond co-management role in resource management, it has also been endorsed as a potential means by which to resolve longstanding conflict between indigenous people and state government (Natcher, Davis, & Hickey, 2005). With the range of stakeholders involvement, co-management regime are not only changing the ways of managing natural resources but also restructuring indigenous –state relations more broadly (Natcher et al., 2005).

Although there are high initial investments in time, financial and human resources for establishment of co-management, it is economical in the long run requiring less on administration (Pomeroy & Rivera-Guieb, 2005). Weak leadership and lack of collective organization which limits performance and effectiveness and also the sharing of responsibility between the government and local people is challenging in some regions (Adrianto & Hartoto, 2009). Because co-management deals with the interactions of different stakeholders, one way to achieve the best result is by building strong institutional framework and intensive team work (Hviding & Jul-Larsen, 1995).

4.3.1.2. Forms of Co-management

Fisheries co-management requires certain level of involvement and communication between the state and the stakeholders. Sen and Nielsen (1996) distinguish between five broad types of co-management. The instructive type of co-management involves a minimal exchange of information between government and users. This type of co-management regime is different from centralized management in the sense that the mechanisms exist for dialogue with users, but the process itself tends to be government-informing users on the decisions they plan to make. In consultative co-management, mechanisms exists for governments to consult with users but government makes all the decisions. In this case, stakeholders may indeed hear and be heard. However, they lack the power to insure that their views will be heeded by the state (Arnstein, 1969). Ghana's fisheries sector practices this form of co-management. In a cooperative system of co-management,

government and users cooperate as equal partners in decision-making. This means that that power is redistributed through negotiations between states and stakeholders a process that enhances shared decision-making. In the advisory type of co-management resource users advise the government about decisions to be taken and the government endorses these decisions. In the case of the informative co-management, the government has delegated authority to make decisions to user groups who are responsible for informing government of these decisions (Sen & Nielsen, 1996).

4.3.2. When Co-management fails

Although co-management has, the potential to manage resources more equitably, efficiently and sustainably, it should not be viewed as a single strategy to solve all problems of fisheries management. Rather, it is a process of resource management which needs maturing, adjusting and adapting to changing conditions over time (Pomeroy & Rivera-Guieb, 2005). It is worth noting that , co-management might fail when in practice the result may not be power sharing, but rather a strengthening of the state's control over resource policy, management, and allocation (Castro & Nielsen, 2001). According to their view, instead of contributing to local empowerment, such arrangements may further marginalize indigenous communities (Castro & Nielsen, 2001). For reasons that have little to do with the model but more with problems such as the structural and social framework underlying it co-management may either fail or succeed (Jentoft et al., 1998). Similarly Pomeroy and Rivera-Guieb (2005) point out that, there is no prototype for co-management that works for all environments. Co-management often represents distinct national models of governance and the unique economic, social and cultural environments in which it is to function. Simply put, principles of co-management framework that were successful in one country might not work in another. Thus, policy makers should consider cultural, governance structure before co-management implemented. This helps in creating context specific co-management models for different settings.

4.4. Guiding principles of co-management

Co-management frameworks are expected to be flexible and promote social, economic and environmental outcomes (Pomeroy & Rivera-Guieb, 2005). Researchers studying the practice have discussed different guiding principles, which facilitate the successful implementation of co-management (Berkes, 2009; Jentoft, 2005; Pomeroy, Katon, & Harkes, 2001). During data

collection, issues that came up centered on four principles of co-management: institution building, participation, empowerment and trust. The influence of these principles on the result of co-management could have been overlooked, leaving uncertainties about the success of co-management to the benefits promised. These principles will serve as a guide throughout the data presentation and discussion chapter and will also demonstrate how these principles are interrelated and how much more focus needs to be paid for their collective effects on co-management outcomes and process.

4.4.1. Co-management as Institution Building

Significant focus has been paid to co-management as a mechanism for effective fisheries management. Nevertheless, successful co-management depends on a strong and efficient institution. “Fisheries, like other socioeconomic practices, could not exist without them. Users would simply not know how to behave” (Jentoft, 2004, p. 138). Douglas North, described institutions as being “the rules of the game in a society, or more formally, are the humanly devised constraints that shape human interaction”, which “re-duce uncertainty by providing a structure to everyday life” (North, 1990, p. 3). Relating this definition to natural resource, institutions then determines when and how people have access to resources and governs the behavior of resources users for sustainability.

According to Scott (2013), institutions constitute three pillars: regulatory, normative and cultural-cognitive. These three pillars moves “from the conscious to the unconscious, from the legally enforced to the taken for granted” (Hoffman, 2001, p. 36) . In an effort to influence future behavior, the regulatory pillar deals with rules and regulations accompanied by rewards or sanctions. Normative refers to the values and norms that groups adhere to (Scott, 2013). Thus, compliance with regulations should also not only be about surveillance and punishing force, but also morally binding. With cultural cognitive, without conscious thinking about doing so, individuals or organizations will adhere to rules (Scott, 2013). Thus, they are not related to legal obligations but rather based on culture or tradition. Co-management as institution building can be identified in Ghana in terms of the formalized structures and functional bodies such as Community Based Fisheries Management Committee (CBFMC), legislations to control and support the smooth running of the institutions and structures that have been in place. Consequently, the success or failure of these administrations can be attributed to their level of efficiency.

4.4.2. Co-management as Participation

A contributing factor to the failure of the centralized resource management regime is the absence of resource user participation in decision-making. Co-management has been introduced as it is considered a more inclusive form of government which features an increased involvement by user groups in decision making (Pomeroy & Williams, 1994). In addition to the democratic argument (i.e. the view of stakeholders must be weighed for decision-making), another justification for inclusion argues that a diversity of views will contribute to better decision-making and thus better governance of natural resources (Fiorino, 1990). Participation may take various forms. For instance, Arnstein (1969) considers participation as a “ladder” moving upwards as the level of citizen’s participation increases from non- participation (therapy, manipulation) to degrees of “tokenism” (informing, consultation and placation) and finally to degrees of citizen power (partnership, delegated power and citizen control).

It can be very difficult, without a doubt, to control people with different worldviews to collaborate and participate. This has turned out to be the major limiting factor in the management of fisheries (Pinkerton, 1989). But when resource users and other stakeholders are actively involved as partners in planning, policy-making and other management activities they transform to give full legitimacy to the regulation and are the main supporters of enforcing management decisions (Pinkerton, 1989). When the different stakeholders are considered in decision making, their participation enhances the pooling of expertise, knowledge, capital and other resources and mitigate their weaknesses (Singleton, 2000).

4.4.3. Co-management as Empowerment.

Communities that rely on the fishery resource when made conscious over its conservation and empowered will play a vital role in sustaining of the resource. Thus, empowerment is considered as a core element of co-management (Pomeroy et al., 2001). In relation to fisheries management, empowerment “involves bringing previously excluded, disenfranchised and sometimes alienated user groups and stakeholders into the management decision-making process, by reshuffling power and responsibility among those who form the fisheries management chain” (Jentoft, 2005, p. 1). According to Maton (2008) empowerment is a mechanism of growth at both the individual or community level. On the individual level, empowerment is the ability to achieve control over personal life to improve one’s well-being (Zimmerman, Israel, Schulz, & Checkoway, 1992). On the community level, empowerment refers to the processes that allow a community achieve

collective power with respect to a prior state. Both on an individual or community level, empowerment can take place in various dimensions (Jentoft, 2005; Maton, 2008). These dimensions include social (e.g. education and training, women's rights, improvement of local organizations), psychological (self-esteem, the sense of freedom of choice, development of pride), economic (e.g. management of livelihood, financial resources) and political (involvement in decisions, increased local governance over natural resources, development in leadership) (de Araujo Lima Constantino et al., 2012).

4.4.4. Co-management as Trust

When institution building is established, and power is vested in all stakeholders, trust is needed as a wheel on which the success or failure of the co-management can be assessed. Trust appears to be a main determinant of success in many cases of co-management and acts as a prelude to building a working relationship between the actors involved (Reed, 2008). In fishing communities for instance, trust can play a role in reducing the costs of fishing management. If fishers trust each other to comply with local and regulatory rules to protect the fishery, the costs of monitoring the actions of individual fishers are reduced (Grafton, 2005). Similarly, when fishers and the management trust each other, it promotes the sharing of knowledge and information about the resource, which will have the capacity to transform adversarial relationships and help participants find new ways to work together (Grafton, 2005). The establishment of trust between partners is usually nurtured and takes concerted effort by both partners. Trust requires the development of good communication channels and open and ongoing dialogue (Pomeroy & Rivera-Guieb, 2005).

4.5. Co-management Policy in Ghana

The introduction of co-management in Ghana by the departments of fisheries supported by the World Bank promoted the Community Based Fisheries Management Committee (CBFMC) from the late 1990s and early 2000's (MOFAD, 2015). The implementation of co-management in Ghana reflected similar initiatives in many other areas of the world, as an approach to address many of the challenges in the fishery sector due to the lack of capability within the fisheries departments to effectively manage resources. Ghana has been practicing co-management in various forms for some time now. Over the years, there have been experiences in terms of traditional management and government supported community-based groups and other collaborative management arrangements between government and stakeholders with varying degrees of success (MOFAD,

2019). It was agreed that the composition of the CBFMC would be made up of Chief fisherman, or his elders, fish mongers, Ghana Canoe Council representative, two members of the respective District Assembly Unit Boards, including one woman, delegate from all ethnic groups engaged of fishing (one each) (H Abane et al., 2013).

The chief fisherman was chairman of the committee in each community. As chair of the CBFMCs, chief fisherman already had support from their communities to perform their traditional roles as well as mobilizing fishermen to manage the fisheries resources. He is in a unique position to blend traditional authority with that of the state (local government) to ensure that the fisheries management objectives as outlined in the Fisheries Policy and their own fisheries by-laws are upheld and implemented successfully at the local level. The CBFMC committee were tasked with range of roles including coordinating with government officers to conduct patrols to enforce regulations, liaising with organizations to ensure that fishermen have access to their fishing gears. (H Abane et al., 2013). Creating arbitration tribunals to deal with disputes and conflicts among fishers.

4.6. Chapter summary

This chapter presented a literature on previous research as well as the conceptual framework underpinning the study. It began by exploring what common resources are and what influenced the adoption of co-management, and gave a different concept of co-management, the different forms and factors that could influence its efficiency. The chapter acknowledged that co-management has several guiding principles, but concentrated on four principles; institution, participation, empowerment and trust that were raised during field work. It ended by presenting the co-management framework in Ghana.

Chapter five: Data Presentation and Analysis

5.1. Introduction

This chapter presents and analyzes data collected during fieldwork in Ghana. To begin, a brief presentation of informant's demographic information is outlined. The demographic information includes informants' education level, fishing experience, their employment, age and gender status. These issues have the tendency to affect people's opinions and attitude to questions. Further, it will discuss the research questions for this study

5.2. Brief background of informants

As indicated in section 3.5, fifteen (15) participants, 11 males and 4 females took part in this study. The study provides a summary of the socio-demographic background of the informants at the end of this section for clarity. The years of fishing experience were key to their responses for the study. Education or experience defines people's ability to analyze and make sense of some knowledge (Kam & Palmer, 2008). Even though, many respondents did not have a higher education status, their field of work over the years provides them with experience. This undoubtedly enriched the data. It is worth mentioning here that, respondents are denoted with alphabets and numbers for purposes of differentiation and clarity. Therefore, the letter and number F1 for instance indicates first Fisherman interviewed, while M1 denotes first Fishmonger, and G1, G2 represent first and second government officials interviewed.

Table 1: Summary of informant’s socio-demographic background

No.	Informant	Age Range	Gender	Education	Fishing Experience	Occupation
1	F1	25-30	Male	Primary	7 years	Fisherman
2	M1	30-34	Female	Primary	15 years	Fish Monger
3	F2	35-40	Male	None	18 years	Fisherman
4	F3	35-40	Male	None	16 years	Fisherman
5	M2	35-40	Female	Primary	10 years	Fish Monger
6	M3	40-50	Female	None	25 years	Fish Monger
7	M4	45-50	Female	None	28 years	Fish Monger
8	F4	45-50	Male	None	31years	Fisherman
9	F5	N/A	Male	N/A	32 years	Fisherman
10	F6	45-50	Male	Primary	20 years	Fisherman
11	F7	45-50	Male	None	25 years	Fisherman
12	F8	45-50	Male	None	32 years	Fisherman
13	F9	55-60	Male	None	40 years	Fisherman
14	G1	30-35	Male	Bachelor	N/A	Officer
15	G2	35-43	Male	Bachelor	N/A	Officer

Source: fieldwork in Elmina, 2019.

5.3. Study results and analysis

Now, subsequent sections focus on the research questions in section 1.3. Research issues, including how co-management has influenced the traditional fishing sector in Elmina is discussed first. This is followed by the discussion on the constraints that impede the implementation of co-management policies. Informants’ responses are outlined in italics for the purposes of differentiation and clarity. The responses will be explained and analyzed to help readers to understand issues from fishermen perspectives.

5.3.1. Co-management's influence on traditional fishing

Respondents revealed a number of positive impacts and some weaknesses of co-management in traditional fishing. These are grouped here under three main dimensions as described by Urquhart, Acott, Symes, and Zhao (2014) - economic, social and environmental. According to these authors, sustainable fisheries are likely to be achieved if management approaches integrate all these three (3) dimensions.

5.3.1.1. Economic Impacts

Combining institutions through co-management has brought about economic benefits to the Fante traditional fishermen in Elmina. Government subsidies on fishing gears and the creation of more employment opportunities were benefits that were mentioned by participants during fieldwork. This section explores the economic impacts of co-management on traditional fishing based on empirical data solicited from respondents.

I. Government subsidy to Traditional Fishermen

Government subsidies are important for the economic growth and sustainability of the traditional fishing sector in Ghana. They aim at ensuring the continuity in fishing, improving household income and investment and empowering the coastal community to plan, implement and manage their own development (Torell, Owusu, & Okyere Nyako, 2015). Consequently to accelerate the development of the traditional fishing sector over the years, successive governments have subsidized fishing equipment such as premix fuel, outboard motors and other fishing gear (Torell et al., 2015). During interviews, participants raised divergent issues regarding governments' subsidy policies specifically on premix fuel that informs the strengths and weaknesses of the co-management approach practiced in Ghana.

For me, I am happy that the government have been able to subsidize premix fuel. This is good because we are able to buy more premix at cheaper prices now as compared to the time when we did not have this support. - F4.

Since the government joined hands with the traditional sector, I cannot say it has been all bad. I have to be fair in my analysis. Fishing takes a lot equipment and are very expensive to purchase. Formerly our father used wooded paddles but now it is becoming difficult because we must go long distances for catch. We therefore need outboard motors and fuel, which are expensive, and most fishermen have no money. As a result, we solicited the help of rich women in the community

to assist but also came with its own challenges. Since the government collaborated with our leaders, we get reduction on these equipment's that are really helpful.-F3

Some traditional fishermen among the Fante in Elmina use outboard engines that are fueled by a mixture of petrol and oil (known as premix fuel) for their fishing expedition. The introduction of the fuel subsidy was intended to ease the costs and boost the operations of the traditional fishermen. The responses above indicates that, through community or fishers engagement with government, subsidies have been significant in supporting traditional fishing activities of the Fante people in Elmina as expected from the policy. The interviews makes it clear that fuel is an important part of their overall fishing operation thus; premix fuel subsidy has increased their catch and raised their living standard to some extent. Before the subsidy, they spent so much money on fuel that, they were left with almost nothing in their pocket .But now they have been relieved of some of the burden, which helps in their daily expedition.

For effective and efficient management, the government established the National Premix Committee (NPC) to oversee the administration and distribution of premix fuel. To make the fuel easily accessible and use the profits to develop fishing communities, the Landing Beach committee (LBC) was also set up at approved landing beaches, such as Elmina (Tobey et al., 2016). However, when asked about the availability of the premix fuel some fishermen stated that the selling and distribution process of the fuel was done through different channels and administrative committees. This is due to the persistent interference by the successive governments that repeatedly appoints new political delegates into the distribution chain. The situation has affected how the premix fuel was sold to the fishermen . One concern that an elderly fisherman indicated was that the distribution process is not well-organized and the process of distribution is prone to political party bias that tends to favor some fishers over their peers. As a result, the situation has created a feeling of distrust between the fishermen and the management team responsible for premix fuel distribution. Respondents are of the opinion that, politicians have ulterior motives to control the distribution of the fuel (unfair and inefficient). This is because they benefit in terms of votes and retaining client's network .While attempts have been made to improve the distribution of fuel by dyeing it in order to monitor it more effectively and prevent it from being used beyond its purpose, the fishermen claim that there are still loop holes. Therefore, most fishermen appeal to the successive governments to tackle corruption for fair distribution. Despite difficulties in the management of the premix programme, the Fante traditional fishermen in Elmina confirmed that the policy is still extremely important to them.

...but you know what, this premix fuel sharing is not fair sometimes. They do politics with it. If you are not in a particular political party they will share and you won't even get some to buy. And those of us too who don't have any links with the leaders too we sometimes struggle to get some. - F4

The premix subsidy is good but for me I think something should be than with the distribution. The politics about it should stop. Once you have the money you should be able to buy some.-F7

Nevertheless, there has been many controversies over government subsidies to traditional fishermen debating whether to continue or phase out the policy. Research has shown that, government subsidy has also contributed to the decline of fish stocks (Sackey-Mensah, 2012; Tobey et al., 2016) by this attracting more people to the traditional fishing sector, and thereby putting pressure on the limited fishing resources within the area. Therefore, too many fishermen are chasing too few fish. When I talked to the staff of the Ministry of Fisheries and Agricultural Development (MOFAD), one member suggested that government subsidies should be phased out gradually. He stated that July to August used to be a bumper harvest for the fishermen, but that is no longer the case because of the stock depletion caused by Illegal, unreported and unregulated fishing (IUU). He argued that there is no need to subsidize premix fuel when there is no fish. Instead, the government should phase out the strategy and adequately resource institutions that regulate fishing such as the Fishing Enforcement Unit. According to him, this will enforce fishermen to comply with fisheries regulations and punish offenders which will serve as a deterrent ultimately protecting millions of people who rely on fishing for their livelihoods.

...the government subsidies are not helping with fish sustainability. If you subsidize fuel, it means that more people can have access- G1

When addressing the weak management of premix fuel, the Vice President of Ghana, Dr. Mahamudu Bawumia, recently said that the distribution of premix fuel would soon be digitized. This is a positive step but good initiatives like this will only be effective if the co-management system is reinforced ,well-structured for proper execution and most importantly, if the stakeholders, especially the fishermen, are empowered both in educating and training (CBOD, 2019).

II. Employment

Although there are other economic activities in Elmina such as salt mining, canoe and boat building, trading and tourism, fishing stands out as a prime source of employment for men, women and the youth. Most respondents confirmed that fishing is their main source of income and thus they were committed to the traditional sector. This confirms that fishing is an important activity among the Fante people in Elmina. One respondent revealed that, training to be a fisherman or a fish processor is a process that starts from early childhood. Generally, sons follow their fathers, and daughters, their mothers. Most of the fishermen stated that, they had started their career early as apprentices and had spent most of their life in fishing. To them due to the low educational levels and lack of employable skills among fishers, other job opportunities are limited. However, they do pride themselves being very experienced in their chosen field of work due to long years of training. Though, some abandoned fishing and took to farming and other vocational jobs due to low productivity in the sector, some friends who had previously left the sector have joined again because of the subsidies and other benefits provided. As one fisherman put it;

For me, my family could not afford paying fees so I had to drop out. Government initiative of co-management has brought about good things like fuel, outboard motors, loans that have made it a bit easier for me and other people to join fishing. Although not easy to buy fishing equipment's, because of its expensive nature, it is much better and we hope for more things – F8.

The impact of Co-management also extends to more employment generation among women. In discussing the role of women in section 2.10, I stated men fish and women exchange, process and market fish. Interacting with respondents, an elderly man explained why fishing is in the domain of only men he stated that;

The rule of fishing is that you fill your canoe based on the capacity y it can hold. Some groups of women went fishing and had a good harvest. Instead of loading as they can carry, they kept all the fishes, which overturned their canoe leading to all women drowning.-F9

A fish processor also explained that;

As you know, fishing requires lots of strength and courage. Compared to men, most women like me do not have those skills. Hence, the men do the hard work whilst we also stay in our lane of processing fish and house chores.-M3

During my fieldwork, I observed that the women in Elmina are well integrated into the fishing business, carrying out their professional responsibility in an efficient manner to prevent spoilage and losses. The women, some of whom are wives of the fishermen, set fish prices and distribute to others in the fish-marketing chain (mostly other fish processors and customers). The women process the fish mainly by smoking and salting and send them to nearby markets or store them for the minor season. During the interview, some of the women mentioned that until recently, they had complained about the high price of fish. Although prices of fish have not gone down drastically, it is affordable. From these narratives, it is clear that co-management initiative has increased employment opportunities for Fante fishermen and women in the fishing sector although they believe it could be better. One woman said:

As for my mother, and me all we know is processing fish from our family canoe. My grandmother taught me how to process fish and when I finished basic school, I joined my mother in fish processing business. For now, it is good for me but maybe one day I will want to work in Accra. - M1

However, respondents also highlighted that the decline of the traditional sector can be attributed to the new employment opportunities that the sector creates. Other fishermen complained about the entrance of much more people into fishing which has caused pressure on the boat, fuel and on the sea. The income of each fisher represents a given proportion of the value of the catch. As the number of fishers in each boat increases, so decreases the incomes of each fisher; and when catches for each boat decreases, the income of each fisher is further reduced. One fisherman put it,

Here in Elmina, a day old child is guaranteed fishing but this is not good. This puts pressure on the sea; it renders us with not much of catch and reduces our income. Most of us are not that educated therefore lacks the required skills for alternative jobs. The institution mentioned they will help us with other skills but we have not seen much. Salt business does not boom any longer so we all end up in the sea. If the institution can help, I think it will be better, especially for the youth – F9.

It is clear from narratives above that with regards to employment, some fishermen are happy because they have decent job that earns them income to feed themselves and their dependents. This helps alleviate poverty and reduces social vices, which in the absence of gainful employment may turn into crime and social unrest that express people's frustration and loss of hope in the future. On the other hand, others complained about the over-dependence on fishing to provide jobs to support livelihoods which has resulted in the decline of the sector. Decentralization of the

sector has resulted in government subsidies, which has attracted many new fishers into the sector. Unfortunately, because most fishermen lack required skills to switch to alternative jobs, the sector has employed a lot of people which has contributed overfishing and the decline of the fish population. Fishers expected the co-management institution to help with other alternative livelihoods but much has not been done. There is therefore the need to build the skills of the fishermen to be able to take other alternative jobs.

5.3.1.2. Social Impact

During my interview in Elmina, some social issues were revealed by respondents which are discussed below.

I. Recognition of indigenous fishing activities and traditional institution.

Decolonization among indigenous people includes pressing forward, while bearing in mind the strength in culture and traditions (Whiteduck, 2013). Thus, efforts to achieve decolonization must take place on two interconnected levels: to fight back and resist oppression; and forge paths into the future and empower the next generations (Whiteduck, 2013). This simply means that maintaining culture and passing it on to future generation is of key importance to indigenous peoples. In this respect, co-management has aided the Fante traditional fishers in Elmina. This is because the system combines the centralized states and decentralized communities as well as scientific and indigenous knowledge (Singleton, 2000). Fishing has been part of the identity and the culture of fishers of Elmina for many generations. It is seen not to be just a source of livelihood but also a historically and culturally significant occupation.

As mentioned earlier, from most respondents training to become a fisherman starts from childhood. Consequently, the sector has been identified as having strong intergenerational ties where most children in fishing communities inherit the occupation from their parents. Most fishers confirmed that they try to fish with at least one or more of their children with the explicit aim of transferring skills to them. This indicate that they value their indigenous activities and wish to pass it on for future generation. Through co-management, the activities of these fishermen have been pushed to the forefront and are highly valued. One fisherman mentioned initially that most of them were regarded as old fashioned and not given much recognition but recently the have felt esteemed. To him the geographical location has also helped in a way. Elmina is a site in Ghana that attracts many tourists from all over the world. The view of the fishing area (which is close to the castle) and

fishermen with their painted boats catches the attention of many tourist who come to the town to visit the castle. The fishers explained that, it brings some joy to them anytime the witness people appreciating their activities.

I think governments have seen how important our occupation is to the country. Because they come here sometimes, they see the number of youth we have trained over the years to get fish ready for the market.-F6

I am happy to see tourist who come to the castle also watching our fishing activities here. Some tourist come to talk to us sometimes. They admire what we do and it makes me feel valued...some of them say our paintings on the boats are colorful -F2.

...oh, some tourist just come to stand here and watch them after they see the castle. It's good because some end up buying fish from me to Accra. During festivals, too many people come here to watch their displays.-M2

Talking about their indigenous activities, an elderly fisherman stated that the annual Bakatue festival has also gained much attention compared to previous years. Bakatue, as he explained is a festival celebrated on the first Tuesday of the month of July to give thanks for a year of good fishing and to forecast what the harvest will bring during the next fishing season. Tuesday was selected because it is a day traditionally set aside for the sea god. Bakatue is a word from the Fante language, which means, “draining of the Lagoon” .The elderly fisherman also explained that Bakatue is a week-long festival which starts with a procession made of chief and stool carriers. During the festival the chief, together with sub chiefs with the community offer a sacred festival food prepared from eggs and mashed yam mixed with palm oil to the river. They do this to bring peace, protection and pray for a good fishing year. The uniqueness of the festival attracts people from near and far to witness the beautiful culture of the Fante people in Elmina.

Co-management has recognized the office of the traditional institution. The introduction of co-management created Community Based Fisheries Management Committee (CBFMC). In the CBFMC, the Chief fisherman was made the chairman of the committee. His position entails the responsibility of blending traditional authority with that of the government to ensure that fisheries management objectives are supported and implemented successfully.

Our festivals have become prominent in recent years. Dignitaries now attend the festivals for different reasons. Even though politicians use the stage to make slight campaigns, it serve as a

time for reflections on development. Tourist from around the country also come to witness the series of events.-F5

...since the chief fisherman is on the board he represent us and we support him in every way. The government people know that he is important and powerful down here so they should consider his ideas and decision very important to us.-F2

Irrespective of the opportunities presented by co-management, traditional fishers states that their traditional belief systems have not been fully integrated in the co-management system. To them, years ago, their belief systems such as taboos were very effective but that is not the case anymore. Tuesdays was observed as a non-fishing day dedicated for rest and to regulate access to the resource but now people do not regard it. Hence, they urge the co-management institutions to include their belief systems in management structures. This will help control access to resources because people turn to have high reference for these taboos.

II. Conflict Resolution

The failure of formal and informal institutions to manage resources efficiently leads to conflict because of the perception of inequality or injustice among the stakeholders (Bennett 2001). And when there is conflict between stakeholders, the institution is always weak because each group wants to pursue its own interest. Co-management agreements between indigenous people, other stakeholders, and state agencies are promising as a way of dealing with natural resource-based conflicts in the sense that the system is expected to encompass a broad spectrum of policies and institutional arrangements of participation, partnership and power sharing (Carlsson & Berkes, 2005; Castro & Nielsen, 2001). Nevertheless, respondents among the Fante fishers' community in Elmina stated there is always conflict about new policies between resources users and the state. Such a situation makes them feel marginalized instead of contributing to their local empowerment. An example that came up during interviews was the decision by the government to close fishing season for a month. The government instituted a new fishing calendar with a ban in August in 2018 in order to replenish stock. Clad in red as a sign of protest, Fante fishermen and fishmongers in Elmina demonstrated against the ban. Their main complaint was that, they were not adequately consulted before the decision. They were afraid that ban would impoverish them because August is a month of bumper harvests, and most of them wondered why the government would close fishing in such a month.

The proposal by the government to freeze fishing for a month is an example of how we are not consulted before initiating policies that affect us .Most of us heard the news on the radio which I think is not the best. I have no other job aside fishing, things like this I need to know early so I can prepare for my family and myself so we do not starve.-F1

A government official explained to me the reason behind the authorities' decision to freeze fishing in the month of August. He stated;

You see, August was chosen because it is a major breeding season. Most often, pregnant fish come to the shore to feed on the greens. This provides the fishermen with easy access to the fish and they call it a bumper season. But most of the fish caught during this period are filled with eggs, meaning that we consume the fish together with its eggs which also leads to stock depletion, -G2

As the above example demonstrates, co-management is not free from conflict. Conflict is part of every fishery and can be a creative as well as constructive force for management (Jentoft, 2003). Fisheries are too complex and dynamic to guarantee permanent settlement of the conflicting worldviews of stakeholders. Therefore, co-management does not eliminate conflict but ensure good procedure for conflict resolution through trust, shared understanding and dialogue. In the case of the Fante people in Elmina, the narratives above indicates that the resource users were not adequately informed about the ban. Most fishermen said they were not informed on the ban which caused them to protest against it. Could the consultant type of co-management, where governments consult resources users but take all decisions be a factor? Due to lack of alternative livelihood, most fishers were against the ban because they felt that their livelihood would be affected. From the government official's explanation, it is clear that the government had a good reason for selecting the month of August to introduce the ban. However, fishers were not properly informed about the proposal to freeze fishing in the month of August by the government. Clearly, there is low level of education and participation of resources users in co-management limiting the model's efficiency.

III. Compliance to fishery rules among Fante fishers

Fishers who ignore regulations for example using unauthorized fishing gears or fishing during closed seasons are a threat to the sustainability of the resource. Co-management thus promises as an institutional response to the problem of how to persuade people to put their collective interest above their personal interest (McCay, 1993). In co-management regime, there is internal coercion

to follow rules and regulations in the sense that decisions are made by fishers themselves (Singleton, 2000). Regulations aim to prevent the catching of juvenile fish, ensure the use of prescribed fishing nets, and ban illegal fishing methods such as pair trawling, poisonous substance and transshipment of fish. However, according to my respondents, that is not the situation in Elmina. One respondent claimed that, most fishers do not comply with the rules, designed by co-management, which has also resulted in the decline of the sector. He mentioned that, traditionally, it has been a taboo to use illegal substances in the sea. According to indigenous traditions, taboos are social customs that prohibits a particular practice in the society and a breach could enrage the traditional authorities and deities who gave out such prohibitions (Adom, 2016). The experienced elders in the community pass on these prohibitions, laws and regulations to younger generations orally. The fisherman I interviewed explained the reasons behind such prohibitions. He said that taboos were used as a means to protect the sea from destruction. Thus, for fishermen to comply with regulations such as desist from illegal fishing activities, they swear an oath. The Fante fishers share the belief that those who swear the oath and still engage in illegal fishing activities will be struck at sea by the god. This fear compels fishermen to adhere to established traditional regulations.

Those days the taboos worked very well. You dare not disregard the gods and the sea god. Now they say sea police and Christianity. Therefore, people think the old spirits do not matter. But if they find a way to add some of the beliefs to the government laws, me I think fishers will not misbehave.-F8

The state on the other hand have the monitoring, control and surveillance division to fight against illegal, unreported and unregulated fishing activities. This blend of responsibilities is said to enforce fisherman to willingly comply with set rules voluntarily (Carlsson & Berkes, 2005). What might then be the reason for non-compliance? Respondents explained, most fishers have converted to Christianity and do not believe in the existence of the sea god. Hence, Christian fishers refuse to swear an oath with the claim that, it is against their religion. On the other hand, although there are representatives from the government sector to enforce rules, the institution is weak. Perpetrators are left unpunished which does not serve as a deterrent to others. To him because of the nature of the job, the Fisheries Enforcement Unit cannot be at sea always with the fishers hence fishers most times indulge in illegal fishing practices. There is evident of lack education here. If for example, fishers are educated enough to know the consequences of their illegal fishing

practices to the resources, livelihoods and future implications, they will be conscious of their actions when fishing.

5.3.1.3. Environmental impact

The environmental impact of fishing comes from those activities that endanger the marine ecosystem and if not well managed their implications can cause extinction (King, 2013). Fish like to live in a preferred environment, thus the spawning, feeding, production and other behaviors of the fish can be influenced by a drastic change in these desired conditions due to fishing activities. Environmental impact are brought about through the choice certain of fishing activities and practices (King, 2013). The sea provides jobs, food, shapes culture and heritage of the Fante people in Elmina, thus preserving it should be of paramount importance. To examine how the introduction of co-management have influenced the environment at Elmina, respondent were asked questions which will be discussed below. From data obtained is clear that noncompliance with fisheries regulation by Fante fishermen in Elmina is negatively impacting the environment. Deep issues that were raised on the use of unapproved fishing nets, light fishing, illegal transshipment of fish at sea.

I. Unapproved Fishing Nets

A fisherman I interviewed said that some fishermen use unapproved fishing nets for fishing. According to him, they resort to the use of smaller sized nets designed for agricultural purposes in order to increase their catch. This is a destructive fishing practice because the smaller nets indiscriminately trap juvenile fish before they spawn, and this practice is contributing to the overall depletion of fish stock within the Elmina fishing area. He further stated that:

I have been fishing here in Elmina all my life because it is a family business .I have been able to take care of my children through fishing because that is my only source of income. I sometimes get worried when I look at how the sea is gradually getting dry. Although I put in much effort, I get little or sometimes nothing to bring home. It is sad.-F9

II. Light fishing

Light fishing involves the catching of fish that have been aggregated by artificial light through light attraction technique (Bannerman & Quartey, 2004). Kerosene lamps, fire torches, gas lit lamps and incandescent lamp supported by a generator or battery are sources of light used for this kind of operation (Bannerman & Quartey, 2004). This method of fishing is illegal because it has the potential to negatively affect the sustainability of the resource. All kinds including the juvenile are attracted to the artificial light so they can be easily harvested. Fisheries regulation prohibits the use light attraction, portable generators, and other illegal methods for fishing purposes. However, during fieldwork I heard conflicting views and stories about illegal fishing practices. One stated;

I do not think there is anything wrong with using light fishing. I have been using it and always will because it is not harmful. Just as you use light in your room, it is the same in fishing. The fish likes the light. They get attracted to the light at sea and make it easy to make good catch.-F1

This fisherman sees nothing wrong in using light fishing so far as he gets good catch.

For me, I use light because the industrial sector filled by the Chinese people now shares our water with us catching all the fishes that is meant for us. My sister the sad truth is that if you decide to adhere to rules you will go hungry and poor .Others are using same means to catch the few fish left at sea. This is my only source of income I have no choice.-F2

This fisherman also says he uses light to fish because that is the order of the day. You either join or go hungry because there is not much left at sea.

The sea must be very sad, people are destroying it with all kinds of illegal substances such as light, dynamite and poisonous substance. Earlier we had an easy bumper harvest easily but that is not the case anymore. It is worrying. The government officials responsible for punishing people for such act also do nothing...They catch people and sometimes set them free because of bribery.-F9

This fisherman fears the sea might not be viable for future generation and also thinks the government officials should enforce stricter rules.

III. Illegal Transshipment of Fishes (saiko)

“Saiko” is the local name for illegal transshipment in Ghana. It has grown to become a lucrative industry on its own although illegal (EJF & Mpoano, 2019). From narratives, industrial trawlers not only target their species which they are licensed for but also that of traditional fishers. The unwanted by catch are then sold to the traditional fishers. This causes territorial conflict in the sense that the traditional fishers feels their space at sea is been taken. As one of them said

The few fish left at sea for us is also shared with us by the industrial people, which causes conflict, and force us to use illegal method. When “saiko” business stop, we will also stop illegal fishing. The politicians have a share in the industrial sector that is why they are allowed to do what they want. We will also do same.-F2

From this data, factors that causes fishers indulge in activities that harm the environment includes, inadequate understanding of fish population, and lack of alternative livelihood as most fishermen in Elmina mentioned they are full time fishermen. This could lead to the use of all means to get catch for income. The gain and benefit ratio that result from carrying out illegal activity is lucrative. In addition, weak institutions and lack of empowerment among the fishermen.

5.3.2. Constraints of co-management

This section reflects on the second research question. It intends to present, discuss and analyze important challenges that hinders the efficient operation of co-management among the Fantes in Elmina. Co-management can be argued as an answer to natural resource management. However, it is evident from results that Ghana’s fishery resource still faces issues that co-management seeks to address. The first research question discussed, clearly confirms that issues such as weak institutional framework, low level of participation, lack of empowerment and trust as impeding the success of the co-management. This section will discuss these issues.

5.3.2.1. Institutional Challenges

According to Garrett Hardin (1968), free access and unrestricted demand for scarce resources destroy resources through overexploitation. Institutions such as co-management have been introduced by governments to solve the situation. Therefore, introduction of co-management in the fishery industry is expected to lead to sustainable fisheries practices by addressing the

challenges facing the sector. In line with this, the co-management institution was established in Ghana to control access to fisheries resources, guide activities of fishers and enforce rules in order to ensure sustainability. Findings from field research however indicates that, fundamental elements that provide stability and meaning to institutions are not properly adhered. The study revealed key institutional challenges including weak enforcement of law and poor coordination.

I. Lack of law enforcement

Regulations do not work until they are properly enforced (Heyes, 2000; Sparrow, 2000). Enforcement prevents violators from flouting the rules and discourages prospective violators by warning that they may have adverse repercussions for non-compliance (Sparrow, 2000). The use of fishing gears with incorrect mesh size, catching juvenile fish, “saiko”, and light fishing challenge the sustainability of fisheries. Consequently, CBFMC have been tasked with range of roles including coordinating with government officers to conduct patrols to enforce regulation. Thus, it is assumed that officials in CBFMC with the support of the monitoring and enforcement unit would seek to enforce laws because they created them. However, research findings revealed three interesting issues related to lack of law enforcement. They include kinship ties, neglect of traditional belief systems and infrequent sanction to deter perpetrators.

Kinship ties

Kinship ties are described in terms of family lines, various forms of marriages responsibilities towards individuals or a family group (Holtan, 2008). Fante fishers in Elmina have strong kinship ties in the fishing sector. Crewmembers in a boat are mostly made up of family members. Although kinship (or personalized) relations stimulates social capital by enabling fishers to act collectively and enhance economic development (Woolcock & Narayan, 2000), in relation to law enforcement in Elmina society, it appears to be problematic. Law prohibits the use of illegal fishing methods, such as “saiko” and other illegal activities, because they trigger environmental concerns. However, these issues according to fishers are sometimes difficult to address because of the kinship relations, which also hinders the performance of the institutions. Even when some fishers are caught in illegal acts, they are given preferential treatment depending on the one who catch them. Family members offer variety of practices related to favoritism with the laws simply based on family relationships. A culprit can be a brother, son, father, friend or relative in one way or another, according to respondents make it difficult for them to report in most cases. As revealed by a fisherman:

...Here, we are all related. When you catch your brother, doing something bad it is difficult to send him to the police for sanction. I cannot report my blood to the authorities.-F2

Neglect of traditional belief systems

Again, from informants, the neglect of traditional belief systems or the dominance of the scientific aspect in co-management stimulates lack of enforcement. Taboos are taken seriously among the Fante and other groups in West Africa because they are believed to have been instituted by traditional rulers and priests on their behalf and in the general interest of the people (Osei, 2006). These taboos are often enacted and transmitted in the form of moral ordinance, creed or vow. Taboos are well respected because unlike other sanction in other religion, taboo sanctions are instant and comes with severe consequences like infertility and sickness (Osei, 2006). Beliefs and taboos have existed in the fishing community to deter fishers from breaching fishery regulations and to preserve the resource.

However, most respondents were aware that traditional beliefs about the sea have evolved over time. While practices associated to spiritualities such as curses, libations and shrine deities are still feared by many in Elmina society, contemporary notions and external beliefs have influenced the respect with which the society held some of their traditional belief systems. The sea is not regarded sacred anymore, the introduction of Christianity and ‘modernity’ have limited the fears attached to some of these beliefs. Fishers therefore pollute the sea in all kinds of forms. The neglect of traditional taboos and beliefs contributes to lack of enforcement. If co-management is about shared institutions between formal and informal, then it should reinforce the institutions of informal in regards to some traditional beliefs systems. Consequently, fishers encourage the co-management regime to aid to revitalize these traditional beliefs in order to deter perpetrators.

Infrequent sanctions

In regards to infrequent sanction to violators of fishery rules, a fisherman said,

Many of the fishermen here in Elmina often participate in illegal fishing activities, even though it is against the rules. We have dealt with this matter many times, but it is the same. The rules and penalties do not always work as we expect. People are caught and left free.-F2

Another mentioned that;

Those days we had strict traditional rules restricting access to resources years ago and the number of fishermen was not large. Again, due to the use of simple fishing gears, it helped regulate fishing loads. But, because of population increase, that is no longer the case. Many people are now fishing and compelling people to fish with illegal methods. I expect the enforcement unit to serve as a watchdog on these operations, but very little has been done. –F9

One of the pillars of institutions described by Scott (2013) is the regulative pillar. Accordingly, the co-management institution is responsible for conferring laws and regulations, whether formal or informal, backed by monitoring and sanctioning power. Conversely, based on the narratives above this study infers that the level of sanction to illegal fishing activities are rare to be a deterrent to other perpetrators. Without sanctions, the institution loses much of its power and high noncompliance becomes common. This is seriously undermining the credibility of the co-management institution.

II. Poor coordination

The co-management institution is comprised of both formal and informal organizations to facilitate the sustainable use of Ghana's fishery capital. They consist of both formal rules (constitutions, laws,) and informal constraints (sanctions, taboos and codes of conduct). Owing to the relationship of these various actors, there is a need for a coherence coordination system to direct what occurs at each stage and how those actors communicate. This is because; the absence of such coordination often leads to disputes and confusion between these institutions in fisheries management (Bennett & Dearden, 2014). The study identified that there is coordination challenges including poor information flow unclear roles of actors and lack of transparency. These issues can be attributed to the consultative type of co-management in practice, which does not actively include resource users in decision-making. The practice puts constrain on the functioning of co-management institutions.

5.3.2.2. Participation

Findings from Fante fishers revealed that the degree of participation in co-management system hinders the performance of the system. The consultative type of co-management although involves the chief fisherman and other representatives from the traditional fishing sector in the CBFMC, it does not actively involve them in decision making. The “Co” in co-management implies

partnership rather than consultation. To Jentoft (2003), government agencies ask resource users for advice on a consultative level before management decisions are taken, but government have no obligation to obey the advice they get from resource users. Therefore, if co-management models are to actually work, they must be more than just formal expressions of good will and more than just government arrangements aimed at alleviating tension between resources (Jentoft, 2003).

To illustrate the required steps in participation of citizens and the degree of their influence in planning, Arnstein (1969) proposed the “ladder” of citizen participation. “Manipulation” and “therapy” include the lowest rungs; they represent the “non-participation” level of the degree of power. “Informing”, “consultation” and “placation”: third, fourth and fifth rung respectively, represents the degrees of citizen’s “tokenism”, which allows the locals to be heard. According to Arnstein, when people are consulted it does not guarantee that their voice or opinions would be respected. The last level on the “ladder” includes “partnership”, “delegated power” and “citizen control” represents the citizen power in decision making (Arnstein, 1969).

A common argument for the participation of fishermen in decision making is to increase awareness of the conservation of the resource and their respect of regulations while ensuring that it is implemented (Singleton, 2000). In other words, when fishers are absent from decision-making, they tend to disrespect the laws which could affect the survival of the resource and the efficacy of the management mechanism. Speaking to a government officer, he confirmed that illegal fishing practices are common in the traditional sector. He stated that,

Fishers are not complying with fishery rules although much education about the effects of illegal fishing practices on the resource has been done. It might be difficult or impossible to have an enforcing agent everywhere at sea with fishers each day. Hence, fishers should also endeavor to comply with rules to save the declining stock.-G2

An elderly fisherman, was disturbed about government not heeding to their advice, he stated that,

I do not understand why the government does not listen to our opinions when we are the ones at sea. I have been fishing for a long time that makes me experienced in this field. Although government officials are more educated, you cannot compare my experience to the one who always sits in the office. They have to hear us.-F9

This argument above is based on a practical knowledge and experience. To him, fishermen know better than anybody else about the fishery resource, the complexities and problems associated with

fishing. Hence, the government should listen to their opinions. Drawing on previous studies (Arnstein, 1969; Jentoft, 2003; Singleton, 2000) on the level of participation and relating it to the response from the government official and the fisherman, it can be argued that the low level of participation of fishers in the co-management regime is affecting its performance. Thus, widespread distrust and the lack of compliance of the Fante fishers can be attributed to their low degree of participation. Which reduces the full benefit of the outcome of co-management. In many cases elsewhere, lack of actively involvement of indigenous people in decision-making processes has resulted in marginalization as well as socio-economic, cultural and physical challenges (Castro & Nielsen, 2001). Thus, participating of resource users in decision-making is very important as it combats further marginalization and aids in solving most of natural resources managements crisis (Castro & Nielsen, 2001). For this reason, it is clear that when Fante fishers are actively involved in fishery policies, they will be conscious and aware of the importance to conserve the resources, comply more willingly with the rules and again will be empowered to take up responsibilities.

5.3.2.3. Empowerment

According to respondents, another problem that hinders the effective implementation of co-management is related to issues of empowerment. Empowerment is a prerequisite and a goal of fisheries management in the sense that it strengthens the potential of both the individual and the community to better manage their lives and encourages them to engage in society (Jentoft, 2005). In fact, insufficient investment in capacity building may potentially lead to the failure of co-management.

Interviews with Fante fishers in Elmina reflects on the four different dimensions of empowerment discussed in academic literature ; psychological, economic, social and political by de Araujo Lima Constantino et al. (2012). With respect to the psychological dimension, most respondents agreed that the implementation of co-management has provided an opportunity for them into the mainstream. Their traditional knowledge and institutions have become important in the co-management process (see section 5.4.1.2). This has enhanced their local enthusiasm for sharing with visitors their traditional knowledge and experiences. Thus, it has raised their self-esteem and self-worth. This finding implies that the Fante fishers in Elmina has experienced an enhanced psychological empowerment through co-management regime. As community pride and self-esteem in traditional values remain at the center of psychological empowerment (Park & Kim, 2016).

It was noted during the interview some fishers have been empowered economically through employment and subsidies on their fishing gears such as fuel and outboard motors. While most advocate for better subsidy management, they maintained that to some degree it has boosted their operations (see section 5.4.1.1.). Nevertheless, several respondents disclosed during the interview that they were not involved in alternative livelihoods besides fishing. Only a few were engaged in petty trading and other business activities to supplement their income from fishing. Stating their reasons for their reliance on fishing, a few fishermen explained that fishing is tiring and time consuming thus they have no extra time for additional jobs, while argued that due to low levels of education they lacked the prerequisite skills for other careers. The majority reported lack of funds to invest in other business activities. Meanwhile when the ban on fishing finally came into effect in 2019, most of the fishermen were opposed it because their livelihood was affected. It is apparent from these concerns that due to their low economic empowerment of the Fante fishers, most rely on the fishery resource for their livelihood and income. These results also reinforce the opinion that one of the issues leading to the decline of fishery stock is the absence of alternative livelihoods, which contributes to over-exploitation (Cobbina, 2018). Although a few fishers were not willing to quit fishing because of their age, most pleaded with the authorities for financial supports and for a well-designed alternative livelihood scheme, that suits their skills

...as for me, I cannot do any other job because of my age. But, the youth among us can learn other skills so that if for example they place a ban again next year they can do other job. For the women, some are into petty trading. But most of us fishers we do not have time for that. When I get home for instance am thinking about my food and to rest after a long journey.-F9

In a social context, empowerment stems from education and training in order to gain control over the management of natural resource. However, from analyses it was evident that little effort has not been invested in this area. A fisherman who openly admitted the illegal use of light for fishing, stated that there is nothing wrong with this practice. He claimed that fish love light as much as humans do in their quarters, which helps fishers have a good catch. However, fishery regulations prohibits light fishing because previous studies indicate that it poses a threat to the sustainability of the resource leading to among others by-catch and overfishing (Agyekum, 2016). As far as this fisherman is concerned, he does not really understand the impact of his fishing activities on the resource. As fishing is not a lonely expedition, he has crewmates who might also be unaware of the effects of light fishing. During my interview with another fisherman on the challenges of the

traditional sector, he pointed to light fishing as a major concern because the activity, as he understood, is not only detrimental to fish, but also affects the survival of the whole stock. In the fishing sector, one goal of capacity building through education and training is stop destructive fishing activities in order to help sustain the resource. Conversely, it is evident from interviewees that, while some are conscious of the implications of bad fishing practices others are still unaware of the consequences, which contributes to the decline of the resource and undermines the performance of co-management.

When a community is politically empowered by the system of co-management, opinions and concerns of the community should direct and guide the development of every policy project from the planning stage to execution (Scheyvens, 1999). This approach not only offers efficient and effective traditional resource management, but also promotes a sense of cooperation and constructive local attitudes towards co-management (Jentoft, 2005). However, Fante fishers in Elmina perceive that their participation in fishing planning and development is limited. Some respondents stated that although the CBFMC includes delegates from the traditional sector, their opinion are not taken into account, which is a problem to them. This is the result of the fact that Ghana practices the consultative type of co-management in fishery management meaning that government consults with the users of the resource but takes all decisions without them.

However (Arnstein, 1969), maintains that consultation may be a 'sham' without other modes of participation, as it does not have any guarantee that stakeholder's interests and suggestions would be taken into account. Similarly, since stakeholders are not part of decision-making, Tosun (1999) asserts that the extent of involvement in consultation is passive and determined top-down. The argument that greater participation of all stakeholders will lead higher degrees of legitimacy and better compliance is a major justification for co-management (Pomeroy, 1995; Singleton, 2000). Legitimacy is enhanced as decision-making encompasses user groups and community members, which can lead to people becoming more willing to cooperate. For example, if Fante fishermen were involved in fishing management policies, their knowledge of the conservation of resources would increase and they would obey new policies or laws while also engaging in their enforcement. This would contribute to the sustainability of the resource thus yielding better results than hierarchical management approaches. However, my research findings from interviews among the Fante people shows otherwise even though fishing is regulated through a co-management regime. There is a poor degree of compliance and illegal fishing activities are widespread. This can be attributed to the failures of the consultative form of co-management where the politically

disempowered community lacks the power to ensure that its members' views are respected by government.

Women's empowerment in traditional fishing

Another important issue that came up during interviews is women's empowerment. In the traditional Fante community, men and women engage in different but complementary fishing activities that are influenced by social, economic and cultural contexts (Overa, 1992). Like in many communities in Ghana and other African countries, gender often defines the roles or economic activities, which individuals engage in. In the traditional fishery sector for instance, fishing is often related to men. Nonetheless, this interpretation tries to hide the major impact of women in fish-related activities (see section 2.10.). Although gender roles compliment each other to facilitate traditional fishing in Elmina, men dominate decision-making compared to women. Thus, there are issues of gender imbalance and the lack of women's empowerment, which indicates that the role of women in the traditional fishing sector is underestimated.

While the number of men in the Fante community exceed that of women, the latter's domestic roles in the traditional setting also prevent them from taking part in decision-making. Traditional roles require women to spend a lot of time in domestic tasks, such as cooking and caring for their children, taking away time that could be dedicated to attend meetings and gaining further training to hone their skills. This deprives them of psychological empowerment that would be required to be competent in decision-making. Meanwhile, although women are not directly involved in the process of fish catching in particular, they are very influential in the traditional fishing sector in general. Due to the difficulties in accessing credit from banks because of the lack of collateral, the men rely on women as creditors for financial assistance. After fish harvesting, fishermen also rely on the women to engage in post harvesting activities to prevent spoilage. However, during fieldwork, some fishmongers I approached were reluctant to be part of the research process claiming that fishing is the domain of men, and thus research about fishing should focus on them. This clearly indicates that most of the women are not fully empowered to understand the important role they play in the sector and how they contribute to its sustainability.

Previous research has demonstrated that women are more willing to invest time in sustainable management processes while men tend to expect a direct correlation between fishing and income (Torre, Hernandez-Velasco, Rivera-Melo, Lopez, & Espinosa-Romero, 2019). Consequently, more women need to be empowered socially, psychologically and politically to understand their

key roles in the traditional fishing sector. Women are mostly the first point of contact when the men arrive from fishing. Hence, if they were empowered through training to identify illegal fishing for instance, they could detect, boldly reject and report bad fishing practices. When I spoke to a woman about the effects on illegal fishing on her business, she mentioned that:

Sister, the light destroys the fish and reductions the time the fish can be preserved by smoking from months to days. I tell you, illegal fishing has an impact on our business. Our smoked fish often spoil before being sold. We are unable to preserve fish for the leaner season when demand for fish is high.-M4

It is evident from the narrative that bad fishing practices affect the business of the fishmongers and since they are the receivers of the fish, they could be very influential in reversing these practices. Empowering women backed by law could help address some of the challenges in the traditional sector. If co-management is an empowering tool and a mechanism for sustainability, then it should empower more women with the requisite skills and education to oppose bad fishing practices. Consequently, if women were empowered in traditional fishing, fishermen would be more willing to give up illegal fishing practices because their stock could be rejected and reported to the right authorities.

5.3.2.4. Trust

Building successful co-management arrangements is not only a matter of constructing structures, but also a matter of trust with the stakeholders concerned. As previously mentioned, co-management as stated brings together different individuals with different background, diverse worldviews, agenda and interests. Hence, it is crucial to build good relations between stakeholders who are identified as being the most crucial for the result. To achieve good working relations, stakeholders need to build trust. Rousseau, Sitkin, Burt, and Camerer (1998) argue that trust is being particularly important since it enables cooperative behavior, promotes adaptive organizational forms, reduces damaging conflicts and transaction costs, and promotes more effective responses to crisis. Mistrust amongst stakeholders can be a limiting step for co-management functionality. However, analyzing issues raised in the first research question, trust was clearly lacking. Most Fishermen do not seem to understand what is going on. Fishers do not believe that their peers were acting responsibly. Institutions that could have restored trust are also considered ineffective, corrupt and not responsive to the fishermen's concerns. These issues are a

threat to co-management, which would require as good relationship between stakeholders for effective management. To provide a better understanding of the problem, the next section will analyze different dimensions of trust using empirical data.

I. Lack of trust among Fante Fishermen

Social trust is developed through a shared set of cultural values. In the context of natural resource management, this conceptualization implies that an individual will trust an agency to the extent to which he or she perceives that the agency shares his or her own values (Earle & Cvetkovich, 1995). Empirical data from the Fante people proves otherwise. Most fishers do not trust their peers hence everyone acts on self-interest. Fishers who I interviewed explained that there is lack of trust between them, and are not united enough to improve their situation but rather just worry about themselves. According to them, the lack of compliance on the part of other fishermen offers some kind of justification for wrongdoers. Most participants felt that if they do restrain themselves by not engaging in illegal fishing activities or over-fishing, while their co-fishermen does not, the resource could still collapse. In that case, they would lose the benefits of not taking their share. This issue highlights the lack of trust which hinders the conservation of natural resources (Grafton, 2005). Some fishers tend to engage in illicit fishing activities in their struggle for survival, which contributes to the decline of the sector. One fisherman who admittedly engages in illegal fishing stated;

I use these fishing methods because it is common here; others are using it as well. We all have to struggle to survive.-F1

II. Lack of trust in the co-management

As an institution, co-management attempts to improve compliance with regulations. This attempt was driven in part by the belief that including resource users into management will be an incentive for compliance. As stated earlier in section 4.5, the committee was tasked with a range of roles including liaising with government officers to conduct patrols to enforce regulations, ensuring that fishermen comply with fishing regulations, and to serve as a deterrent to others, issuing fines to those who acted against the rules. Yet, the ability of the committee to improve compliance and legitimacy in order to achieve resource sustainability has not been confirmed by the data solicited. Factors causing distrust in the institution are discussed below.

Illegal Transshipment of Fishes (saiko)

“Saiko” as explained (section 5.4.1.3) is the illegal transshipment of fish at sea where industrial trawlers transfer frozen fish to traditional fishers. Industrial trawlers do not target their species, which they are licensed for, they also target the species of traditional fishers. Elmina happens to be the home to the biggest “saiko” market (EJF & Mpoano, 2019). Although law prohibits “saiko”, fines are rarely issued to perpetrators, they are seldom arrested and sanctioned although illegal transshipment is extremely widespread (EJF & Mpoano, 2019). This concurs with some issues raised during fieldwork. A fisherman who clearly admitted he engages in “saiko” business explained that;

Fishing is my main source of income. At first, I got fish without much effort but that is not the case anymore. Sister, I can't come home empty when I have invested a lot of money for my fishing journey and see my family go hungry. So me, I buy “saiko” out of hardship because there are not much fishes now. The reason is that the big trawlers have taken over our space and I am left with no other choice but to purchase from them. Our leaders have done little although we have reported this issue many times.-F5

For me I have decided not to talk about this “saiko” business anymore. We have reported but it is still on going. We have heard some government officials have some share in the industrial trawler business that is why they are still allowed even though it is a cause of our problem.-F6

The narratives suggest that fishers have lost their trust in the institution, which created to help resolve issues. Instead, they have been silent about their plight, which forces them to break the rules.

Bribery and corruption

Respondents reported that bribes are paid to speed up access to services, secure access to services, or to avoid problems with officials. Local fishers are stationed at Elmina whilst the landing sites are visited periodically by fisheries staff. Patrol officers are also occasionally present during their patrols to enforce compliance. Groups involved in law-enforcement were accused by some respondents of being engaged in corrupt practices, such as accepting or demanding bribes to release seized illegal fishing gears. One fisherman said that

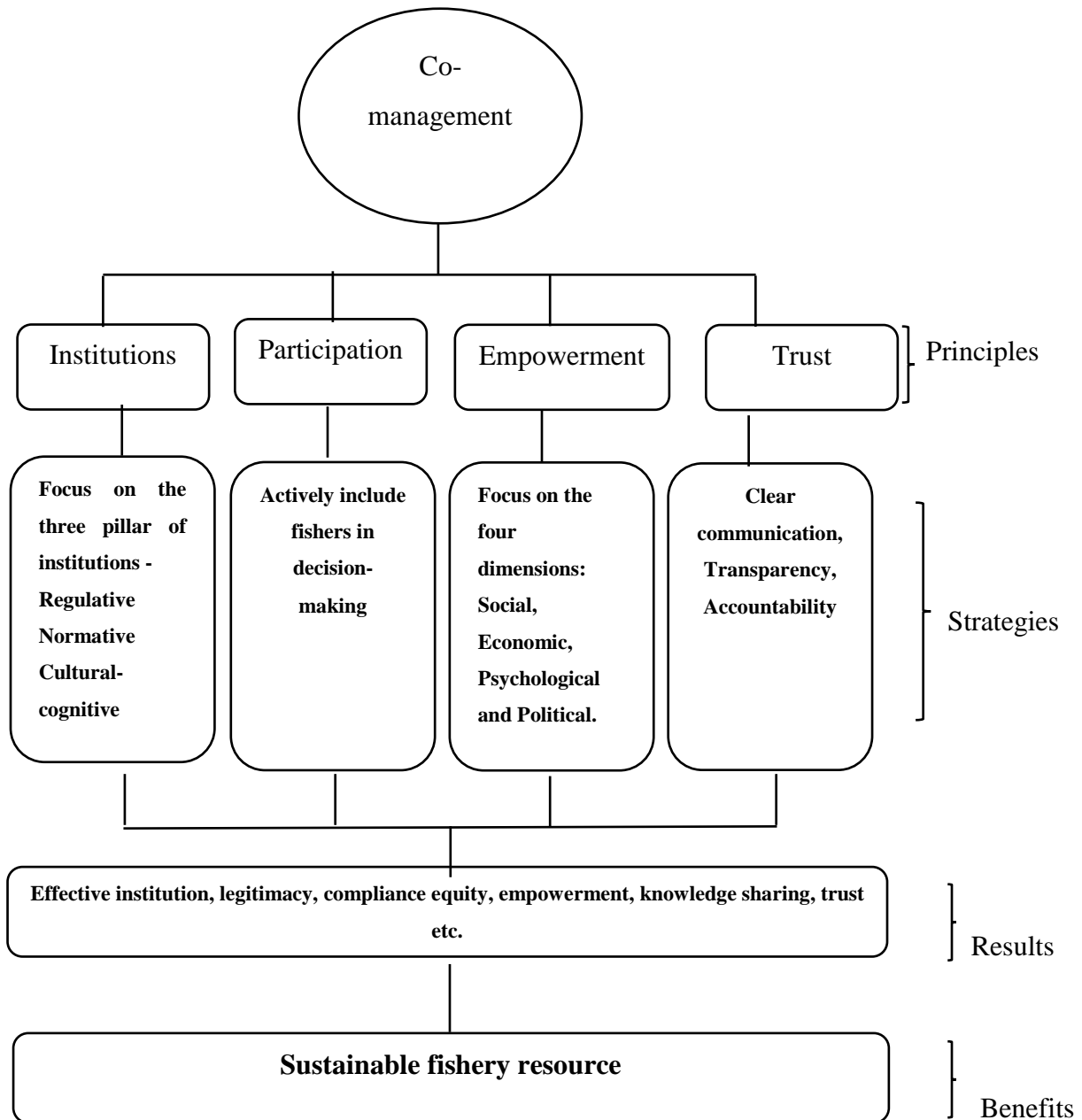
When fishermen are arrested for engaging illegal activities, the police are strict. But, once they are taken out of public seen we do not know what happens. Sometimes we see these same fishers the next day with their gears back again at sea. This to me is questionable.-F6

Fante fishers were clearly of the opinion that some officials' corrupt practices were undermining the work of the institution. They explained that they could not trust some of the officials because regulations were not consistently enforced. Such distrust demonstrates the lack of commitment by some officials to enforce the rules, which undermines the legitimacy of the co-management institution.

Political influence

Political influence has also been identified as a source of distrust. In the opinion of the respondents, politicians or elected officials did not engage in illicit conduct, but enabled the continuation of illegal behavior by ignoring official enforcement, especially during election times. Loosing votes during elections, especially from a fishing community, is a risk most political leaders would not be willing to face. Hence, to maintain their votes they sometimes spare culprits. Political influence were also raised in the distribution of premix fuel (see section 5.4.1.3). All these divergent issues causes distrust of the institution which undermines the success and legitimacy of co-management.

Figure 2: An ideal model of co-management for Fante fishers in Elmina.



Source: Author, 2020.

The above diagram as presented in figure 2, describes the ideal model of co-management structure deduced from data. Co-management should be based on the four principles: institutional building, participation, empowerment and trust as the backbone. Building a strong institution should constitute the three pillars as described by Scott (1992): regulatory, normative and cultural-cognitive. These pillars would guide the behaviors of the fishers. From the gathered research data, it is evident that the lack of the active involvement of Fante fishers in the co-management regime is a contributing factor to its failure. Fishers tend to disrespect rules when they are not actively involved in decision-making. Involving fishers leads to higher compliance and legitimacy. When fishers are empowered socially, psychologically, economically and politically, fishers would be more conscious about the conservation of the fisheries resource, and their skills would be developed. Over time, their attitudes towards peers and government would also be shifted. Trust between the various stakeholders would be developed through clear communication, accountability, and transparency. When these strategies are fully executed, it will bring results such as effective institution, legitimacy, compliance equity, empowerment, knowledge sharing and trust. These results will progressively contribute to the sustainability of the traditional fisheries sector.

5.4. Chapter Summary

This chapter presented, discussed and analyzed data collected during fieldwork related to the two research questions in section 1.3. The chapter began with an overview of respondents' demographic profile. Regarding my first research question, the discussion focused on three dimensions; economic, social and environmental. These dimensions reflected on the impacts of co-management, which raised diverse issues among the Fante traditional fishers in Elmina. From these issues, factors that hinder the successful implementation of co-management are discussed. These issues include institution building, participation, empowerment and trust. This chapter ended with a diagram of an ideal co-management model for the Fante fishers to illustrate how these issues are interrelated but probably overlooked in practice. This therefore calls for more focus on these principles. Having presented and analyzed research data for this study, the final chapter will summarize the findings and offer recommendations.

Chapter Six: Summary and Concluding Remarks

6.1. Introduction

This chapter recaps on the preceding chapters of the study. It also provides analytical contributions and recommendation to the issues discussed. The main objective of the study was to involve Fante fishers in Elmina to self -identify some of the major challenges they encounter in their traditional fishing and how the introduction of co-management has influenced the traditional sector in curbing these challenges.

6.2. Summary of Findings

This study have focused on the experiences of Elmina fishermen with co-management. Although scholars have emphasized that co-management cannot be considered as a solution to all natural resources, they agreed on its benefits; equity, compliance, legitimacy empowerment amongst others. However, it was apparent from other studies that Ghana's fishery sector has not been able to enjoy these full benefits of co-management. Thus, this study focused on the influenced of co-management of traditional fishery sector and the constraints that impedes its successful implementation.

Discussions from the Fante people in Elmina revealed both positive and drawbacks of co-management related to social, economic and environmental. Dialogue with Fante fishers revealed that co-management has not been successful due to institutional issues, low level of participation, empowerment and trust related issues. Findings revealed that co-management institutions lacks the three (regulative, normative, cultural- cognitive) vital ingredients of institution discussed by Scott (2013). From findings, it was evident that most of the challenges faced by the traditional sector is triggered by the low level of participation of resource users. Referring to Arnstein (1969) "Ladder of participation" to explain the necessary steps of gradual progression for resource users to gain control. It revealed that an ideal co-management is one where management functions are shared between government agencies and fishermen. With this, because fishers are part of decision-making, they are more likely to follow the rules and even coerce others to do same. This will contribute to compliance and legitimacy.

Furthermore, on issues related to empowerment the study discussed the different dimensions of empowerment by de Araujo Lima Constantino et al. (2012) and how it relates to the Fante fishes.

Emphasis was stressed on women empowerment because they have been undervalued in fishing sector although they contribute immensely in the sector. Study revealed that empowering women in the traditional sector through capacity building could contribute to sustainability. The study explained that since women are the receivers of fish and illegal fishing activities affect their business, they are key people to contribute to the halt of illegal fishing methods by detecting, rejecting and reporting to the right authorities. Results on trust sheds light on the complex nature of trust in natural resource management. Fishers do not trust each other and again do not trust the institution due to “saiko”, political influence, bribery and corruption. These issues demonstrates the need for more attention to these guiding principles to help sustain the fishery resource.

6.3. Recommendations

Based on the challenges presented and discussed in this study, this section seeks to propose recommendations for policymakers to consider that could contribute to fishery sustainability.

I. Rewards

The regulative pillar as described by Scott (2013) is how institutions constrain and regulate behaviors. Institutions establish rules backed by rewards and sanction to influence future conducts. Sanctions are intended to deter potential perpetrators whilst rewards are there to motivate or encourage people. Without doubts, these can aid to check people’s activities. Nevertheless, it appears that emphasis is mostly on sanctions rather than on rewards. Authorities and policymakers should therefore employ rewards fishers with the best fishing practices, which would inspire other fishers to emulate.

II. Alternative livelihood

One of the causes of overexploitation of the fishery sector is lack of alternative livelihood. Thus diversification of fishermen to other economic activities could aid reduce pressure on the fishery resource. Ghana’s president, his Excellency Nana Akuffo Addo declared 2019 as “Year of return” to commemorate the 400th anniversary of the arrival of African slaves in America. He then called for the people of African descent to return to their country of origin (Ghana). The initiative positions Ghana as a key tourist destination for African Americans and other visitors (myjoyonline, 2019). This project has improved tourism and one of the most commonly visited tourist sites is

Elmina. Thus, as an alternative livelihood, I expected that people in Elmina would take advantage of it to become tour guides. However, studies posit that most of the tour guides are individuals who come from Greater Accra (Teye, Sirakaya, & Sönmez, 2002). Thus since co-management is an empowerment tool, it can be used to train the many youth in fishing especially for diverse tourism skills as an alternative livelihood. This helps to reduce the burden on the fishery resources.

6.4. Conclusion

The implication of findings of this study is that, the current approach of co-management practiced in the Ghanaian fishery sector has not fully addressed the challenges faced by the sector. From the findings, issues such as institution, participation, empowerment and trust have been overlooked thereby undermining the performance of the co-management system. Perhaps, the reason for the Ministry of Fishery and Aquaculture Development (MOFAD) in considering a different approach of co-management. However, while MOFAD is yet to define the type of co-management to adopt in the coming years, it is imperative for policy makers to ensure that much attention is given to the principles of co-management as established in this study. The application of these principles can contribute to the sustainability of the traditional fishing sector.

7. References

- Abane, H. (2015). Community based management of artisanal marine fish resources in the Western Region of Ghana: Issues, challenges and the way forward. *Journal of Arts and Social Sciences*, 3.
- Abane, H., Akonor, E., Ekumah, E., & Adjei, J. (2013). Four Governance Case Studies and their Implications for Ghana Fisheries Sector. *USAID-URI Integrated Coastal and Fisheries Governance (ICFG) Initiative. Narragansett, RI: Coastal Resources Center, Graduate School of Oceanography, University of Rhode Island. 80p.*
- Acheson, J. M. (2006). Institutional failure in resource management. *Annu. Rev. Anthropol.*, 35, 117-134.
- ACHPR. (2006). *Indigenous Peoples in Africa: The Forgotten Peoples?: the African Commission's Work on Indigenous Peoples in Africa: IWGIA.*
- Adjaye, J. K. (2018). *Elmina, 'the Little Europe': European Impact and Cultural Resilience: Sub-Saharan Publishers.*
- Adjetei, J. (1973). Ghana's experience in distant-water fisheries. *Journal of the Fisheries Board of Canada*, 30(12), 2463-2467.
- Adom, D. (2016). *Asante indigenous knowledge systems: repositories of conservation ethics for Ghana's biodiversity.* Paper presented at the Proceedings of the academic conference of Interdisciplinary Approach.
- Adom, D., Sekyere, P. A., & Yarney, L. (2019). A Return to the Ghanaian Cultural Values of Closed Fishing Season in Ghana's Artisanal Marine Fishing: An Essential Means of Restoring Small Pelagic Fish Stocks. *Transylvanian Review of Systematical and Ecological Research*, 21(3), 95-110.
- Adrianto, L., & Hartoto, D. (2009). Fundamentals of fisheries comanagement in Indonesia. Course book. In: Rome, Italy: Electronic Publishing Policy and Support Branch Communication
- Agbodeka, F. (1964). THE FANTI CONFEDERACY 1865-69: An Enquiry Into the Origins, Nature and Extent of an Early West African Protest Movement. *Transactions of the Historical Society of Ghana*, 7, 82-123.
- Agbodeka, F. (1992). *economic history of Ghana from the earliest times: Ghana Universities Press.*
- Agyekum, G. A. (2016). *Light Fishing Operations in Small-scale Fishing in Ghana—A case study of the Chorkor and Teshie–Nungua fishing communities in the Greater Accra Region of Ghana.* UiT The Arctic University of Norway,
- Aikins, E. K. (2018). Challenges of Sustainable Marine Fishing in Ghana. *International Journal of Animal and Veterinary Sciences*, 12(10), 337-348.
- Akapula, W. (2002). Compliance to mesh size regulations in artisanal marine fishery in Ghana.
- Allison, E. H., & Ellis, F. (2001). The livelihoods approach and management of small-scale fisheries. *Marine policy*, 25(5), 377-388.
- Ameyaw, A. B., Breckwoldt, A., Reuter, H., & Aheto, D. W. (2020). From fish to cash: Analyzing the role of women in fisheries in the western region of Ghana. *Marine policy*, 113, 103790.
- APF, O. (2013). *The United Nations Declaration on the Rights of Indigenous Peoples: A Manual for National Human Rights Institutions.*
- Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of the American Institute of planners*, 35(4), 216-224.
- Arthur, S. N. A., & Mensah, J. V. (2006). Urban management and heritage tourism for sustainable development. *Management of Environmental Quality: An International Journal.*

- Ashun, P. (2017). *Elmina, The Castles and the Slave Trade*. Cape-Coast, Ghana: Nyakod Printing and Publishing Co. Limited.
- Atta-Mills, J., Alder, J., & Rashid Sumaila, U. (2004). *The decline of a regional fishing nation: the case of Ghana and West Africa*. Paper presented at the Natural Resources Forum.
- Bank, W. (1999). Report from the international workshop on community-based natural resource management (CBNRM). *World Bank, Washington*.
- Bennett, N. J., & Dearden, P. (2014). Why local people do not support conservation: Community perceptions of marine protected area livelihood impacts, governance and management in Thailand. *Marine policy, 44*, 107-116.
- Berkes, F. (2001). *Managing small-scale fisheries: alternative directions and methods*: IDRC.
- Berkes, F. (2009). Evolution of co-management: role of knowledge generation, bridging organizations and social learning. *Journal of environmental management, 90*(5), 1692-1702.
- Borrini-Feyerabend, G., Farvar, M. T., Nguingui, J. C., & Ndangang, V. A. (2007). Co-management of natural resources. *Organising, negotiating and learning-by-doing. Heidelberg: Kasperek Ver.*
- Bortei-Doku Aryeetey, E. (2000). *Small-scale fisheries, population dynamics and fishery management at Moree*. Retrieved from
- Bortey, A., & Yeboah, A. (2006). The State of World Fisheries from a Fishworker Perspective: The Ghanaian Situation.
- Bryman, A. (2015). *Social research methods*: Oxford university press.
- Carlsson, L., & Berkes, F. (2005). Co-management: concepts and methodological implications. *Journal of environmental management, 75*(1), 65-76.
- Castro, A. P., & Nielsen, E. (2001). Indigenous people and co-management: implications for conflict management. *Environmental Science & Policy, 4*(4-5), 229-239.
- CBOD, G. C. o. B. O. D. (2019). Premix Fuel Distribution To Go Digital – Bawumia. Retrieved from <https://cbodghana.com/premix-fuel-distribution-to-go-digital-bawumia/>. Retrieved 2nd November, 2020 <https://cbodghana.com/premix-fuel-distribution-to-go-digital-bawumia/>
- Chilisa, B. (2012). *Indigenous research methodologies*: Sage Publications, Incorporated.
- Clark, D. (2013). Industrial and environmental pressures affecting Fante-speaking artisanal fishers of Anomabo, Ghana: a case study. *PSU McNair Scholars Online Journal, 7*(1), 11.
- Cobbina, R. (2018). Effort Control in the Artisanal Canoe Fishery of Ghana: Implications and Likelihood of Success.
- Cohen, D., & Crabtree, B. (2006). Qualitative research guidelines project. In.
- de Araujo Lima Constantino, P., Carlos, H. S. A., Ramalho, E. E., Rostant, L., Marinelli, C. E., Teles, D., . . . Valsecchi, J. (2012). Empowering local people through community-based resource monitoring: a comparison of Brazil and Namibia. *Ecology and Society, 17*(4).
- De la Cruz-González, F. J., Patiño-Valencia, J. L., Luna-Raya, M. C., & Cisneros-Montemayor, A. M. (2018). Self-empowerment and successful co-management in an artisanal fishing community: Santa Cruz de Miramar, Mexico. *Ocean & Coastal Management, 154*, 96-102.
- Diefenbach, T. (2009). Are case studies more than sophisticated storytelling?: Methodological problems of qualitative empirical research mainly based on semi-structured interviews. *Quality & Quantity, 43*(6), 875.
- Earle, T. C., & Cvetkovich, G. (1995). *Social trust: Toward a cosmopolitan society*: Greenwood Publishing Group.
- EJF, & Mpoano, H. (2019). Stolen at sea. How illegal ‘saiko’ fishing is fuelling the collapse of Ghana’s fisheries.

- FAO, F. (2009). Aquaculture Department Food and Agriculture Organization of the United Nations, The state of world fisheries and aquaculture 2008. In: Electronic Publishing Policy and Support Branch Communication Division FAO, Rome.
- Feeny, D., Berkes, F., McCay, B. J., & Acheson, J. M. (1990). The tragedy of the commons: twenty-two years later. *Human ecology*, 18(1), 1-19.
- Fernandez, M. E. (1994). Gender and indigenous knowledge. *Indigenous knowledge and development monitor*, 2(3), 6-7.
- Fiorino, D. J. (1990). Citizen participation and environmental risk: A survey of institutional mechanisms. *Science, Technology, & Human Values*, 15(2), 226-243.
- Fynn, J. K. (1987). The political system of the Fante of Ghana during the pre-colonial period. *Universitas*, 9(1), 108-120.
- Google. (Cartographer). (n.d.). Elmina Map from google Maps. Retrieved from <https://www.google.com/maps/place/Elmina,+Ghana/@5.0955809,-1.3764248,13z/data=!4m5!3m4!1s0xfddfb94558e7037:0xf48e8df14e6d0264!8m2!3d5.1053378!4d-1.3421032>
- Grafton, R. Q. (2005). Social capital and fisheries governance. *Ocean & Coastal Management*, 48(9-10), 753-766.
- Graphic, D. (2019). Know the 16 regional capitals of Ghana. Retrieved from <https://www.graphic.com.gh/news/general-news/new-ghana-map-with-16-regional-capitals.html>
- Habeeb, W. M. (2014). *Africa: Facts & Figures*: Simon and Schuster.
- Hanna, S. S. (1995). User participation and fishery management performance within the Pacific Fishery Management Council. *Ocean & Coastal Management*, 28(1-3), 23-44.
- Hardin, G. (1968). The tragedy of the commons *Science* 162 (3859): 1243–1248. *Find this article online*.
- Harrell, M. C., & Bradley, M. A. (2009). *Data collection methods. Semi-structured interviews and focus groups*. Retrieved from
- Heyes, A. (2000). Implementing environmental regulation: enforcement and compliance. *Journal of regulatory economics*, 17(2), 107-129.
- Hoffman, A. J. (2001). *From heresy to dogma: An institutional history of corporate environmentalism*: Stanford University Press.
- Holtan, A. (2008). Family types and social integration in kinship foster care. *Children and Youth Services Review*, 30(9), 1022-1036.
- Hviding, E., & Jul-Larsen, E. (1995). Community-based resource management in tropical fisheries.
- Jentoft, S. (1989). Fisheries co-management: delegating government responsibility to fishermen's organizations. *Marine policy*, 13(2), 137-154.
- Jentoft, S. (2003). Co-management-the way forward. *Fish and Fisheries Series*, 26, 1-16.
- Jentoft, S. (2004). Institutions in fisheries: what they are, what they do, and how they change. *Marine policy*, 28(2), 137-149.
- Jentoft, S. (2005). Fisheries co-management as empowerment. *Marine policy*, 29(1), 1-7.
- Jentoft, S., McCay, B. J., & Wilson, D. C. (1998). Social theory and fisheries co-management. *Marine policy*, 22(4-5), 423-436.
- Kam, C. D., & Palmer, C. L. (2008). Reconsidering the effects of education on political participation. *The Journal of Politics*, 70(3), 612-631.
- King, M. (2013). *Fisheries biology, assessment and management*: John Wiley & Sons.

- Kraan, M. (2009). Creating space for fishermen's livelihoods: Anlo-Ewe beach seine fishermen's negotiations for livelihood space within multiple governance structures in Ghana. *African studies*.
- Kuokkanen, R. (2000). Towards an "Indigenous paradigm" from a Sami perspective. *The Canadian Journal of Native Studies*, 20(2), 411-436.
- Kvale, S. (2006). Dominance through interviews and dialogues. *Qualitative inquiry*, 12(3), 480-500.
- Mack, N. (2005). *Qualitative research methods: A data collector's field guide*.
- Marquette, C. M., Koranteng, K. A., Overå, R., & Aryeetey, E. B.-D. (2002). Small-scale fisheries, population dynamics, and resource use in Africa: the case of Moree, Ghana. *AMBIO: A Journal of the Human Environment*, 31(4), 324-336.
- Mason, M. (2010). *Sample size and saturation in PhD studies using qualitative interviews*. Paper presented at the Forum qualitative Sozialforschung/Forum: qualitative social research.
- Maton, K. I. (2008). Empowering community settings: Agents of individual development, community betterment, and positive social change. *American journal of community psychology*, 41(1-2), 4-21.
- Maurstad, A. (2002). Fishing in murky waters—ethics and politics of research on fisher knowledge. *Marine policy*, 26(3), 159-166.
- McCay, B. J. (1993). *Management regimes*. Paper presented at the Property Rights and the performance of the Natural Resource Systems. Background Paper prepared for the September 1993 Workshop, The Beijer International Institute of Ecological Economics.
- Mensah, J. V., & Antwi, B. K. (2002). Problems of artisanal marine fishermen in Ghana: the way ahead. *Singapore Journal of Tropical Geography*, 23(2), 217-235.
- MOFAD. (2015). *Fisheries Management Plan of Ghana. A National Policy for the management of the marine fisheries sector*. Retrieved from https://www.crc.uri.edu/download/GH2014_POL005_FC_FisheriesMgtPlan2016.pdf
- MOFAD. (2019). *POLICY FRAMEWORK ON FISHERIES CO-MANAGEMENT*. Retrieved from https://www.crc.uri.edu/download/GH2014_POL061_MOFAD_CRC.pdf
- Mwakikagile, G. (2009). *A Profile of African Countries*: New Africa Press.
- myjoyonline. (2019). Year of Return stimulates Ghana's economic growth. Retrieved from <https://www.myjoyonline.com/news/diaspora/year-of-return-stimulates-ghanaes-economic-growth/> Retrieved 5th November, 2020 <https://www.myjoyonline.com/news/diaspora/year-of-return-stimulates-ghanaes-economic-growth/>
- Natcher, D. C., Davis, S., & Hickey, C. G. (2005). Co-management: managing relationships, not resources. *Human Organization*, 64(3), 240-250.
- North, D. C. (1990). Institutions, institutional change and economic performance. *New York*.
- Nunoo, F., Asiedu, B., Olauson, J., & Intsiful, G. (2015). Achieving sustainable fisheries management: A critical look at traditional fisheries management in the marine artisanal fisheries of Ghana, West Africa. *Journal of Energy and Natural Resource Management (JENRM)*, 2(1).
- Odotei, I. (1991). The Introduction of New Technology in Artisanal Marine Fishing Industry in Ghana. Volume II: The Role of Women. *Institute of African Studies, University of Ghana*. Sponsored by Norges Rad for Anvendt Samfundsforskning.
- Odotei, I. (2002). The artisanal marine fishing industry in Ghana: a historical overview. *Legon: Institute of African Studies, University of Ghana*.

- Olsen, T. (2016). Responsibility, reciprocity and respect. On the ethics of (self-) representation and advocacy in Indigenous studies. *Ethics in Indigenous research. Past experiences—Future challenges*.
- Olsen, T. A. (2017). Gender and/in indigenous methodologies: On trouble and harmony in indigenous studies. *Ethnicities*, 17(4), 509-525.
- Osei, J. (2006). The value of African taboos for biodiversity and sustainable development. *Journal of Sustainable Development in Africa*, 8(3), 42-61.
- Ostrom, E. (1999). Coping with tragedies of the commons. *Annual review of political science*, 2(1), 493-535.
- Overa, R. (1992). *Fish Mammies: The Role of Women in the Artisanal Fishery Sector in Ghana*.
- Overa, R. (1993). Wives and traders: women's careers in Ghanaian canoe fisheries. *MAST: Maritime anthropological studies*, 6(1-2), 110-135.
- Overå, R. (1992). Fish mammies. The role of women in the artisanal fisheries sector of Ghana. In: Bergen: Department of Geography, University of Bergen, Masters thesis.
- Overå, R. (2001). *Institutions, mobility and resilience in the Fante migratory fisheries of West Africa*: Chr. Michelsen Institute.
- Park, E., & Kim, S. (2016). The potential of Cittaslow for sustainable tourism development: enhancing local community's empowerment. *Tourism Planning & Development*, 13(3), 351-369.
- Patton, M. Q. (1990). *Qualitative evaluation and research methods*: SAGE Publications, inc.
- Pelican, M. (2009). Complexities of indigeneity and autochthony: An African example. *American Ethnologist*, 36(1), 52-65.
- Pinkerton, E. (1989). *Co-operative management of local fisheries: new directions for improved management and community development*: UBC Press.
- Pomeroy, R. S. (1995). Community-based and co-management institutions for sustainable coastal fisheries management in Southeast Asia. *Ocean & Coastal Management*, 27(3), 143-162.
- Pomeroy, R. S. (2001). Devolution and fisheries co-management. *Collective Action, Property Rights and Devolution of Natural Resource Management—Exchange of Knowledge and Implications for Policy*. *Zentralstelle für Ernährung und Landwirtschaft, Feldafing, Germany*, 111-146.
- Pomeroy, R. S., Katon, B. M., & Harkes, I. (2001). Conditions affecting the success of fisheries co-management: lessons from Asia. *Marine policy*, 25(3), 197-208.
- Pomeroy, R. S., & Rivera-Guieb, R. (2005). *Fishery co-management: a practical handbook*: CABI.
- Pomeroy, R. S., & Williams, M. J. (1994). Fisheries co-management and small-scale fisheries: a policy brief.
- Porsanger, J. (2004). An essay about indigenous methodology.
- Quagrainie, K. K., & Chu, J. (2019). Determinants of Catch Sales in Ghanaian Artisanal Fisheries. *Sustainability*, 11(2), 298.
- Reed, M. S. (2008). Stakeholder participation for environmental management: a literature review. *Biological conservation*, 141(10), 2417-2431.
- Reeves, C. L. (2010). A difficult negotiation: Fieldwork relations with gatekeepers. *Qualitative research*, 10(3), 315-331.
- Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of management review*, 23(3), 393-404.
- Russell-Mundine, G. (2012). Reflexivity in Indigenous research: Reframing and decolonising research? *Journal of Hospitality and Tourism Management*, 19.

- Sackey-Mensah, K. (2012). Fuel subsidy in Ghana's marine artisanal fisheries sector. In: Final Project, United Nations University, Fisheries Training Program
- Salm, S. J., & Falola, T. (2002). *Culture and customs of Ghana*: Greenwood Publishing Group.
- Saugestad, S. (2001). Contested Images: 'First Peoples' or 'Marginalized Minorities' in Africa? *Africa's Indigenous Peoples: 'First Peoples' or 'Marginalised Minorities'*, 299-322.
- Scheyvens, R. (1999). Ecotourism and the empowerment of local communities. *Tourism management*, 20(2), 245-249.
- Scott, W. R. (1992). *Organizations: Rational, natural, and open systems*: Prentice hall.
- Scott, W. R. (2013). Crafting an Analytic Framework I: Three pillars of institutions. *Institutions and Organizations*. SAGE Publications, Inc, fourth edition edition.
- Seale, C. (2012). *Researching Society and Culture*.
- Sen, S., & Nielsen, J. R. (1996). Fisheries co-management: a comparative analysis. *Marine policy*, 20(5), 405-418.
- Singleton, S. (2000). Co-operation or capture? The paradox of co-management and community participation in natural resource management and environmental policy-making. *Environmental Politics*, 9(2), 1-21.
- Sissons, J. (2005). *First peoples: Indigenous cultures and their futures*: Reaktion Books.
- Smith, L. T. (1999). *Decolonizing methodologies: Research and indigenous peoples*: Zed Books Ltd.
- Sparrow, M. K. (2000). The Regulatory Craft: Controlling Risks. *Solving Problems, and Managing Compliance*, 234.
- Statistical Service, G. (2020). Population and Housing Census. Retrieved from <https://www.statsghana.gov.gh/index.php?id=MjYzOTE0MjAuMzc2NQ==/webstats/4238n0op4p>. Retrieved 6 November, 2020 <https://www.statsghana.gov.gh/index.php?id=MjYzOTE0MjAuMzc2NQ==/webstats/4238n0op4p>
- Tetteh, A. S. (2007). *Women's activities in the Ghanaian fishery; The role of social capital*. Universitetet i Tromsø,
- Teye, V., Sirakaya, E., & Sönmez, S. F. (2002). Residents' attitudes toward tourism development. *Annals of tourism research*, 29(3), 668-688.
- Tilley, A., Hunnam, K. J., Mills, D. J., Steenbergen, D. J., Govan, H., Alonso-Poblacion, E., . . . Amador, T. (2019). Evaluating the fit of co-management for small-scale fisheries governance in Timor-Leste. *Frontiers in Marine Science*, 6, 392.
- Tobey, J., Normanyo, A., Osei, P., Beran, K., & Crawford, B. (2016). Subsidies in Ghana's Marine Artisanal Fisheries Sector. *USAID/Ghana Sustainable Fisheries Management Project (SFMP)*. Narragansett, RI: Coastal Resources Center, Graduate School of Oceanography, University of Rhode Island. GH2014_POL059_CRC.
- Torell, E., Owusu, A., & Okyere Nyako, A. (2015). USAID/Ghana Sustainable Fisheries Management Project (SFMP), Ghana Fisheries Gender Analysis, 2015, Narragansett, RI: Coastal Resources Center, Graduate School of Oceanography, University of Rhode Island. GEN002. 21p.
- Torre, J., Hernandez-Velasco, A., Rivera-Melo, F. F., Lopez, J., & Espinosa-Romero, M. J. (2019). Women's empowerment, collective actions, and sustainable fisheries: lessons from Mexico. *Maritime Studies*, 18(3), 373-384.
- Tosun, C. (1999). Towards a typology of community participation in the tourism development process. *Anatolia*, 10(2), 113-134.

- Urquhart, J., Acott, T. G., Symes, D., & Zhao, M. (2014). Introduction: Social issues in sustainable fisheries management. In *Social issues in sustainable fisheries management* (pp. 1-20): Springer.
- Walker, B. L. E. (2002). Engendering Ghana's seascape: Fanti fishtraders and marine property in colonial history. *Society & Natural Resources*, 15(5), 389-407.
- Whiteduck, M. (2013). "But it's our story. Read it.": Stories my grandfather told me and writing for continuance. *Decolonization: Indigeneity, Education & Society*, 2(1).
- Woolcock, M., & Narayan, D. (2000). Social capital: Implications for development theory, research, and policy. *The world bank research observer*, 15(2), 225-249.
- Worm, B., Barbier, E. B., Beaumont, N., Duffy, J. E., Folke, C., Halpern, B. S., . . . Palumbi, S. R. (2006). Impacts of biodiversity loss on ocean ecosystem services. *science*, 314(5800), 787-790.
- Zimmerman, M. A., Israel, B. A., Schulz, A., & Checkoway, B. (1992). Further explorations in empowerment theory: An empirical analysis of psychological empowerment. *American journal of community psychology*, 20(6), 707-727.