UNDERSTANDING THE CONFLICT BETWEEN THE OIL AND GAS INDUSTRIES AND SMALL-SCALE FISHERIES IN THE WESTERN REGION OF GHANA

By

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ABSTRACT

Ghana is a relatively new producer of oil and gas in the sub-Saharan African region. Commercial oil and gas production and their expansion have the potential to enhance economic and social development. However, the enclosure of the Gulf of Guinea for oil and gas commodification has led to conflicts over ocean space once used for small-scale food fisheries. Fishing has been banned within a 500m radius of all offshore oil rigs and other infrastructure while the bright lights of the oil rigs attract fish into the 'no-go' zones creating a network of de facto Marine Protected Areas (MPA). Fishing around the oil rigs is illegal leading to conflicts and growing resistance from small-scale fishers. The literature argues that where conflict has occurred in states endowed with natural resources in sub-Saharan Africa, the resource curse theory gives the best explanation for why conflicts around natural resources occur. The conflict between small-scale fisheries and the oil and gas industry in Ghana, is considered an example of the resource curse. The thesis reveals resource curse tendencies such as corruption and the mismanagement of oil rents and growing inequality and poverty. However, the resource curse argument has been critiqued as uncritical, reductionist and above all ahistorical. The study therefore suggests that as an alternative way to understand the conflict, analysis must move beyond the resource curse narratives to the historical geography of resource grabs tied to the creation of enclaves and commodity frontiers. The study uses the changing toponymy of maps of the region, analyzes texts, and images to understand how ocean space in the Western region of Ghana is understood, represented and transformed over time by different resource actors. It concludes that despite the heavily commodified resource

extraction along the Western region's coast since the fifteenth century, oil and gas exploitation is the first commodity frontier to directly appropriate ocean space from fisheries. This has resulted in the enclosure and depletion of a nationally important food source. The oil and gas exploitation has therefore resulted in a decline in food security and sovereignty in a country that has a very high per capita fish consumption rate.

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LIST OF ABBREVIATION

FPSO – Floating Production Storage and Offloading Vessels

FAD- Fish Aggregating Device.

ISO – International Association for Standardization

FAO- Food and Agricultural Organization

GOG- Gulf of Guinea

SSF- Small Scale Fisheries

GDP- Gross Domestic Product

EEZ- Exclusive Economic Zone

IMF- International Monetary Fund

CEO- Chief Executive Officer

RUF- Revolutionary United front

GHEITI- Ghana Extractive Industries Transparency Initiative

GII- Ghana Integrity Initiative

PIAC- Public Interest and Accountability Committee

CSR- Corporate Social Responsibility

GNPC- Ghana National Petroleum Corporation

PCG- Petroleum Commission Ghana

UNCLOS- United Nation Convention on the Law of the Sea

CHAPTER 1

1.0 Introduction

The existing and latent resources of the sea are many and varied; their rational development and utilization offer a technical, economic and social challenge.
(Schaffer and Revelle, 1959;17 quoted in Hurberty and Flock, 1959)

In 2007, Kosmos Energy Oil Company of America, listed on the New York stock exchange (NYSE) under KOS arrived trying to find oil in the Ghanaian Gulf of Guinea off the historic Cape Three Points[1]. After several failed attempts by Ghana to find oil in its Exclusive Economic Zone (EEZ) during British rule and again after independence by the Canadian company Petro Canada, Kosmos struck oil where others had come up dry. Kosmos and its investment partners came away with a projected US$2.2 billion, leaving filmmaker Racheal Boynton (director of *Big Men*) to claim in 2014 that oil makes men thieves.

The aptly named Jubilee field discovered by Kosmos has led to oil dreams in Ghana—a country noted for good governance in a region otherwise dominated by civil war, violent conflict and blood tied to oil[2]. The Jubilee oil field and its storage vessels (FPSO figure 1.1) are icons representing what oil can do for the nation. The Jubilee typonymy for the ocean floor at 0^0 latitude and 0^0 longitude is a common feature of

[1] Cape Three points is the southernmost tip of Ghana, the land nearest to the sea which marks the western end of the Gulf of Guinea. Historically, there has been an abundance of lighthouses in the area, constructed by the British beginning in 1875. The light houses served as navigational aids for trading vessels sailing through the Gulf of Guinea.

[2] In places such as the Niger delta region, Sierra Leone, Angola, and Equatorial Guinea, oil and mineral extraction has resulted in conflicts and violence. In the Niger delta, for example, oil spills and gas flaring have destroyed fisheries and farm lands (see Ukiwo, 2008).

discussion in the media and is represented on coastal maps of Ghana. The oil finds have triggered hope for additional revenue to support an ailing economy (Gary, 2009). It is anticipated that GDP and revenue from the oil will provide jobs, sustain growth and enhance infrastructure development (Gary, 2009).

Figure 1.1 Jubilee field and FPSO Kwame Nkrumah
Source; http://platformlondon.org/2012/06/28/tullow-oils-foul-play-in-ghana/

However, the ocean space and fishing grounds in the western region (Figure 1.2) have captured the attention of the local media, non-governmental organizations and researchers for other reasons: the conflicts in the use of ocean space between oil and gas and small-scale fisheries. Simply stated, the oil and gas activities have appropriated fishing places. Historically, the Gulf of Guinea (GOG) has been dominated by fishers who operate on a small scale at a subsistence level using relatively small boats. The fisheries are described by the Food and Agricultural Organization (FAO) as small-scale

or artisanal fisheries based on their use of local technology. Their livelihood is threatened by oil and gas development. In assessing the impact after one year of oil and gas exploration in 2011, TV3 evening news, a local station, pointed to the negative impacts of the ongoing oil and gas production on fishing, food and the livelihood of coastal dwellers. A 2011 headline 'Fish versus Oil' led to public interest in exploring how oil and gas production activities have encroached on small-scale fishing in the offshore zones. The local news also explicitly noted the reduction in the fish catch, with coastal dwellers and small-scale fishers struggling over access to dwindling catch[3] because of oil and gas exploitation activities.

[3] TV3 news, 2012. Report on the impact of the oil and gas production on fishing activities and livelihood. See https://www.youtube.com/watch?v=oI_9Wvo9b5E

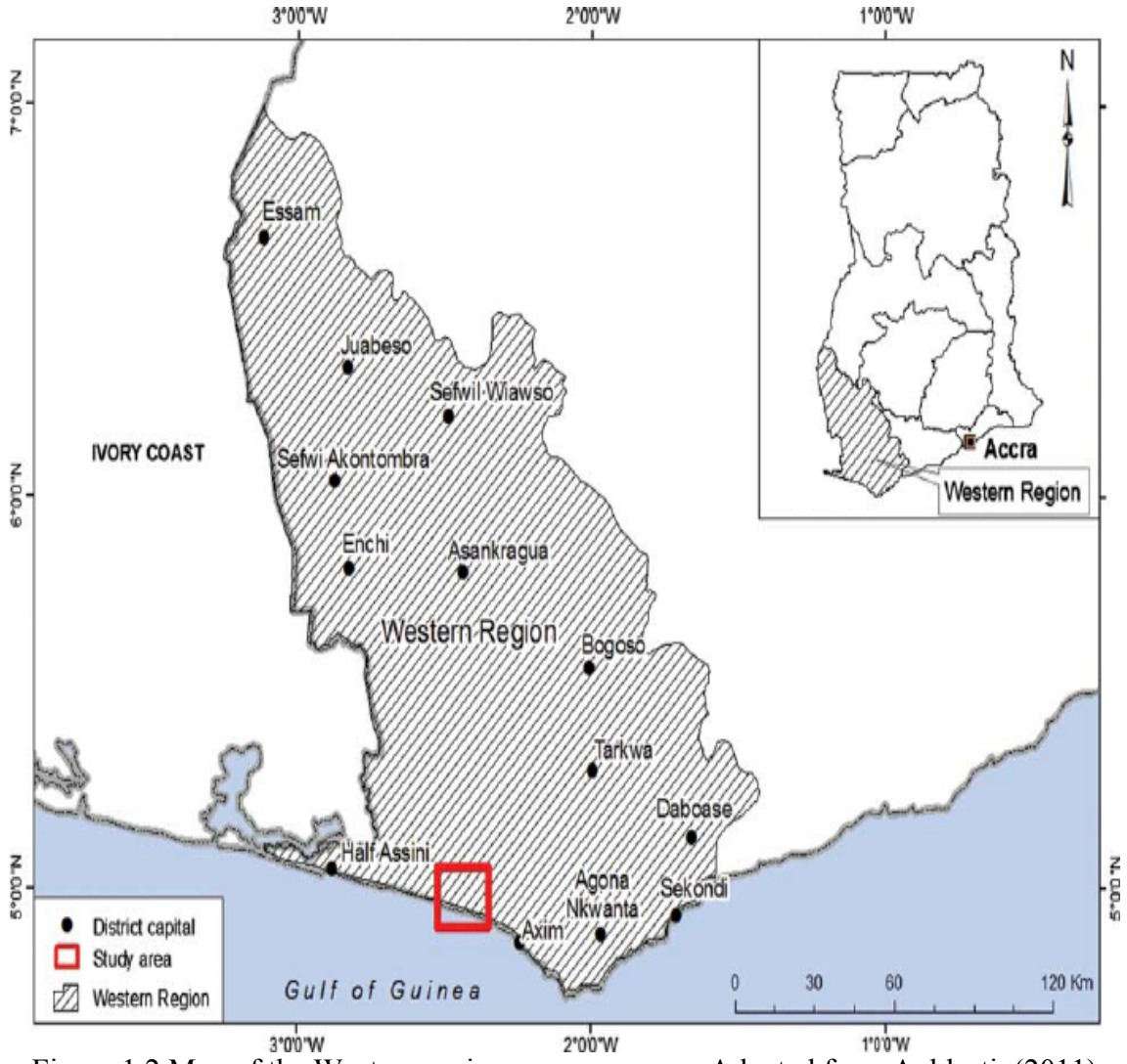

Figure 1.2 Map of the Western region Adapted from Agblorti, (2011)

The conflict between oil and fish persists, with those opposed to the development pointing to the extent of the oil and gas activities offshore. Along the western Gulf of Guinea coast, oil and gas activities take place very close to the coastline, just 60 miles away from the shore on inshore traditional fishing grounds (Agyei et al., 2012). This is different from the extent of oil and gas activities in other places around the world such as Canada, Norway and the United Kingdom, where oil exploration and exploitation activities take place well offshore, even beyond the 200-mile exclusive economic zone. There is another problem as well. The International Association for Standardization (ISO) rules for offshore oil and gas exploration and exploitation requires oil companies to use lighting systems for security and do not permit any activity within 500 meters of oil rigs and other infrastructure; these become no go zones (Grant 1978; Arbo and Thuy, 2016). But small-scale fishers in western Ghana often complain that the strong lighting systems on the floating production storage and offloading vessels (FPSO) function as Fish Aggregating Devices (FADs), attracting most of the fish within the 500-meter exclusion zones (Bagley, 2011). The areas around the oil and gas infrastructure have become de-facto private property enacted through the ISO requirements associated with offshore oil and gas installations and infrastructure.

The future of marine fisheries and the food they provide to Ghanaians is uncertain, given the considerable investment in oil and gas resource extraction in the Western Gulf of Guinea region, the appropriation of the fishing commons and the threats to food security, sovereignty and the livelihoods of fishery workers (Adusah Karikari, 2015; Agyei et al., 2012; Boohene & Peprah, 2010).

The GOG is a major source of food and the cheapest source of animal protein for people living in West African countries (Attah-Mills et al., 2004; Marquette et al., 2002). Global estimates of seafood consumption by coastal indigenous communities (Figure 1.3) show the Gulf of Guinea littoral as the highest fish consumption zone in the world, with an average of 164kg of fish consumed per person per year compared with the global average of 19kg per year (Cisneros-Montemayor et al., 2016). In Ghana, fish contributes roughly 60 percent of the protein in local diets (Boohene and Peprah, 2010). In other words, the sea is heavily relied on to feed the population.

About 86 percent of fishing in Ghana is done in the Gulf of Guinea, not in fresh water (GSS, 2012b). Small-scale, artisanal or vernacular[4] fishing and processing are key sectors in the coastal communities of Cape Three Points, Axim, Akwidae, Elembele, Jomoro and Shama where some fishers use wooden canoes with paddles and others use small outboard motors. With the livelihood and sources of food threatened and oil and gas jobs limited, there is resistance to the enclosure of ocean space for oil and gas production. Scholars point to deleterious social, economic and cultural consequences for Ghanaian fishing communities, saying the conflict requires attention (Ackah Baidoo, 2013; Adusah-Karikari, 2015; Boohene & Peprah, 2010).

[4] Vernacular has been used to describe local and traditional fishing practices of men and women based on limited capital, unmanaged labour and mainly non-mechanized technology (see Pope, 2004; Johnson and Bakakki in Murton et al., 2016).

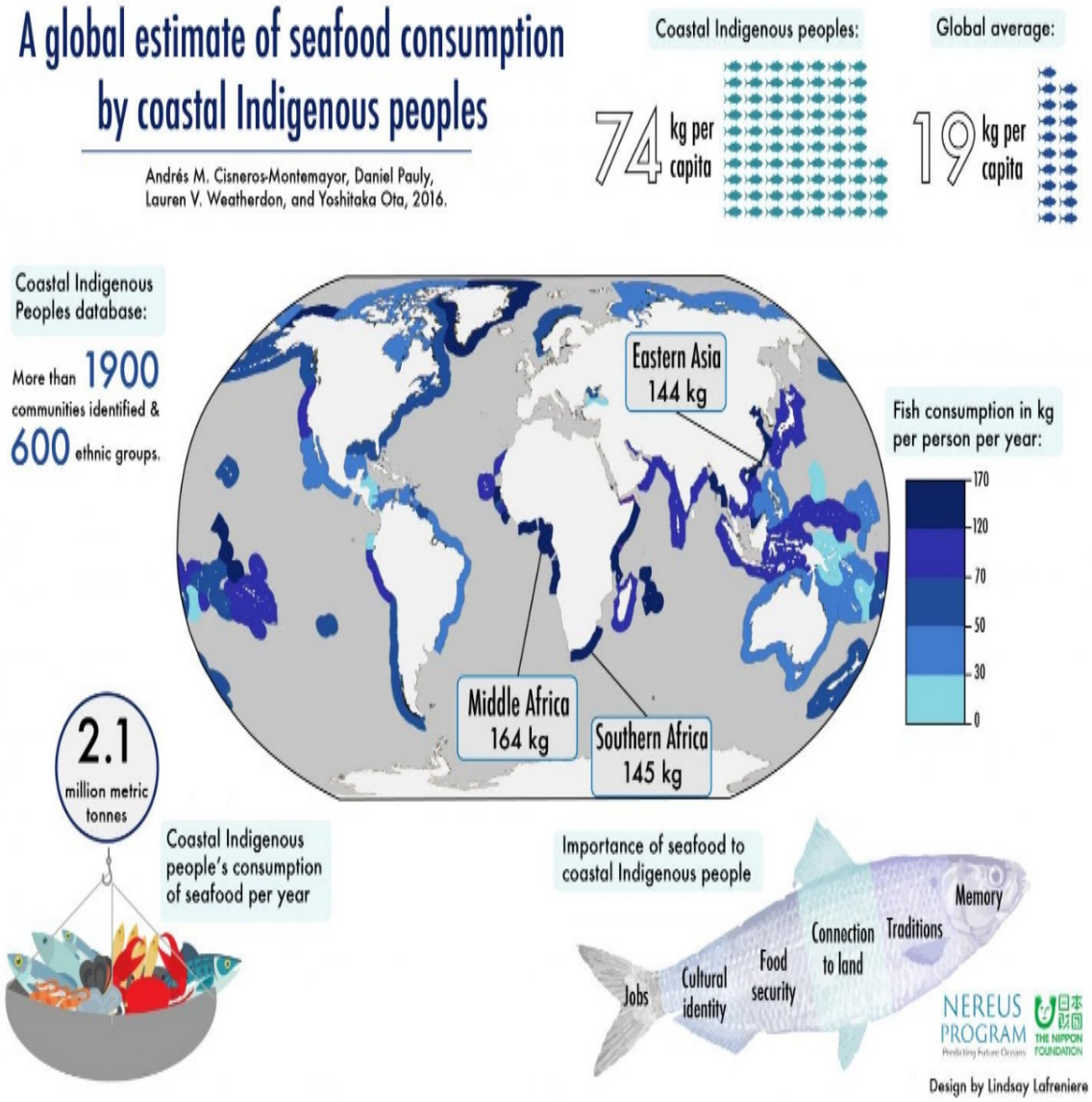

Figure 1.3; Global estimates of fish consumption by coastal indigenous peoples. Adapted from Cisneros-Montemayor et al., (2016)

Critical studies in sub-Saharan Africa have employed the resource curse thesis[5] (see Freynas in Cumming et al., 2017) to explain conflicts and other negative impacts of natural resource exploitation. The resource curse approach emphasizes good management, proper governance and the restitution of quality institutions to ensure the benefits from oil and gas exploitation trickle down to entire resource-rich nations, particularly adjacent communities (Cumming et al., 2017; Robinson et al., 2006). In resource-endowed states with poor governance, civil wars, weak institutions and weak civil society groups, the entire state does not benefit from the resource windfall (Cumming et al., 2017). However, as Ferguson (2006) points out, sub-Saharan African states with poor governance, civil wars, and weak institutions have not suffered a withdraw of foreign direct investment, quite the opposite. Failed states can continue to attract foreign investment and development funds from transnational corporations who accumulate resource rents and extremely high profits through the creation of resource extraction enclaves defended by strong private security forces. This is especially the case, Ferguson (2006) argues, when oil and gas resources are located offshore.

The resource curse thesis ignores this ongoing history of enclave development, assuming the need for good governance to attract foreign investment when examples such as Angola and Nigeria prove otherwise (Obi, 2009,). While there is yet to be empirical research on the resource curse in the Western region of Ghana specifically, examples from sub-Saharan Africa demonstrate that the resource curse theory fails to explain how

[5] In this study, I use resource curse theory and resource curse thesis interchangeably as in the literature. I use the term resource curse to denote scholars' explanation of problems of resource-rich nations; the theory has not been proved, however.

profits can be extracted without good governance, indeed, Ferguson (2006) argues that ongoing conflicts and lack of good governance and rule of law can provide lucrative business opportunities. When the resource curse is taken as something that needs to be proven, as opposed to a taken for granted assumption, understandings of resource conflict changes. When examined from the historical perspective of different periods of colonial resource enclosure, exploitation and appropriation; resource grabbing; and 'enclave[6]' resource development, understanding of the conflict between fisheries and oil development in the Western region of Ghana is transformed from that of resource curse explanations.

Ghana's colonial contacts began in the 15th century when the Portuguese arrived at the Gulf of Guinea coast after being granted a Papal Bull by Pope Nicholas V to explore the African Coast (TRC, 2015; Wolf, 1982). Maritime explorers had discovered the wealth of the African coast and European monarchs were interested in gaining access. When the Portuguese moved into the Gulf of Guinea, the colonial and imperial domination of the indigenous people by Europeans began. The Portuguese appropriated and exported commodities, including slaves, ivory and gold, to Europe. European exploration and colonization established what I refer to as a toponymy of appropriation that renamed the littorals of West African states according to the resources available to

[6] Ferguson (2006) describes enclaves as a development model where local communities and economies adjacent extractable resources are alienated from the employment and trade opportunities associated with resource development that benefit multinational corporations and their shareholders over the citizens of resource rich states. Under the enclave development model, capital investment in does not flow into local regions but is captured by multinational extractive firms provided with contractual legal authority to exploit resources by the state, with ongoing access to resources guaranteed by the military and private security firms.

appropriate and exploit: the slave coast, gold coast, ivory coast and most recently the oil and gas coast.

Toponymy, or the study of place names, can uncover vital historical information about a place, including the spatial-temporal distribution of economic activities. It can also provide insight into the social conditions and life of people from a particular location (Cloke et al., 2005). The toponymies of the western Gulf of Guinea region indicate a commodity trade in slaves, gold, ivory and now oil.

Commodity trade in the region began with the Portuguese, British, Danes and Dutch heavily involved in gold until the gold stocks were depleted; at that point, attention shifted to the slave trade. Before the Europeans became involved in the slave trade, slavery was a common feature of the indigenous Ghanaian coastal empires (Agbodeka, 1992). Many people were captured and enslaved as labourers, head porters and servants in powerful kingdoms such as the Ashanti. Some slaves were sent to the coast and sold to the European merchants who transported them through the Atlantic Ocean to Europe or the Caribbean (Agbodeka, 1992). However, unlike the chattel slavery[7] practiced by the European empires, the slaves in the Ghanaian kingdoms had a chance to be freed and rise through the hierarchy to be masters after years of servitude. The chattel slave trade along the coast continued until the 19th century, when it was abolished.

The European empires built forts along the coast as enclaves to protect development, trade monopolies and the transportation of commodities to Europe. Out of

[7] Chattel slavery is used to denote the earliest form of slavery where slaves were property that could be bought or traded or inherited.

the 15 forts in present day Ghana, seven were established in the western region, reflecting the importance of the littoral for European trade (TNCP, 2012). Fort St. Anthony in Axim in the Western region is the second largest and oldest European fort constructed in the region; it was intended to protect and facilitate the gold and later the slave trade between interior forest dwellers and Europeans (TNCP, 2012). The establishment of the forts attests to the fierce competition between the European empires in resource appropriation along the coast (Decorse, 1992).

Despite the long resource history of the region, the various uses of ocean space and the central role of colonial empires, this history plays no role in resource curse explanations of conflict. Many scholars (Ayelazuno, 2014, Obi, 2009, 2010) question the resource curse model and its effectiveness in understanding and addressing problems of resource exploitation and conflicts. Ignoring history to emphasize a theoretical resource curse, turns the resource curse thesis into a universal law to explain the conflicts and resource problems of sub Saharan Africa. In the resource curse literature, ignoring historical antecedents narrows explanations and precludes understanding of the complexities of conflicts and violence (Le Billion in Perreault et al., 2015). Explaining resource conflicts from the perspective of historical geography opens up numerous options; conflicts can be examined in the context of a wider variety of actors and processes (Le Billion in Perreault et al. 2015). Le Billion in Perreault et al. (2015) says such an approach eliminates reductionist analyses and recognizes the situated nature of conflicts.

This thesis employs a historical geographical approach to understand the conflict between small-scale fisheries[8] and the oil and gas industry in Ghana. The study begins with an examination of the resource curse thesis. It further suggests that, explanations and analyzes must move beyond the resource curse thesis to examine the historical geography of resource grabs tied to enclaves and the history of commodity frontiers in order to understand the conflict.

1.1 RESEARCH OBJECTIVES AND QUESTIONS;

The study is guided by two overarching objectives.

1. To understand the historical geography and complexity of the conflict between the oil and gas industry and fishing activities in Ghana and how this conflict is understood in the scholarly literature on the resource curse.
2. To examine how the Ghanaian coast and the larger Gulf of Guinea have historically been understood as a resource frontier as an alternative way of understanding present day conflicts between oil and fish, food security and sovereignty in the western region of Ghana (Furlong and Norman, 2015).

My specific research questions are the following:

1. How has the conflict between the oil and gas industry and the small-scale fisheries been framed by the resource curse literature?

[8] The thesis uses small-scale fisheries to reflect FAO definitions of small scale or artisanal fisheries. Small-scale fisheries are traditional fisheries involving households as opposed to commercial entities; they use relatively small amounts of capital, use small fishing vessels (e.g. canoes) and aim more for subsistence than commercialization. The prefix 'artisanal' or 'subsistence' is applied based on the level of technology practiced. See http://www.fao.org/faoterm/collection/fisheries/en/

2. How has the Gulf of Guinea been mapped, represented and valued as a resource grab frontier from the time of European contact up to the present?

1.2 METHODOLOGY, THEORY AND RESEARCH PROCESS

This section explains the methodological approach, theoretical framework, and the method of data collection. It is divided into three parts. I begin by explaining the methodological approach and theoretical framework. I then discuss the method of data collection and analysis.

Research Methodological Approach

Qualitative research is based on interpretivism (Walsham, 1993). It sees human actors such as researchers as constructors of knowledge who use in-depth interpretations to depict reality. Such analysis is dependent on the researcher's knowledge, creativity, and understanding of the problems of the research setting (Bhattacherjee, 2012). I adopted a qualitative historical geography methodology to explore and interpret the use of the Gulf of Guinea coast and its connections with colonial forces and agents, postcolonial state and non-state actors and the capitalist world system. I did so to shed light on the contemporary appropriation of the ocean by the oil and gas industry and the ensuing conflicts with small scale fisheries in Ghana.

There is a long tradition of studies on resource extraction in West Africa and along the Gulf of Guinea, but little importance has been placed on using an historical approach to study the social, cultural and economic conflicts associated with contemporary resource exploitation. The existing historical resource studies have focused

on the commodity trade between the 16th and the 19th century. Historians Boahen (1992), Rodney (1969), and Agbodeka (1992) have all explored and discussed the slave and gold trade in the Gulf of Guinea and West Africa. They note the colonial influence in establishing and transforming the West African littoral into a space for commodity exploitation. A more recent study by Bridge and Fredriksen (2012) uses a historical research methodology to show how space comes to be transformed by resource extraction. Drawing on colonial government and other archives, they show that European colonialism turned a geographic space in the periphery into a globally-connected extractive-economy network.

Why is an historical research approach useful for this study? Simply stated, knowledge of the past is valuable in dealing with contemporary problems. Historical research offers the opportunity to go beyond the superficial to deal with the complex nature of events and to understand historical precedents for present conflicts (Ary & Razavieh, 1996; Johnson & Christensen, 2000). I did not take the contemporary social world at face value; rather, I challenged myself to go beyond the common understanding of social phenomena (in this case, the conflict between regional fishers and international extractive corporations) to ask questions about what generates conflicts in the region and where the historical roots of this conflict are located (Tewsksbury, 2009).

My questions required archival exploration and the analysis and interpretation of documents, ideas and maps to find the patterns in the historical resource geographies of the Gulf of Guinea and, thus, to understand the present conflict between fish and oil historically. I paid particular attention to 1) literature and reports analyzing and

discussing natural resource conflicts and the risk factors identified. I also investigated 2) historical use, representation and the transformation of the Gulf of Guinea coast through commodity exploitation and trade and its connection to colonialism and capitalism. I paid attention to maps, images, and pictures of the Gulf of Guinea left behind by colonial administrations as many of these help with understanding the contemporary Gulf of Guinea, its uses and users. By historically exploring the conflict, I was able to examine the elements of power relations and politics at work throughout historical resource appropriation and expansion in this region.

Theoretical Framework

The thesis explains the conflict between the oil and gas industry and small-scale fisheries by linking the literature on the resource curse to resource grabs, commodity frontiers and toponymy. It examines the resource curse theory in Chapter 2 and offers alternative explanations of the conflict using historical geography in Chapter 3. The toponymy of maps is a useful tool to understand what previous users of the region/place had in mind and what locations were valued (Harley, 1989; Kadmon, 2004; Meyer, 1994). Maps are the means empires use to know, explore and calculate places of resource wealth and commodification (Harley, 1989; Moore, 2017b). The historical toponymy of the maps of the Gulf of Guinea depicts a series of resources: gold coast, slave coast, ivory coast, and oil and gas coast. This series of resources illuminates the present-day conflict by describing the ongoing commodity frontiers of resource appropriation. These maps represent the interests of European colonizers, not necessarily the importance of a location for those living there.

An abundance of resources is generally considered a blessing as it can promote economic growth and development. However, research shows that the abundance of resources can be more of a curse than a blessing, especially in sub-Saharan Africa (Mikesell 1997; Ross 1999, 2001; Sach &Warner 1995). Sachs and Warner's (1995) cross country comparative study on resource endowed states finds a strong relationship between natural resource abundance and negative economic growth. Similarly, Mikesell's (1997) analysis shows a slower rate of growth among resource endowed developing countries. Among twenty-three mineral exporting resource endowed nations analyzed, - 0.5 percent and - 0.9 percent in the annual per capita growth was observed for all but five of the countries studied (Mikesell, 1997).

Humphrey et al. (2007) say that in the late 1970s and 1980s, oil and gas resource endowed states saw a lower rate of growth than countries lacking those resources. This claim is supported by Gary (2009) who contends that between 1970 and 1993, nations without oil saw 400 percent more growth than countries with oil. He concludes that the abundance of a resource can be a barrier to economic development. Brass (2008) and Ukiwo (2008) indicate that an abundance of resources (oil) creates inequality, poverty and poor standards of living in resource rich nations under capitalist conditions. This results from weak institutions and mismanagement of revenue from resources and the internal and global class dynamics of capitalism (Ross, 2015). For example, despite the oil resource abundance of Nigeria and Chad, Indigenous communities adjacent to the oil fields are impoverished (Brass 2008; Ukiwo, 2008)

Furthermore, evidence shows that the abundance of resources in resource rich

nations leads to authoritarianism, political instability, corruption, and conflicts (Ross, 2015). Schubert (2007) asserts that political instability, corruption, and conflict creep into an economy when resource rich nations have undiversified economies. Governments pay attention only to windfalls generated from oil to carry out their activities while resource communities themselves are marginalized and neglected (Schubert 2007; Ukiwo,2008;). Pritchard (2014) further contends that revenue from oil becomes the sole focus of governments, seeking to stabilize authoritarian rule and power by controlling resources. Revenue from resources controlled by the government (oil and diamonds) can be used to finance violent conflicts to strengthen political position and incumbency (Collier & Hoeffler, 2004; Le Billion 2001;). Similarly, where main government interests lie in winning elections, governments marginalize resource communities and make little investment in public needs in favour of personal enrichment (Le Billion, 2001).

Kabia (2008) and Ukiwo (2008) emphasize that poverty and marginalization of resource communities triggers conflicts because of corrupt practices and mismanagement of resource revenues. In their study on Sierra Leone's diamond, and Nigeria's oil resources, they demonstrate that resource communities are marginalized and neglected in the share of the windfall from abundant oil and diamond resources. The amount of revenue allocated to resource communities was less than 10 percent of the total value. Ukiwo (2008) demonstrates that indigenous people's farm lands and fishing grounds in Nigeria were destroyed by oil spills and drilling activities; this resulted in armed rebellion and militant resistance.

Despite the impressive evidence amassed by researchers to justify the resource curse

theory, the debate on the abundance of natural resources as the cause of conflicts and other economic problems such as poverty is widely challenged. Recent studies and reviews by researchers posit that resource abundance alone does not explain resource problems and conflicts (Ross, 2015; Obi, 2010). In his study of the resource curse in developed and less developed resource-rich nations, Maloney (2002) found that abundance is not the sole cause of the resource curse. Botswana, Chile, Australia, Norway, Malaysia and Indonesia and Canada developed in spite of their resource wealth. Also, Ferguson (2006), demonstrates that despite the numerous problems such as civil wars, conflicts and political instabilities that tend to plague resource rich nations in sub-Saharan Africa, many direct foreign investors continue to invest in these nations unlike states with good governance and national development plans. This is because the states operate with an enclave development model. However, while 'enclaves' serve the profitability of corporations they cannot be described as successful models for citizens as they breed resentment, resistance, demands for local employment and can also maintain and produce violence and conflict in resource communities. All of these negative effects are ignored by resource curse explanations (Ferguson, 2006).

As noted above, the resource curse theory ignores the history of resource-rich nations and the problem of enclave development in favour of a narrow focus on the abundance or scarcity of resources (Obi 2009, Ayelazuno, 2014). To gain a better understanding of violence in Nigeria, Watts (2004) moves beyond the resource curse thesis and the essential link between oil and violence to examine how historically produced enclaves of 'governable' and 'ungovernable' spaces are produced in an 'oil

complex', with each having a different form of conflict or violence attached to it.

In a recent paper on resource geography by Furlong and Norman (2015), it is argued that resource abundance and scarcity narratives applied by scholars from the resource curse theoretical position, fail to adequately explain resource violence and conflicts. Ongoing global resource grabs such as land, ocean, and water appropriation and enclosure by powerful forces, including state, non–state, and transnational actors, results in violence as resources are taken by force (Furlong & Norman, 2015). Furlong and Norman (2015) suggest that analysis of resource violence should move from resource curse to resource grab explanations.

Studies show that resource grabs result from power struggles between conflicting users who desire to control and use natural resources (Tietengberg & Lewis, 2000). The literature suggests that land grabbing (Hall 2013; Borras et al., 2012) and ocean grabbing (Bennett et al, 2015; Franco et al. 2014; Knott & Neis, 2016) are problematic but there is no clear consensus on what constitutes a resource grab (Borras et al., 2012). Resource grabbing has been considered to encompass the acquisition of natural resources by states, non-state investors, and actors who prioritize development plans and financial investment in natural resources over adjacent populations and their livelihoods (Norman & Furlong, 2015; Rulli et al. 2013). Furlong and Norman (2015) reiterate that resource grabs through the financial investment of state and non–state actors produce violence through enclosure and exclusion, mostly affecting communities adjacent to sites of resource extraction, including oceanic resources.

In recent discussions of fisheries, ocean grabbing has been used to describe a wide variety of conservation and fisheries management practices that affect communities adjacent to the coast (Knott & Neis, 2015). Bennett et al. (2015; 63) say: 'Ocean grabbing is the dispossession or appropriation of use, control or access to the ocean space or resources from prior users, rights holders or inhabitants.' Bennett et al.'s (2015) study shows that space and resources can be appropriated through legitimate or illegitimate means in the form of enclosures. For example, Foley, Mather, and Neis (2015) describe the implementation of the Exclusive Economic zones (EEZ) as part of the law of the sea as a form of ocean enclosure and property making. It has encouraged nations to extend their areas of sovereignty to manage, and exploit their oceanic resources. Evidence suggests that ocean grabbing takes places through policies, laws, and practices such as access agreements that reallocate ocean use from small-scale fisheries, fishing communities, and individuals to state and corporate actors without considering the negative implications or equity concerns for local resource users (UNO, 2012).

The literature further suggests that ocean space and its resources, such as fish species and hydrocarbons, are appropriated and controlled by powerful hegemonic forces and economic actors who decide on use, conservation, and management (Bennett et al., 2015; Franco et al., 2014). The analysis of ocean grabbing sheds light on how local communities and individuals whose lives, cultural identity and livelihood depends on small-scale fisheries, are affected by resource development (Franco et al., 2014). National governments, for example, may implement fisheries policies and reforms to enhance economic development and foreign exchange, but these may forcefully evict

marginalized groups and indigenous coastal communities, resulting in resistance (Bennett et al., 2015).

Exacerbating the issue, financial investment in fisheries by corporate actors re-allocates fisheries and ocean space into the international market (Bennett et al., 2015; Franco et al., 2014). These powerful forces only focus on maximizing profit from the use of the ocean and cause harm to small-scale fisheries. Franco et al. (2014) contend that profit maximization through privatization converts the ocean commons or public space into legally protected property, and this negatively affects the cultural identity and livelihood of indigenous fishing communities. These practices commodify ocean space and limit access to the ocean by local fishers. The ocean grabbing literature has been extensively applied to fisheries and aquaculture development plans and reforms that appropriate and reallocate the fishing spaces and resources of indigenous communities (Franco et al., 2014; Knott & Neis, 2016). Consequently, it is applicable to the capitalist appropriation of the fishing livelihood of indigenous coastal communities along the Gulf of Guinea littoral since the 15th century.

Commodity frontiers are formed when ocean space is enclosed and resources are grabbed and appropriated as private property. Moore describes commodity frontiers in two ways: (1) 'a zone beyond which further expansion is possible,' and (2) a 'kind of space with forward movement of [the] capitalist system' emphasizing advancing commodification (Moore 2000, p. 412). Moore says the expansion of capitalist relations is possible only as long as space and labor are still available to be enclosed and appropriated (Patel & Moore, 2017). Beinart and Hughes (2007) describe commodity

frontiers as historical European settlements where resources are exploited in overseas territories; the transition of the resource into the commodity leads to the creation of a new frontier. They stress that commodity frontiers refer to historical European trade, settlement and productive enterprises that focus on exploiting resources in overseas territories, transitioning them into commodity forms that enable the creation of new frontiers allowing for continuous economic growth. The expansion of commodity frontiers (in this study the coast/sea for oil and gas extraction) is possible as long as there is un-commodified space, labor, and land available for conversion (Moore, 2000, 2015, 2017a; Beinart and Hughes, 2007).

A recent study by Moore (2017a) argues capitalism is a feature of early commodity frontiers motivated by colonial forces and empires. According to Moore (2000), commodification is expanded when colonial forces go beyond the current resource frontiers of a geographic space to other fields. Furthermore, frontier development pushes capitalist expansion to other fields whenever its productivity is exhausted, allowing new land/sea to be occupied and new labor to be appropriated and exploited. Moore's historical materialist approach posits commodity frontiers as zones of appropriation and dispossession of nature, women and colonial labor, destabilizing existing frontiers by creating new ones (Moore, 2015). In the Gulf of Guinea for example, cycles of commodity frontiers evolved when land, slaves and gold were appropriated by Europeans who arrived on the coast in the 15th century. This appropriation and exploitation shapes commodity frontiers and capitalism, leading to the exhaustion of resources and human labor (Moore, 2010, 2015, 2017a). Moore's (2000)

study of a sugar plantation in Madeira shows that whenever there is a frontier expansion, domestic labor is marginalized, while labor with expertise is brought into protected enclaves to work in the industry—a problem in Ghana's oil industry today[9].

According to Moore (2017b), the expansion of capitalist production is aided by the tendency for frontiers to extend their zones of exploitation, appropriation and accumulation of the unpaid work 'cheap nature' provides. This makes exploitation and appropriation of natures (and human natures) the central feature in commodity frontiers (Moore, 2000). Commodity frontiers are driven by the desire to cut costs and increase land and labor productivity by appropriating the surplus of the world's ecology (Moore 2017a). Economic power is exercised in commodity frontiers and states use violence and knowledge to appropriate nature at a low cost (Patel & Moore, 2017).

Moore's ideas on the commodity frontier, Ferguson's description of resource enclaves, and the resource curse theory (Ayelazuno, 2014, Obi 2009, 2010; Sach & Warner, 1995) as well as resource and ocean grabbing theory (Bennett et al, 2015; Franco et al, 2014; Knott & Neis, 2015), help to illuminate the historical resource uses of the Gulf of Guinea coast and relations with colonialism/colonial forces, modern state and non-state actors, capital, and conflicts. Chapter 3 uses these key theories and concepts to explore the historical representation and appropriation of resources of the western Gulf of

[9] As an example, I met a woman at church a few days after I arrived in St John's. She wanted to know where I came from and why I was there. After a brief conversation, she told me her son worked on offshore oil rigs in western Ghana. This illustrates Moore's (2000) assertion that when frontiers are established, foreign labor and expertise are imported to enhance productivity and commodity frontiers; this marginalizes indigenous people and local labor. This also illustrates Ferguson's (2006) argument about resource enclaves.

Guinea of Ghana to shed light on the role of historical capitalism and colonial power relations in the present conflict between the oil and gas industry and the small-scale fisheries; it argues that this is better understood as a case of resource grabbing not a resource curse.

Methods of Data Collection

I began my study in the spring of 2016. I explored the literature on fisheries in western Ghana, their contribution to food security and sovereignty, fishery practices, cultural, and gender roles and the extent of fishing and how it is managed in local communities and nationally. I paid particular attention to historical developments up to the present, the problems the sector faces and the evolution of fishing practices. This gave me a good sense of the importance of the sector to the local people, community, and nation. I was then able to conceptualize the impact the oil and gas exploitation activities are having on livelihoods and fish availability and to understand the competition for the use of the ocean. Similarly, exploring the history gave me a fair understanding of situations when conflicts have occurred in fisheries and instances when fishing activities have been negatively impacted because of the different uses of coastal resources.

I also attended the 2016 Petro Cultures conference at Memorial University. A presentation on the United Nations Convention on the Law of the Sea (UNCLOS) gave me an in-depth understanding of laws covering the uses of the ocean and how they might apply to the case of small scale fisheries in Ghana. I got a sense of the demarcation of the oceans and how human activities are regulated and operationalized in the sea. This helped

me re-imagine and interpret fishing and oil and gas operations on the coast, as well as the degree of power over ocean space that these two activities command.

My research methods included document analysis which began in spring 2016. I assembled the archival data using the search engines Google Scholar, World Cat, Scopus and Web of Science. To broadly understand the discursive issues surrounding the conflict and the dominant way these conflicts are framed by resource scholars, I analyzed the Ghanaian case using the resource curse theory (discussed in Chapter 2). I undertook a critical review of the resource curse literature, selecting all papers exploring the resource curse theory. The evaluation criterion was the keyword 'resource curse theory'. As I retrieved over 2000 documents, I scaled down the list using key variables 'Africa' 'oil and gas' and 'conflicts'. This allowed me to identify trends in the resource curse explanation and see how the trend continued to evolve and change after the emergence of oil and gas development activities on the African continent and in the Gulf of Guinea.

In addition, I reviewed the archives and policy documents of the Government of Ghana, media, and non-governmental organizations' reports. Using the keywords 'small-scale fisheries and oil and gas,' 'oil and gas' 'oil and gas in Ghana' and 'oil and gas reports Ghana,' I retrieved all documents covering Ghana's oil and gas activities. I paid attention to reports by the government, Ghana statistical service (GSS) living standard survey documents, the 2015 budget statement of Ghana, FAO 2016 reports on Ghana's fisheries, and Ghana's extractive industry (GHETI) reports on oil and gas exploitation. I explored the Public Interest Accountability Committee (PIAC), the Ghana Integrity Initiative (GII) report, and reports from non-governmental organizations, IMANIs

(Ghana statements and reports on oil and gas, its revenue management and corruption). As the conflict is not documented in government policy reports, I explored media reports, news articles, and media interviews to learn the views of the fishers, aggrieved community members and key stakeholders in the oil and gas industry on the fish-oil conflicts. I critically evaluated *Big Men*, a 2014 documentary on oil and gas discovery and procurement processes in Ghana and Nigeria by American film producer Racheal Boynton. Taken together, these helped explain resource curse tendencies in the Western region of Ghana and in Ghana as a whole. The resource curse review and explanation served as the baseline to make a case for a different understanding of the conflict beyond the resource curse.

To broadly understand the conflict (see Chapter 3), I assembled colonial government documents, historical maps, pictures, writings and narrations on the Gulf of Guinea coast on internet websites and world cat using the keywords 'Gulf of Guinea', 'oil and gas Gulf of Guinea' and 'Gulf of Guinea, Ghana oil.' I paid attention to excerpts of speeches of former Presidents on oil and gas, as well as video and audio documents on Ghana's oil and gas industry. The pictures and maps adapted from journals and digital sources provided a helpful source of information, grounding the thesis in the geographical setting and informing my interpretation. The coast and the western region of Ghana are studied by historians, fishery scientists, and anthropologists. Agbodeka (1992) extensively describes the economic history of Ghana; Nunoo et al. (2014) discuss the history and reconstruction of marine fishing along the coast from the 1950s to 2010; Rodney (1969) studies the gold and slave trade; Nunkunya (1989) examines maritime fishing among the

Ewes along the coast of Ghana. The earlier work done on the Gulf of Guinea littoral built a foundation explaining the evolving toponymy, capitalist resource development and appropriation and enclosures in the region.

Finally, the thesis seeks to understand how oil and gas activities impact food security and sovereignty as these are grounded in vernacular fishery practices in Ghana. I use the traditional Ghanaian cuisine, fish sauce (*shito*) to explain the cultural significance of fish as food and illustrate the impact of the oil and gas exploitation on the fish sauce tradition by relating to my own family's traditional fish food ritual and personal observations from within the country. To gain insights into the topic, I discussed the importance of fish in Ghanaian diets with my grandmother who has rich experience in the preparation of fish sauce. My grandmother, though not from a fishing community, has been involved in the preparation of fish and fish sauce for years; she knows the patterns and changing trends in fish availability along with many Ghanaian women who are the main preparers of fish for eating in the country. Through her, I gained a richer personal understanding of what is at stake when fisheries are enclosed by oil and gas operations in fishery dependent nations like Ghana.

Analysis

After assembling and scanning primary documents, I analyzed secondary sources and maps, speeches from the media, audio and video data using qualitative content analysis (Hsieh and Shannon, 2005; Elo & Kyngas, 2008; Mayring, 2014). The initial document scan of the resource curse literature and the government, and non-governmental organizations' documents on oil and gas development revealed key words such as corruption, poverty, weak institutions, authoritarianism and conflicts; these are problems commonly associated with resource-rich nations classified as resource cursed. I critiqued the resource curse theory and interpreted and analyzed the historical sources using 'deductive content analysis' to understand the conflict.

Deductive content analysis is employed when a study is built on knowledge from previous research findings and methodology (Elo &Kyngas, 2008). Such an approach offers the researcher an opportunity to derive a holistic understanding of a social phenomenon through inferences from documents, text and data (Elo &Kyngas, 2008). The texts on maps of the Gulf of Guinea over time show a linked series of toponymies: gold coast, ivory coast, slavery coast, and oil and gas coast. I used these as keys to the diverse and changing uses of Gulf of Guinea resources. I then incorporated keywords (slavery coast, gold coast, oil and gas coast) into my theoretical framework to offer an historical explanation of the conflict, examining how the diverse historical coastal resource uses have shaped the present conflict between oil and fish.

1.3 STRUCTURE OF THE THESIS

The thesis is organized around two papers, with an introduction and conclusion. The former explains the reason for the research and describes the research process, while the latter draws connections between the papers and reflects on their findings and significance. The two main manuscript papers are written for peer-reviewed publications but have not yet been submitted.

Following this introductory chapter, the first paper, Chapter 2, examines the conflicts between fish and oil in Ghana as these are framed by the resource curse explanation. The second paper, Chapter 3, explains the conflict through an historical geography of resources of the western region of Ghana and the Gulf of Guinea through the lens of historical geography of resource grabbing and enclaves. It draws on maps of the Gulf of Guinea (GOG) and histories of the GOG to contextualize and situate current conflicts between oil and fish into an ongoing series of conflicts around resource grabs, appropriations, enclosures, and exploitation of labor in the region. Using the shifting toponymy of maps, the paper examines previous uses of the Gulf of Guinea ocean space and vernacular fishing practices to explain the conflict between the oil and gas industry and artisanal fishing activity. Chapter 4, the final chapter, summarizes the two research papers and examines the impact of the conflict in terms of vernacular food security and sovereignty. It makes a case for the significance of the study and suggests how the conflict could further be explained and studied in the future.

1.4 CO-AUTHORSHIP STATEMENT

This thesis has been completed in partial fulfillment of the requirements for the degree of Master of Arts in Geography at Memorial University. This research was funded by the 'Too Big to Ignore' global partnership for small scale fisheries. The student designed the research proposal with feedback from his supervisor Dr. Dean Bavington. All chapters are solely authored. The student did the document scan, explored the archives, collected the map sources and other data used for the analysis. The student analyzed the primary and secondary data and drafted the manuscript while the supervisor provided feedback on the framing of the thesis, edited the write-up, suggested and assisted in assembling the literature. The supervisor and committee member also suggested the writing style in their role as members of the supervisory committee.

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CHAPTER 2

Doomed by the 'Resource Curse?' Fish and Oil Conflicts in the Gulf of Guinea, Ghana

Abstract

On June 5, 2010, Ghana celebrated its first commercial oil production from its large Jubilee field. The discovery and subsequent commercial drilling of the Jubilee field was hailed as a significant step toward increasing the country's GDP and accelerating economic growth and development. However, the commercialization of oil and gas and the attendant development came at a cost, which included the closure of part of the western Gulf of Guinea of Ghana to other ocean activities. Specifically, the establishment of no-go buffer zones around oil infrastructures offshore led to conflicts over the use of ocean space and the exclusion of small-scale fishers from former fishing grounds. From a theoretical perspective, the now-famous resource curse theory would explain this conflict between fishing and oil activities in Ghana as an inevitable outcome of natural resource development. The resource curse thesis posits that natural resource extraction and commodification inevitably lead to conflict in the absence of 'good governance'. This paper counters such an explanation and argues that applying the resource curse thesis in this context is deterministic, reductionist, uncritical of power relations and ahistorical. The paper critically examines the resource curse theoretical position and the way it frames conflicts between small-scale fisheries and oil and gas development, using the Gulf of Guinea as an example. It explores the resource curse literature and identifies key arguments surrounding the connection between corruption, conflicts, authoritarianism,

and weak institutions and resource wealth in sub-Saharan Africa. The resource curse theory and its application is contrasted with alternative approaches to the conflict between small-scale fisheries and the oil and gas industry in Ghana.

***Keywords**:* Resource curse, conflict, oil and gas, fishing, resources, enclaves

Introduction

Among sub-Saharan African countries, Ghana is one of the highest-ranked in democracy, transparency and good governance indexes. These indices include the existence of an independent judiciary, checks and balances, and opportunities for public participation from stakeholders (Walter, 2004). However, despite scoring high on democracy, transparency and good governance, Ghana is suffering from an ailing economy. Ghana is dependent on primary resource exports whose prices have been in decline including major export commodities such as gold and cocoa. In the midst of this economic downturn, mining and oil extraction are considered the only means for converting the nation's endowed mineral resources into social amenities and facilitating much needed economic development (Davis & Tilton, 2005). Unsurprisingly, previous governments have encouraged the capitalist development of the country through oil and gas commercialization, with a particular focus on the Jubilee field (Gary, 2009), which is located relatively close to the shore in the Exclusive Economic Zone (EEZ) of Ghana.

Oil exploitation began in the Jubilee field [10] on December 15, 2010 (Agyei et al., 2012), but exploration activities began in 1896 in the onshore Tano Basin (Figure 2.1) in the western region of Ghana (Boateng, 2008). The Jubilee field is in the Gulf of Guinea off Cape Three Points (Akyinkyin[11]) in water roughly 1100 m deep and 60 km offshore. The total oil reserve is estimated to be over 370 million barrels, with the potential to expand to 1.8 billion (Agyei et al., 2012). This oil reserve has been lauded for the economic contribution it will make to the nation's GDP and infrastructural development. As one former President of Ghana declared, 'Oil is money and money is used to provide social amenities and infrastructure such as schools, hospitals, clinics and roads' (Gary, 2009). The International Monetary Fund (IMF) predicted that oil would contribute US $20 billion in foreign revenue to the government over a production period between 2012-2030 (Gary, 2009).

[10] Jubilee field is the name of this oil field as the oil discovery coincided with the Golden Jubilee anniversary of Ghana gaining independence from Great Britain.
[11] Local name for Cape Three Points.

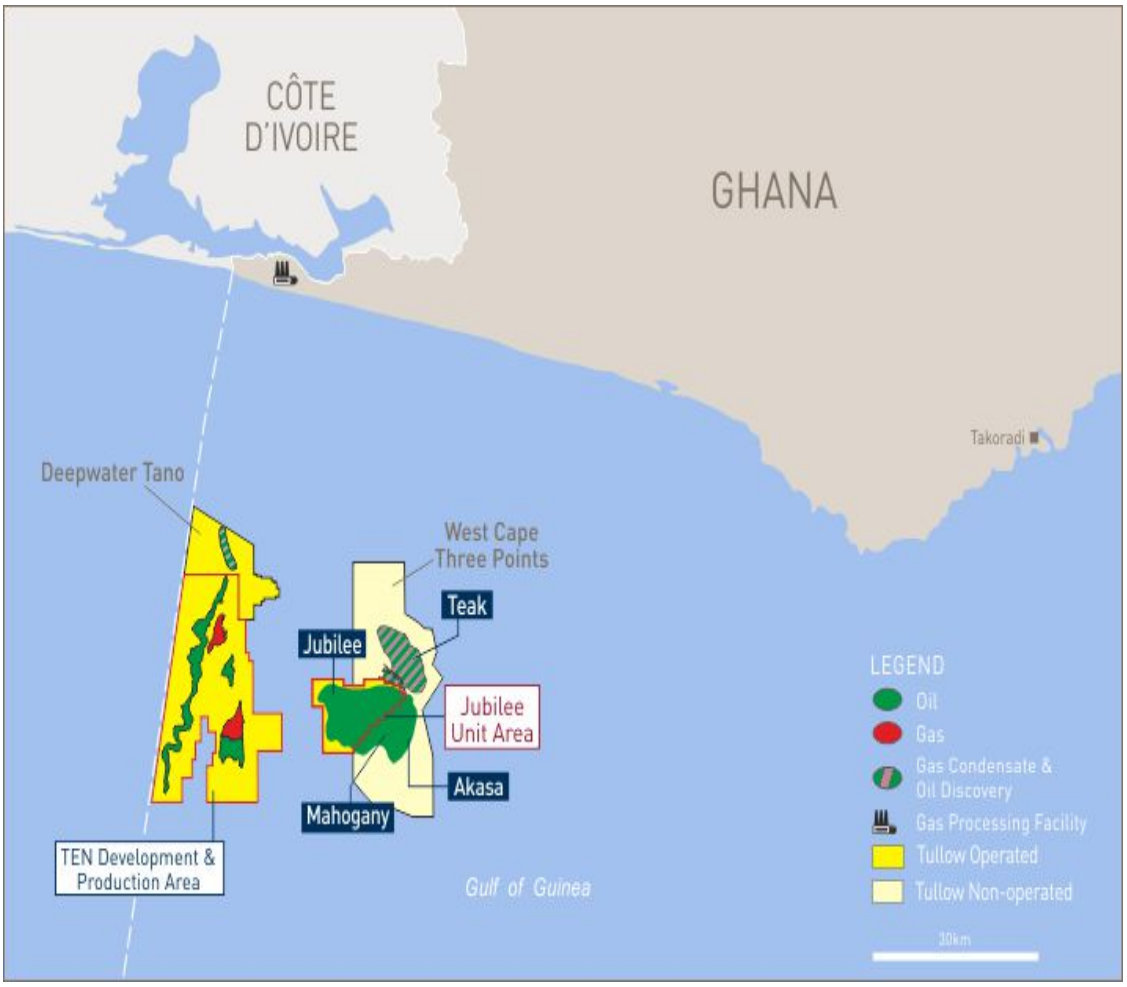

Figure 2.1: Map showing the western region, Ghana and the offshore Jubilee oil exploitation site in the Gulf of Guinea (Adapted from Tullow Oil, 2010).

However, the abundance of natural resources in sub-Saharan African countries has made minimal contributions to development goals, despite the economic projections and development promises. In many cases, resource communities living adjacent to oil and gas exploitation sites are neglected and marginalized; they remain impoverished and see a decline in their lifespans and quality of life (Kabia, 2008; Ukiwo, 2008). Benefits from oil exploitation accrue to only the key stakeholders and actors in resource economies, particularly oil and gas-endowed nations, who monopolize resource rents and profits. These include traditional government leaders, government ministers in charge of energy, and corporate leaders of oil companies. For example, in Donald Trump's cabinet, these would include secretary of state Rex Tillerson, the former CEO of Exxon Mobil. According to the documentary film, *Big Men* (2014), greed allows an elite few to benefit while the majority lose out. The film examines corruption and how it unfolds among oil-rich nations of the Gulf of Guinea, particularly Ghana and Nigeria. American film producer Rachel Boynton documents the greed and self-maximizing attitude of key stakeholders in petroleum upstream processes.

In addition to the 'Big Men' syndrome that plagues oil and gas exploitation, the activities of oil platforms have led to the enclosure of part of the ocean, making it inaccessible to small-scale fisheries (SSF) along the western Gulf of Guinea coast of Ghana. 'No-go' zones have been implemented to protect oil rigs and other infrastructure in accordance with international safety regulations. Fishers are banned from fishing within a 500-meter radius of the oil rigs and within 2 km of other infrastructure such as pipelines and transshipment terminals (Arbo & Thuy, 2016). The situation for fishers is

worsened by the fact that the bright lights of the oil rigs attract fish to the oil rigs, leaving the fishers with little option other than to ignore the law and venture close to the rigs in search of fish. Small-scale fishery workers resist the imposition of no-go areas, creating conflicts with oil extraction companies and the Ghanaian Navy who patrol and enforce the no-go zones. There have been reports of clashes between the navy and small-scale fishers at night when fishers follow the fish into no-go zones (Gary, 2009).

Some scholars attribute conflicts over resources such as fisheries, forests, water and land to their scarcity (Homer-Dixon, 1994; Myers, 1993; Okoli and Atelhe, 2014). For example, Homer-Dixon (1994) stresses that environmental scarcity is the determining factor in conflicts over resource development. Typical narratives explain resource conflicts as stemming from the increasing pressure human populations put on renewable resources, coupled with biophysical environmental changes and degradation (Myers, 1993; Okoli & Atelhe, 2014). Violent conflicts occur wherever natural resources are scarce and there is competition for their use or exploitation (Le Billion, 2001a).

However, Dietz and Engels (2014) argue against scarcity as the main factor in resource conflicts. Conflicts are not just caused by scarcities, they say, but economic factors, or more specifically, inequalities between those with the political power to control resource rents and the public they represent (Dietz & Engels, 2014). Escobar (2006) asserts that environmental scarcities and neo-Malthusian assumptions alone cannot explain conflicts over resources. For others, it is not the scarcity of resources that drives conflict but the abundance of undiversified resources in resource-rich nations (De Soysa, 2002; Le Billion, 2001b).

Moving beyond the binary perspective of either scarcity or abundance, Collier and Hoeffler (2004) argue that conflict is driven by the greed inherent in human nature, especially when people have opportunities to gain personally from resource rents at the expense of the general public[12]. The looting of resource rents and corrupt leaders give rise to rebellions; different factions fight to control revenue and one set of 'Big Men' is often replaced by another. As Le Billion (2001a) stresses, political authorities may even *ensure* that conflicts occur around resources; conflict is functional in that it provides cover for them to accumulate personal wealth from resource rents.

The civil wars, conflicts, resistance, and deprivation that have persisted in resource-rich nations including Nigeria, Sierra Leone, Congo, Equatorial Guinea and Angola, are often explained under the rubric of 'the resource curse.' This paper situates the conflict between the oil and gas industries and the small-scale fisheries (SSF) in the western region of Ghana in this context. It begins by assessing some of the key tenets in the resource curse thesis and their applicability to natural resources such as oil. It critiques the major resource curse explanations, arguing that the theory does not adequately explain the conflicts between the oil and gas industry and SSF in the Ghanaian context. The paper suggests that an alternative explanation of the conflict moves beyond the resource curse thesis to focus on the historical geography of resource grabs tied to colonial and neocolonial extractive enclaves and commodity frontiers. In

[12] Rachel Boynton's (2014) documentary film on 'Big Men' focuses on the greedy nature of key stakeholders who desire to benefit at the expense of the public in petro-capitalism among oil and gas nations, particularly Ghana and Nigeria. (see Big Men documentary https://www.youtube.com/watch?v=qsjubN_4H3E

conclusion, the paper highlights some key resource curse examples from sub-Saharan Africa and summarizes how the curse is used to explain conflicts between oil companies and fisheries in Ghana.

The Resource Curse Thesis

The concept of the resource curse, also referred to as the 'paradox of plenty' (Karl, 1997), is widely used in the social sciences to explain conflict and development abnormalities associated with resource-endowed states. The theory suggests that the development or abundance of natural resources is detrimental to the growth of national economies (Auty, 1993; Humphrey et al., 2007; Sach & Warner, 1995). This counter-intuitive observation applies to resource economies or those countries that generate at least 8 percent of their GDP and 40 percent of their foreign exchange earnings from the extractive sector (Auty, 1993;3). The resource curse theory explains why countries endowed with natural resources tend to perform poorly in economic development and democratic governance compared to countries that are less resource-rich (Auty, 1993; Sach & Warner 1995). The literature on the resource curse theory posits that resource endowment and abundance have negative effects on governance. Resources, the theory assumes, automatically breed corruption, violent conflict and the looting of state assets (Collier & Hoeffler, 2004; Humprey et al., 2007; Le Billion, 2001a). Scholars say the abundance of undiversified resources leads to poor economic growth and poverty (Auty, 1993; Humphrey et al. 2001; Sach and Warner, 2007). A growing body of literature is attempting to explain this paradox (see Stevens, 2003; Ross, 2015).

Stevens (2003) traces the critical analysis of resource abundance and its associated economic impacts on nations to the fourteenth century and the early writings of the Muslim philosopher Ibn Khaldun. Since the fourteenth century, Stevens (2003) contends, development economists have paid attention to the potential negative effects of natural resources on the development of resource-rich nations. However, modern interpretations of the resource curse emerged in the post-Second World War period. According to Hirschman (1958), secondary and tertiary processed resources found primarily in industrialized countries have a greater ability to enhance economic growth than primary exports alone. Examining the trade relations between primary and secondary exporters of natural resources, Presbisch (1964) concludes that exporters of primary commodities lag behind industrialized nations in spite of the abundance of their resources because of the poor terms of trade for primary commodity exports. The favorable terms of trade written by the highly industrialized countries lead to stronger economic growth in resource-poor but highly developed economies than in countries that are primary resource exporters. However, it is hard to determine the truth of these claims, as today's statistics complicate the evidence (Stevens, 2003). For example, some primary exporters of natural resources have developed, while some industrialized countries suffer from trade agreements deemed deleterious to their economic growth.

In the 1970s, many resource-rich countries were attracted by increases in oil prices. The rising price of oil brought on by OPEC led to high borrowing by oil-endowed states who used their oil reserves as collateral. However, a sudden, drastic fall in prices in the early 1980s resulted in a debt crisis for most, including Nigeria, Mexico, and Venezuela

(Humphreys et al., 2007). Mabro and Manroe (1974) say that during this period, critics realized oil and mineral exports had the potential to undermine the economic development of oil-rich nations. At the same time, the power to develop natural resources was placed in the hands of newly independent governments and post-colonial leaders in Africa, Asia and South America (Humphery et al., 2007). Most of these newly independent governments and their leaders abused their power and used resource revenues accumulated through national agencies for personal gain.

Scholars of the resource curse emphasize the importance of macroeconomic effects such as the 'Dutch disease', in which the competitiveness of other sectors of resource-endowed nations is reduced due to currency appreciation resulting from resource wealth (Humphrey et al., 2007). The Dutch disease gained prominence in resource curse explanations in the 1980s by generalizing what happened in the Netherlands in 1959. The Dutch export of large quantities of natural gas caused the rapid appreciation of the Dutch currency (guilder) which negatively impacted the ability of Dutch manufacturers to competitively export their goods or even to employ workers to build them, leading to an overall decline in national economic performance (see Gylfason, 2001; Humphrey et al., 2007).

In the 1990s, resource curse analysis focused on the political economy of oil and mineral resources in resource-rich nations (Doraisami, 2015). Most resource-rich nations during this period failed to implement policies that would be beneficial to their growth by counteracting economic problems such as the Dutch disease. At the time, scholarly work by economists focused on how resource-rich nations could dramatically enhance their

growth and development if policies were implemented to counteract the macroeconomic effects of resource wealth (Stevens, 2003). Richard Auty first used the term 'resource curse' in 1993 to apply to issues of failed or poor economic growth in resource-rich countries.

Collier and Hoeffler's 2004 study drew attention to the impact of natural resource endowment on economic growth and development by focusing on human nature and institutional design to explain the success or failure to capitalize on resource wealth. Their research focused on sub-Saharan Africa and other developing resource-endowed regions around the world; they suggested that windfalls from the export of primary resources increased the onset of conflicts by motivating armed rebels to use violence to gain access to resource revenues, pointing to the Democratic Republic of Congo (DRC) as an exemplar.

The resource curse theory continues to develop and provoke scholarly interest, but since the 2000s, resource curse explanations have met with increased scrutiny and criticism. Table 2.1 summarizes the key moments in the development of the resource curse literature and the shifting explanations and policy recommendations from the 1950s to the 2000s.

Table 2.1. Development of resource curse theory

Year	Key Resources	Impact of Resource curse	Key Authors
1950-1960	Agriculture Timber Gold	Low contribution of primary exports. Resource curse explanation focused on assessing the poor economic growth in developing resource rich nations due to the poor terms of trade for resources exported in their primary state.	Hirschman (1958) Presbisch (1964)
1970-1980	Oil Gold Diamond	Dutch Disease was the resource curse's key impact. Resource curse narratives examined macro-economic policies to counteract Dutch diseases and strengthen national currency evaluation.	Mabro & Manroe (1974), Humphrey et al., (2007).
1990	Gold Diamond Oil and gas	The period is marked by low GDP contribution and poor economic growth in resource endowed states. Resource curse explanations have assessed political economy of oil and minerals and their contribution to resource endowed states.	Sach & Werner (1995, 1997), Auty, (1993).
2000	Oil and gas	Rents from resources have been linked to political failure such as; corruption, Poor institutional quality and Mismanagement of resource rents and conflicts. Resource curse studies have been based on claims of human and institutional failure in the governing of resources.	Collier & Hoeffel (2004), Salaa-i-Martin & Subramaniam (2003).

Authors' construct, 2017

Ongoing interest in the resource curse thesis has been attributed to the vast natural resource endowments in the developing world, particularly in the sub-Saharan African region and the continent's failed post-independence economic ambitions. Special mention is often made of Angola, Sudan, Equatorial Guinea, Algeria, Chad and the Gulf of Guinea region as classic cases of the resource curse tied to oil and gas development (Brass, 2008; Le Billion, 2001a; Obi, 2010b). Some areas of sub-Saharan Africa represent new commodity frontiers, as oil and gas resources are being discovered in large quantities by traditionally oil-less nations, including Niger and Ghana. As Stevens (2003) explains, the economic windfall from newly developed oil and gas fields in these countries has the potential to be an economic and political problem rather than a magical solution. Academia, government, and non-governmental organizations such as the World Bank and IMF have sought to ensure that resources do not become a curse for these new oil frontier states. The World Bank and IMF focus has been on providing support and capacity building for good governance and institutional reform rather than on examining historical context or proposing radical alternatives to the socio-economic and political status quo.

Criticism of the Resource Curse and Alternative Explanations

The resource curse theory has been challenged by scholars from diverse academic disciplines (Table 2.2). Researchers in the fields of Economics (Bougrine 2006; Mikesell, 1997), Geography (Le Billion, 2001a, 2001b; Watts, 2004,), Political Science (Robinson, et al., 2006; Ross, 2001), and Development Studies (Ayelazuno, 2014; Obeng-Odoom, 2014; Obi, 2009, 2010a, 2010b, Basedu & Lay, 2009, Ferguson, 2005)

have all argued against the theory's assumptions and analyses. Critics of the resource curse seem to agree on the tendency of the abundance of resources in resource-rich nations to translate into positive economic growth and development, but they disagree on the underlying reasons why some achieve this and others do not.

Critics argue that nations with an abundance of resources have a high probability of seeing economic growth if good institutions exist, with proper records of production and transparent accountability for all revenue generated from oil and gas development (Bougrine, 2008; Robinson et al, 2006; Wistrom, 2013). With good institutions in place, resources can become economically useful to resource-rich states. Yet in reality, most resource-rich countries in sub-Saharan Africa have poor institutions, issues of mismanagement and corrupt practices. Other researchers say abundant resources have a tendency to cause conflicts since they must pass through several elite channels before benefiting ordinary citizens (Collier and Hoeffler, 2004; Sachs and Warner,1995)

However, Ross (2015) asserts that there is not enough evidence of a causal link between natural resource abundance and authoritarianism, corruption, and civil conflict to warrant arguments in favor of the resource curse. The resource curse depends on several factors; abundance is only one and it is relatively unimportant (Basedau, 2005; Ross, 2015). Maloney (2002) asks why 'abundance' is so central in assessing the relevance of resources in resource-rich nations. If resource abundance is a curse, why are some resource-rich countries such as Botswana, Chile, Australia, Norway, Malaysia, and Indonesia so well developed? (see also Darkwa, 2010; Wright & Cuesta 2004).

Resources are socially constructed and controlled by agents and actors in global oil capitalism (Le Billion, 2001a). This echoes Zimmerman's assertion that 'resources are not, they become' (Zimmerman, 1957, cited in Peach and Constantin 1972). However, resource curse analysis ignores the role of global capitalism and how resources are socially constructed. Obi (2010a) stresses that the abundance of resources is not a curse, but resources are 'cursed' by the emphasis placed on them by powerful actors and transnational corporations, especially in the global accumulation of energy and resource wealth. He explains that capital investment in resources, particularly in oil prospecting and exploration, by powerful economic actors gives them a large degree of control over the wealth of developing countries. Therefore, Obi (2009) contends that attributing the resource curse to numerical values based on abundance alone is too simplistic. Complex problems associated with resource endowment and resulting conflicts cannot be subjected to simple mathematical and statistical principles, 'explanations and quick fixes' (Obi, 2009). This means Sachs and Warner's (1995) contribution to the resource curse thesis based on GDP contribution to national income is too simplistic. Moreover, the resource curse theory lacks accuracy and has measurement errors (Ross, 2015). Is it possible, critics ask, to have a unifying variable that allows the resource curse theory to be applied anywhere and at any time?

The resource curse theory is dubbed simplistic, reductionist and above all ahistorical, especially with reference to colonialism and capitalism's twinned histories (see Ayelazuno, 2014; Obi, 2009, 2010b; Watts, 2004). The approach excludes many factors which are important to understand the complex nature of conflicts in resource

endowed nations. This requires a focus on internal socio-political and economic problems and how they affect national economies (Ayelazuno, 2014). For example, the resource curse thesis concentrates on the negative economic and political effects of poorly managed windfalls from resource rents (Ayelazuno, 2014). This emphasis on internality ignores complex geopolitical factors, the role of transnational oil corporations and their historical and ongoing coercive activities that are the cause of under-development and the growth of some, but not all, resource-rich nations, as elaborated by Obi (2010a) and Ayelazuno (2014). Briefly stated, the abundance and scarcity narratives are too reductionist and economistic to explain the historical, political, and economic processes leading to the resource curse.

Additionally, there are historically close links between resource-endowed nations in sub-Saharan Africa and transnational oil corporations, multilateral organizations, and other forms of global governance of petro-capitalism and mineral extraction (Obi 2010a; Obi 2010b; Watts 2004). The governments of resource-rich nations control their resources through their national constitutions. As these nations' social and economic policies attract powerful transnational corporations to invest in oil and other natural resource exploitation, transnational corporations end up in key positions in the chain of value creation (Bougrine, 2006). But transnational oil corporations frequently offer support only in exchange for the resource wealth of developing nations who are not the primary beneficiary. Given this complexity, an in-depth understanding of the resource curse requires a move away from simplistic, reductionist arguments and analysis that focuses on supply and demand logic.

Thus far, I have elaborated on the resource curse thesis and the criticisms levelled against it. In my view, an alternative explanation of the conflict between the oil and gas industries and small-scale fisheries in Ghana requires intellectual resources beyond resource curse theories. A focus on the historical geography of resource grabs, economic enclaves, and the creation of commodity frontiers in the Gulf of Guinea offers an alternative to the resource curse explanations. Historically, the Gulf of Guinea has been a dynamic geographic space with expanding resource commodification and trade of gold and slaves and the activities of transnational corporations. Though many resource nations in sub-Saharan Africa are without good governance, investors often prefer these mineral states to areas with good governance (Ferguson, 2006). Ferguson (2006) describes the resulting enclave forms of development that result from direct foreign investment and multinational corporate firms exploiting resources without any need for connections to the local economy for labour or materials. Enclaves, therefore, alienate local communities by concentrating jobs and economic benefits in foreign workers and corporations (Ackah-Baidoo, 2013; Heeks, 1998).

Ferguson (2006) demonstrates that direct foreign investment is high in states without good governance like mineral rich Angola. This directly contradicts the assumptions of the resource curse theory that posits a connection between economic performance and states with good governance, transparency and accountability. It turns out oil can be most profitably exploited in war zones. According Ferguson, the states without good governance operate enclave models where private firms exploit minerals in a highly securitized zone legally created and policed by resource endowed states. The

enclave model of resource development relies on private investments from foreign firms who rely on foreign expertise, foreign materials and labour. Ferguson also makes clear that a global network of resource enclaves can exist adjacent ungovernable spaces and local communities cut off from employment and other resource development benefits. Simply put, many nations in sub-Saharan Africa including Ghana operate on an enclave model of resource development where the state partners with and protects the interests of private foreign capital over the plight and concerns of resource adjacent communities. The enclave model evokes strong resistance from resource communities, however the resource curse theory ignores these resistant actors and their politics.

Table 2. 2. Table showing the main criticisms of the resource curse theory

	Main critics of the resource curse theory	Key scholars
1	The resource curse is deterministic and simplistic. The abundance and scarcity of resources are not the only determining factors. The resource curse cannot be attributed to numerical values of GNP and GDP contribution alone. The resource curse theory lacks accuracy and has measurement errors.	Basedau, 2005 Obi, 2009 Ross, 2015
2	The resource curse is ahistorical. It only focuses on internal socio-economic and political problems in resource rich nations, ignoring the role of coercive neocolonial pressures on resource-rich nations.	Ayelazuno, 2014 Obi, 2009, 2010a, 2010b Watts, 2004
3	Resource curse theory is reductionist. It ignores the role of global capitalism and the powerful institutions and individuals who monopolize control over the wealth of most states through processes of enclaves.	Ayelazuno,2014. Obi, 2009, 2010a Ferguson, 2006

4	The resource curse analysis ignores how resources are socially constructed and controlled by powerful hegemonic forces in global capital accumulation.	Moore, 2016. Obi, 2009, 2010ab.

Authors construct, 2017

Natural Resource Wealth and Economic Development in Sub-Saharan Africa

Resource curse analysis are not limited to Ghana; they are widespread in the sub-Saharan African region**.** Explanations for the resource curse are not limited to fuel and non-fuel mineral resources in the sub-region. For example, Brass's (2008) resource curse analysis of Djibouti focuses on its geo-strategic position, which generated huge revenue for the nation; however, its development prospects have not been realized because of the misuse of the windfalls. In addition, the initial analysis of the resource curse by Sach and Warner (1995, 1997) includes agriculture and forest products, but agricultural resources and forest products in sub-Saharan Africa have contributed less to development, and in many cases, have led to conflicts and poor economic growth, even though international development agencies and institutions such as the World Bank have promoted them (Alao, 2011; Sach & Warner, 1995). Civil wars and unrest in Liberia and Cote d'Ivoire in the late 1990s caused by the enclosure of land for the commercial production of cocoa and rubber plantations are well-documented examples. This initial emphasis on the negative consequences of agriculture, forest products and tourist resources contrasts with contemporary resource curse analysis, which has mainly focused on fuel and non-fuel mineral resources.

Economists have used developmental indicators such as GDP to explain resource curse tendencies. For example, Auty (1993, 1994), Sachs and Warner (1995), and Gylfason et al. (1999) describe a strong relationship between natural resource abundance and negative economic growth based on GDP. A statistical study by Sachs and Warner (1995) based on GDP contributions of natural resources between 1970 and 1990 shows a strong link between resource abundance and poor economic growth. Results from 95 sampled resource-rich developing nations reveal that their economies have been negatively impacted despite the abundance of resources. Mauritius and Malaysia are the only nations where a moderate growth of GDP has been observed. Even some OPEC countries such as Venezuela, Mexico and Saudi Arabia and other mineral-exporting economies have showed a downward trend in GDP rates (Mikesell, 1997). Countries with agricultural resources outperform per capita income from countries economically dependent on minerals and oil (Auty 2001; Sala-i-Martin and Subramanian, 2003). This is in contrast to the World Bank's advice and the International Monetary Fund's structural adjustment orientation, which favors mineral and oil development.

The poor GDP growth of oil and mineral-endowed nations has been attributed to the export of the resources in their primary state (unprocessed); this contributes less to alleviating poverty through employment in tertiary production and value-added industries (Humphrey et al., 2007). Despite Nigeria's oil richness, poverty is on the rise, with about 50 percent of the country's population living on less than US$1 a day (Obi, 2010a). Similarly, Equatorial Guinea, and the Democratic Republic of Congo have about 70 and 50 percent of their populations, respectively, living in poverty despite vast oil and

mineral resource endowments and exports (Schaber, 2010). Botswana is an exception in the sub-Saharan region. The Botswanan government ensured that the country benefited by building export businesses from the massive diamond boom in the country between 1970 and 1990. In addition, sound government policies and fiscal controls helped avoid the Dutch disease in Botswana.

Elaborating on the impact of government policies, political scientists (Amundsen, 2014; Salai-i-Martin and Subramanian, 2012) explain that resource rent impacts economic growth and development through bad/poor institutions, corruption and mismanagement, and conflicts. Resource rents hinder institutional quality; they act as an incentive to weaken the state system, allowing elites to gain access to resource rents (Amundsen, 2014). This resonates with Salai-i-Martin and Subramanian's (2012) assertion that oil resources, not Dutch disease, are the reason for the poor institutional quality affecting the economic well-being of Nigerians. Amundsen (2014) argues that in a state with weakened institutions, the tax system and bureaucracy are ignored, property rights are violated, and there is little talk about investment, secondary processing and value-added resource sectors. Law and order and trusted institutions are required to capitalize on resource wealth.

Weakened institutional quality and civil society groups breed corruption and mismanagement in resource-endowed states (Ross, 2015). A study of the Nigerian oil curse reveals that weak/poor institutions, revenue mismanagement, and a lack of accountability led to corrupt practices in the Niger Delta region (Ukiwo, 2008). According to McFerson, (2010), the top oil-rich countries in Africa are also the top

ranked corrupt countries by Transparency International[13]. Nigeria and Somalia are the best-known examples in the sub-Saharan region of highly corrupt countries with resource wealth. Zeroing in on diamonds, Kabia (2008) contends that weak institutions due to authoritarianism led to heightened corruption and the mismanagement of rents from the 'blood diamonds[14]' in Sierra Leone in the 1990s. Poor institutional quality is also used to explain how President Steven Siaka gained the leeway needed to use the rents from the 'blood diamond' trade to satisfy the needs of close allies and his extended family (Maconachie & Binns, 2007). As Pritchard, et al. (2014) explain, the significant revenue from resources can stabilize and strengthen authoritarian rule while weakening democracy. In his analysis of the diamond curse of Angola, Le Billion (2001b) stresses that rent in the hands of government enhanced incumbency and hence perpetuated authoritarianism.

Rents from resources have also aided conflicts and rebel activities on the sub-continent (Collier, & Hoeffler, 2004; Kabia, 2008; Le Billion 2001b,). In the early and late 1990s, rents from diamond and oil-endowed states fueled conflicts and rebel activities in the DR Congo, Angola and Sierra Leone (Kabia, 2008; Le Billion 2001b; Maconachie & Binns, 2007). In Sierra Leone, armed civilians in the Revolutionary

[13] Transparency International is a global organization that aims to campaign and fight corruption in many developing and resource-endowed nations. It uses the Corruption Perception Index (CPI) to rank nations based on their level of corruption. It ranks nations on a scale of 0 to 10. Level 0 indicates a high rate of corruption, whiles 10 indicates a lower corruption rate.

[14] 'Blood diamond' has been used to describe conflict over diamonds, their extraction and the revenue generated, for example, when diamonds are bought and sold to purchase weapons and help fund conflicts. In Sierra Leone, the Revolutionary United Front (RUF) controlled the diamond-producing sector and used the revenue generated to purchase weapons (Kabia 2008).

United Front (RUF) agitated for a change of government, citing corruption and the mismanagement of diamond rents. The RUF used revenue from blood diamonds to finance their quest for change through civil war (Kabia, 2008). Accounts of ethnic violence in the Niger Delta region of Nigeria show how suppression in the face of weak institutions can lead to violence in resource-rich nations. Most of these conflicts stem from monopolized resource control and the marginalization of indigenous communities adjacent to resources (Watts 2004, Obi 2009).

Resource Curse Applied to the Fish and Oil Conflict in the Western Region of Ghana

From the review of the experiences of resource-endowed nations in sub-Saharan Africa, it is clear that adverse impacts from the exploitation of natural resources are widespread. As Watts (2004) puts it, the adverse consequences of natural resources 'appear inevitable' in the current capitalist world system. The negative impacts of natural resource exploitation on national economies, communities, and human development are enormous. Kopiniski et al. (2013) argue that Ghana has learned from the economic problems associated with the long history of gold mining in the country. They stress that the country's stabilized political systems have allowed the diversification of the oil revenue and focus to move away from gold into cocoa, timber and other agricultural food plantations for local and export markets; this will ensure the nation avoids the resource curse. However, the threat of the resource curse looms in the emerging oil and gas sector in Ghana. This section of the paper examines resource curse findings such as corrupt government practices, mismanagement of oil revenue, and conflicts between oil and gas

industries and small-scale fisheries in neighbouring communities in Ghana. Also, it reflects on enclaves of exclusion and a historicity the resource curse theory ignores.

Ghana like many other countries in sub-Saharan Africa have adopted the Angolan enclave model of natural resource exploitation to promote direct foreign investment in oil and gas exploitation. Under this model, the state uses its sovereign power to provide legal guarantees providing private firms access to resources and resource rent. Property rights allowing for commercial oil and gas exploration and exploitation in Ghana since 2010 have been enshrined in the national constitution. Constitutional provisions give government the power to explore and exploit oil and gas resources and allocate these rights to foreign corporations. Article 257(6) of the Constitution of the Republic of Ghana (1992) states: 'Every mineral in its natural state in, under or upon any land in Ghana, rivers, streams, watercourses throughout Ghana, the exclusive economic zone and any area covered by the territorial sea or continental shelf is the property of the Republic of Ghana and shall be vested in the President on behalf of, and in trust for the people of Ghana.' The constitutional provision and petroleum laws immediately enacted after oil was discovered in Ghana's coastal region give the state the prerogative to assign specific resource locations as 'national geographic' grounds (Chalfin, 2015) and allocate these resources to investors to generate revenue through an oil complex. According to Watts (2004), the oil complex in Nigeria is an organized network of social, political and economic forces with an interest in keeping petroleum resources flowing. This includes several levels of actors; the Ministry of Energy, the National Petroleum Corporation and the army to keep the oil and revenue from its exploitation flowing.

The Ghanaian oil complex comprises of a consortium of multinational oil corporations, the British company Tullow Oil, American oil firms Kosmos Energy and Anadarko, as well as some minor players from Ghana. The partners in the venture include the state represented by the Ghana National Petroleum Corporation (GNPC), the navy and a small minority of chiefs and assemblymen[15]. GNPC awards concessionary rights and contracts to Transnational Corporations (TNC) mentioned above and ensures the government gets royalties and taxes; the navy protects oil and gas infrastructure to ensure a continuous flow of oil revenue to state and non-state actors. The navy also ensures that 'no go' zones around oil rigs are honored, and oil and gas infrastructures are strictly protected to generate revenue.

a.) Evidence of Resource Curse

The new oil and gas industry has brought development in politics, governance, and education, along with massive direct investments by local and foreign business firms (Gatsi, 2017). However, the most significant impact on the nation of offshore oil development has been in the economy. Since oil and gas exploitation began, there have been massive GDP contributions to the Ghanaian economy. As of 2014, the oil and gas sector contributed to a GDP growth rate of 7.2 percent. This is low compared to the previous rates of 8.2 percent in 2013 and 7.7 percent in 2012 (GSS 2014). The revenue impact of oil and gas has also been significant. Revenue accrued from oil and gas increased from US$444 million in 2011 to US$978 million in 2014 (GHETTI report

[15] Assemblymen are government representatives at the grassroots level in Ghana's decentralized government system.

2014). The GDP and revenue contribution from oil and gas exploitation and other sectors translated into an overall national growth rate of 4 percent in 2014. This is lower than the 7.3 percent recorded in 2013, but the drop was caused by collapsing world oil prices. Moreover, the growth rate and increase in revenue are significant enough to aid development activities and government projects such as funding free senior high school education and infrastructural development (GHEITI report, 2014)[16].

However, there is a high rate of corruption and missue of oil revenue in Ghana, as in many resource-endowed countries in sub-Saharan Africa. In spite of governance and institutional strategies to avoid the resource curse, Ghana is ranked 7th in sub-Saharan Africa and 56 out of 168 in the world transparency corruption index for 2015, scoring 47 out of 100 (GII report, 2015). It declined by one percentage point from the 48 points scored in 2014, but the performance is better than in 2012 when it scored 45 points and in 2013 when it scored 46 points. However, per the report released by the Ghana Integrity Initiative (GII), a local agency of Transparency International, the country's score on the world transparency corruption index is poor. Ghana, like two-thirds of the countries assessed, scored below 50 out of 100 (GII Press statement, 2015 [17]). A score below 50 is considered a sign of corruption.

[16] The Ghana Extractive Industry Transparency Initiative (GHEITI) is the Ghana subset of the global extractive initiative aimed at following due process and achieving transparency in payments by extractive industry transnational companies to government officials. http://www.gheiti.gov.gh/site/index.php?option=com_phocadownload&view=category&download=268:gheiti-2014-oil-a-gas-report-booklet&id=35:mining-oil-a-gas-reports&Itemid=54

[17] Ghana Integrity Initiative (GII) is the local chapter of Transparency International established in 1999. It is a non-partisan, non-profit civil organization focused on addressing corruption

Further, resource rents from the oil sector are misused and appropriated at the national level before reaching the local level despite strict measures to curb this corruption. Government agencies and ministries have come under attack for the misuse of oil revenue meant to promote national economic development. IMANI Ghana's mid-2016 governance report (2015) in the wake of the December 2016 elections indicates the misuse of US$1.6 billion between 2012 and 2016 by the government. Discrepancies in the spending of ministries, agencies and departments and outright theft are ignored and left unchecked (IMANI 2016)[18]. The Public Interest and Accountability Committee (PIAC)[19] for oil revenue found mismanagement of oil revenue in the northern region of Ghana. The PIAC 2014 and 2015 reports said amounts of Ghc15,000 ($5500) and Ghc20,000 ($7000), earmarked for the rehabilitation and creation of canals around the Nakore Dam in the Wa municipality and the construction of a six-unit classroom block at the Farikiya Islamic Institute in the Upper East region of the country, were not spent on these projects (PIAC report, 2015)[20]. While the figures may seem small, remember that the GDP per capita income in Ghana is $1,340.4 – just over $3.50/day – as of the latest statistics collected in 2015 (Budget of Ghana, 2015).

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http://www.gheiti.gov.gh/site/index.php?option=com_phocadownload&view=category&download=268:gheiti-2014-oil-a-gas-report-booklet&id=35:mining-oil-a-gas-reports&Itemid=54

[18] IMANI Ghana Centre for policy and education is the local subset of IMANI Africa, a policy think tank that researches and provides objective, critical and independent analysis on national issues http://www.imaniafrica.org/wp-content/uploads/2016/08/IMANI-GHANA-MID-YEAR-REPORT-FINAL.pdf

[19] The Public Interest and Accountability Committee was established under the Petroleum Revenue Management Act to provide an independent assessment of the management and use of oil revenue.

[20] See the full details of the reportage on http://citifmonline.com/2016/07/24/piac-uncovers-misuse-of-oil-revenue-in-northern-ghana/

b) Oil and Gas Development as an enclave of exclusion.

Since 2010, conflicts have developed between small-scale fisheries (SSF) and the Jubilee field partners in the western region of Ghana. The western region is one of ten regions of Ghana and has a population of about 2.4 million people (GSS, 2010). The region is considered rural[21] with the majority of the population being farmers and fishers living in coastal and farming communities. The fishery workers have depended on the sea since the pre-colonial era; they have a communal system of ownership that is held in trust by the chief or the 'Apofohenes', the local custodians of the sea.

The conflicts between the oil and gas industries and small-scale fisheries stem from the encroachment of oil and gas activities on traditional fishing grounds and the enclave nature of resource exploitation which alienates coastal communities shutting them out of jobs and other opportunities to benefit from oil development. The International Organization for Standardization (ISO) has regulations for oil and gas operations that require the demarcation of a 500 m radius around oil rigs and a 2 km buffer around other infrastructure designated as 'no go' zones for fishing (Arbo & Thuy, 2016). This is meant to protect oil and gas infrastructure and to keep people safe. But according to Watts (2004), the no-go zones are a strategy of enclosure and repression used by governments on behalf of multinational corporations to maximize profit by excluding competing uses (Watts, 2004). The regulation also requires that oil and gas activities use lighting systems at specified intensities to protect oil rigs. However, fishery

[21] The western region has about 57.6 percent of the population living in rural settings; 42.4 percent live in urban settings (PHC, 2010).

workers complain that the strong lighting from the oil rigs attract fish into the 'no-go' zones, dramatically reducing their catch.

Crucially, ocean space has been enclosed for oil and gas development but transnational corporations (Jubilee partners) have done little to develop adjacent resource communities. One weakness of the resource curse thesis is that it ignores the influence of transnational corporations (TNC) and the negative impacts they have on resource communities. The direct foreign investment and resource extraction by the exploitation firms is disconnected from the local economy. The corporate social responsibility (CSR) of transnational oil corporations is geared towards satisfying global demands for return on investment at the expense of local benefits, since regulations do not require CSR for oil and gas firms (Andrew, 2013). Among the consortium of oil-exploiting companies (Jubilee Partners) in the region and the country, the British company Tullow Oil has played a significant role in sponsoring local workers for job training and offering scholarships to Ghanaian students for further studies abroad. However, other co-operating parties have not done the same, arguably because corporate social responsibilities are not enshrined in contracts signed with the government agency, the Ghana National Petroleum Company (GNPC) (Andrew, 2013).

Fishing and land rights, women and children's activities, the livelihood of fishers, and an important food source are all threatened by oil and gas exploitation (Obeng-Odoom, 2014). Local people have nothing to show for the loss of access to the ocean. The local communities' participation in decision making and oil and gas exploitation activities is minimal since enclaves offer little chance for indigenous people to have a say

in how resource development proceeds. Benefits come in the form of financial windfalls from taxes and royalties to the state, and these do not go directly to the adjacent communities (See Bridge, 2009; Panford, 2014). The government uses its constitutional power and the National Petroleum Regulatory Authority (NPRA) to accumulate wealth while the local communities suffer rising prices and costs of living.

In a study of gold mining in Ghana, Hilson (2002) points out that conflicts proliferate whenever there are exclusions from wealth generated by the extractive industry. Youth and fishery workers[22] do not find employment in the oil and gas sector and opportunities for fishing livelihoods are lost through enclosure (GNA 2011; Joy News, 2011). Grievances were heightened in 2010 after parliament rejected the chief and traditional council of the western region's petition for a 10 percent share of the oil revenue to be allocated to the region for its development (Gatsi. 2017, GNA 2011; Joy News 2011). The chief and the elders believe the region has made enormous contributions to the nation since it is the hub of the nation's resource wealth (gold and oil). The vast majority of Ghana's main exports, such as gold, diamonds, timber, cocoa and now oil, are produced in the western region, yet many people are impoverished in a region full of profitable commodity frontiers. The petition from traditional government representatives was rejected, and the Ghanaian government continues to encourage and enforce the flow of oil extraction.

[22] The term 'fishery workers' is applied to both men and women who catch and process fish. Men do the work of harvesting; the women do the processing and fish trading (see Johnson and Bakakki in Murton et al. 2016)

The youth and opinion leaders of Cape Three Points and many towns along the coast have resisted the activities of the Jubilee Partners, as documented in the local media (see Today online news, 2010). The resistance is against unequal power relations, the inequitable distribution of rents, appropriation of land, enclosure of the fishing grounds and environmental degradation. A militant group called the 'Cape Militia' formed in 2010, mirroring militant activities in the Niger Delta. The group serves as the official mouthpiece of aggrieved unemployed youth and fishers in the communities (Today online news, 2010). The group also aims to attack oil pipelines under the seabed, bridges, and other infrastructures that the Jubilee field partners have constructed. However, the government has been quick to deny the group's formation and existence (Today, October 2010). Though the magnitude of conflicts and militancy might not match that of the Niger Delta region, militant groups pose a significant threat. There is a local saying that 'Asem kese reba na frankaa si so', which translates as 'coming events cast their shadows before them.' In other words, the activities of this group point to a larger impending conflict. The militancy cannot be denied; nor can traditional leaders be ignored. The aggrieved youth aim to fight for their rights and their share of the oil revenue or, if this does not work, to regain access to livelihoods that rely on the sea. One leader was quoted in a local newspaper as saying, 'We will give a forewarning to avoid casualties as our intention is only to bring down those symbols of oppression and injustice' (Today, October 2010). His comment refers to the oil infrastructure. To cite an example, the problems posed by the oil and gas exploitation follow the trends of the socio-economic, political and environmental difficulties that gold mining posed to resource communities

in the same region historically (Hilson, 2002). This history is left unaddressed by explanations emanating from resource curse theories.

In conclusion, the current oil price volatility makes it difficult to rely on oil and gas exports for economic stability and development. In 2015, Ghana's budget was significantly affected by oil price declines, partly because the economy has come to rely on the revenue from the oil and gas industry, much like other developed regions in the world (Budget of Ghana, 2015). In 2015, the price of oil was around US$57 per barrel. In addition, Ghanaian gas infrastructure for commercial production continues to face challenges; hence, the government has reduced financing for gas projects (Ghana Petroleum Revenue Report, 2015). Furthermore, Ghana's economic standing has worsened due to dramatic reductions in the price of the country's third major export - cocoa (Budget of Ghana, 2015). At times, the country seems financially unable to provide for the needs of its citizens, yet oil and gas continue to be prioritized over traditional economic activities such as fishing, which has served people for hundreds of years and provides basic food security in the western region and in the nation as a whole. Petroleum prices since 2016 have swung between US$27 and US$42 (OPEC 2016). With this oil price volatility, it is easy to make a case for fishing as a more stable and historically continuous backbone of Ghanaian society. The policy of putting oil before fish is 'economic suicide;' there is no place for the vast number of unskilled laborers in the technologically intensive oil and gas industry. The nation could depend on small-scale fishing activities for food security, revenue and employment, but only if the conflict is

ended and fishing can occur alongside oil and gas extraction which ISO standards make impossible.

Conclusion

Ghana is a resource-rich nation with a growing oil and gas sector. This sector has served as the backbone of the country's economy since it took over from gold and cocoa as the leading GDP contributor and source of foreign revenue generation in 2010. Nevertheless, the impacts of the growing oil and gas sector come at a cost to food and fishing activities with the enclosure of the fishing commons in favor of oil and gas extraction. Oil and gas commercialization since 2010 has enclosed the ocean space, with the SSF kept at a distance. The social, economic and political impacts of the growing oil and gas industry have resulted in conflicts between the activities of SSF and the Jubilee Partners.

The resource curse literature offers some useful insights into resource conflicts, framing them as caused by greedy human nature and weak institutional structures that are unable to fairly distribute windfalls from abundant resources to benefit all in society. But while the theory provides good explanations for how oil becomes a curse it fails to take a longer historical and geographical look at resource grabs tied to enclaves and commodity frontiers at the coast. The resource curse theory explains conflicts in the context of capitalist logics, but lacks the context of Ghana's colonial history or the capitalist world system of which it has been a part since the 15th century. The resource curse focuses on internal economic factors, ignoring colonial relations and global economic forces in resource extraction and the development of capitalism (Ayelazuno 2014; Moore, 2017a).

To understand the conflict between the oil and gas industries and small-scale fisheries, Furlong et al. (2015) stress the need for resource violence to be examined beyond the resource curse—they advocate framing the curse as a 'resource grab.' Resource grabs are produced by enclosures and exclusions when rules of control, management and rights are changed from favoring local to global actors. Resource development needs to be seen in relational terms; on the one side, we have the resource community, and on the other, we have those with an interest in resource extraction (grabbing). The Gulf of Guinea, for example, attracts non-state actors, such as powerful transnational corporate and (neo)colonial institutional actors (IMF, WB), who grab resources; they are agents of frontier expansion and help to strengthen capitalist relations. A broader understanding of the conflict between oil and fish must consider the historical resource grabs and appropriation tied to colonialism and contemporary resource exploitation.

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CHAPTER 3

Fish and Oil Conflict in the Gulf of Guinea, Ghana: Thinking Beyond the Resource Curse

Abstract

Efforts to enhance economic growth through natural resource development in Ghana have led to the enclosure and commodification of the country's coastal zone in the western region. This commodification of maritime space has appropriated fish and fishing places from small-scale fisheries that now have to compete with oil and gas industries in the use of the coastal zone. In the resource curse literature on sub-Saharan Africa, researchers have explained resource conflicts as emanating from the abundance of resources in countries without good governance. This can rightly be applied to the conflicts between the fish and oil activities in the Western region of Ghana. However, researchers have critique the resource curse theory, stressing that it focuses on internal socio-economic and political factors, ignoring the historical geography of colonialism and capitalism. As an alternative explanation to the resource curse in Ghana, this paper suggests that the conflict can be better understood through the historical geography of resource grabs tied to enclave development and commodity frontiers in the country. The paper uses the toponymy of maps of the Gulf of Guinea from 1500-2015 to trace historical resource grabs brought on by European colonialism and to put into context the transformation of the coast from a national fishing place and a national fishing basket into an oil and gas space. The paper argues that understanding the historical geography of

commodity frontiers in the Gulf of Guinea provides a better explanation for conflicts between oil and fish than the resource curse theory.

Keywords; Oil and gas, Gulf of Guinea, Small-scale fisheries, enclave, commodity frontier, resource curse, resource grab**.**

Introduction

After several years of offshore oil exploration activities, starting in the 1970s in the Western Gulf of Guinea basin of Ghana, commercial oil and gas production began on December 15, 2010, in the largest oil block, the Jubilee field[23]. The Jubilee oil field has transformed ocean space from its use as a source of food since the pre-colonial era in the 2nd century into an oil commodity frontier in the 21st century. This evolution is consistent with Steinberg's (2001) typology of ocean space. According to Steinberg, ocean space has different uses that offer diverse options for commodification:

> [There are] several ideal-type constructions of ocean space; a non-territorial 'Indian Ocean' construction in which the sea is constructed as an asocial space between societies, a highly territorial 'Micronesian' construction in which the sea is managed as an extension of land-space and a complex 'Mediterranean' construction in which the sea is defined as a non-possessable but nonetheless a legitimate arena for expressing and contesting social power… In the industrial era, the key economic activity shifted from circulation across space to investment in specific production and consumption sites. The coastal sea, like land was perceived as a potential site of intensive investment and so was incorporated within the territory of the state. (2001, p. 206)

[23] The Jubilee oil field is named after the golden Jubilee independence anniversary of Ghana.

The discovery of abundant hydrocarbons in the Gulf of Guinea at the end of the millennium attracted a host of oil-consuming nations, transnational oil corporations, and multilateral organizations. The US, for example, turned away from the Gulf States and focused its attention on the Gulf of Guinea after the September 11, 2001, terrorist attacks on New York and Washington. Texas-based US oil company Kosmos Energy arrived at the coast of Ghana in 2007 and discovered oil in fields where others had failed. Kosmos Energy was later joined by other national oil companies, including the Irish-based Tullow Oil and Anadarko. Despite the corruption, political instability and poor administration prevalent in the African sub-region (Soares de Oliveira, 2007), these transnational corporations invested billions of dollars in oil exploration and exploitation as Ghana was perceived to be relatively well-governed in a region known for oil conflicts—most notoriously the Niger Delta in Nigeria. The high inflow of direct foreign investment in Ghana follows the model of enclave development as outlined by Ferguson (2006). Enclave development occurs when mineral rich nations are exploited by private foreign investors who find it profitable to operate in the presence of conflict and poor governance by providing high levels of private and national security in resource extraction zones to enable ongoing resource exploitation. Adjacent communities and national economies do not benefit from resource wealth as enclave development involves importing foreign management and workers as well as supplies (Ferguson, 2006). Thus, enclave development is driven by a global network of resource prospectors and explorers who collaborate with national governments and international institutions to accumulate resource rents from resource rich nations. Enclaves lead to the alienation of resource

communities and under-developed local economies, as inputs, labor and other equipment needed to explore and produce resources are imported by foreign private firms from elsewhere, while the resources exploited are exported unprocessed (See Ackah-Baidoo, 2013, Ferguson, 2006; Heeks, 1998).

Before the discovery of oil, the western Gulf of Guinea was a well-known fishing commons. The coastal zone served as an important source of employment, with the livelihood of fish workers[24] and entire coastal communities dependent on the sea for their culture and survival. Fisheries resources are a crucial component of the country's food security, contributing up to 60 percent of the overall protein consumed by Ghanaians (Adusah-karikari, 2015; Agyei et al, 2012; Boohene and Peprah 2010). The implementation of Exclusive Economic Zone regulations based on the United Nations Convention on the Law of the Sea (UNCLOS) in the 1980s, nationalized and commodified fishery resources within a 200-mile limit, focusing on the export of highly valued species such as tuna.

This nationalization of the coastal zone and the creation of the EEZ helped to transform ocean spaces into manageable commodified zones, first oriented towards offshore industrial scale fisheries resources and later towards industrial oil development. The latter has had profound effects on the livelihood of small-scale fishery workers in western Ghana (Adusah-Karikari, 2015; Boohene and Peprah, 2010). The resultant

[24] In this paper, fishers and those who work processing fish have the same meaning and are used interchangeably. The term 'fish harvester' is not used as it applies to professional fishery workers who catch fish using industrial means. Rather, it refers to both men and women who do the harvesting, processing and fish trading themselves (see Johnson and Bakaaki in Murton et al. 2016).

resistance and conflicts between the fishers and the oil and gas industry over ocean space are consistent with Steinberg's (2000) understanding of constructions of ocean space as an 'arena of social conflict[25].' This conflict stems from enclave development and the violence of appropriation and the forms of representation that enable and accompany colonialism and capitalism as historical and geographic forces (Moore 2017a).

In the African sub-region, places such as Nigeria where resource conflicts have occurred, are explained using the resource curse theory (Obi 2010a). The negative impacts of oil and gas exploitation in the Western region of Ghana can be situated within the context of sub-Saharan Africa but scholars assert that the resource curse theory has focused on internal socio-economic and national governance problems that take the scale of the nation and national sovereignty for granted (Ayelazuno, 2014). Researchers have criticized such approaches as being uncritical of global capitalist relations and ahistorical (Ayelauno 2014, Obi 2009, 2010a; Watts 2004). Researchers have also attacked the resource curse theory for ignoring history and downplaying the power of capital to ignite colonial and imperial rivalry and violence.

The maps and charts of the Western Gulf of Guinea tell a different story to that of the resource curse. Maps from the 16th century onward illustrate a shifting history of diverse commodity uses and international triangular trade along the coast. Maps and the

[25] An arena of social conflict is a space which is highly contested due to its resource potential (see Steinberg, 2001).

names on maps (toponymy)[26] are useful guides for understanding what is valued by those in positions of economic and political power. The defining power of maps is expressed through toponymy, whereby specific meanings are attached to distinct locations (Cloke et al., 2005; Harley, 1989). Maps and charts of the Gulf of Guinea's littoral illustrate varying toponymies over time. Names such as the Ivory Coast, Gold Coast, Slavery Coast and Grain Coast appear on European colonial maps using the Mercator projection (Crosby 1997: Moore, 2017b) from the 16th century. The Mercator projection embodies a topographically flat view of space, a linear view of time and a strict separation between nature and society (Moore, 2017b). The toponymies on the Mercator projections of the region signify resource availability and the colonial capitalist ability to promote commodity trade along the littoral. The toponymy of maps helps to explain the relevance of gold, slaves, ivory and grain to European empires. The different names show that the Gulf of Guinea was more than a fishing ground before the oil and gas domestication agenda emerged at the close of the last millennium.

Internationally, the toponymy of the Gulf of Guinea now focuses on oil and gas and there is little interest in or knowledge of fishing and other uses of the ocean space. The shift in attention from major oil exploitation regions in the Middle East including the Persian Gulf and the Atlantic Gulf of Mexico to the Gulf of Guinea has 'catapulted the Gulf of Guinea to geopolitical stardom' (Soares de Oliveira, 2007; 5). However, the rise

[26] Toponymy is used in cartography to describe places and names of geographical space and its origin. It is used to demarcate economic activities, political positions and places on maps (Harley, 1989; Kadmon, 2004).

of the 'new Gulf of Guinea' as an oil and gas space and the appropriation of the fishing commons is merely part of a long series of resource appropriation and processes of enclave development (Ferguson, 2006).

The Gulf of Guinea's ocean space has historically been a commodity frontier tied to colonial empires and resource appropriation (Beinart & Hughes, 2007; Moore, 2000, 2017a) or 'resource grabs'. Using the toponymy of maps, this paper suggests that an alternative way to understand the conflict between the oil and gas industries and the small-scale fisheries is to examine it from the perspective of the historical geography of resource grabs tied to enclaves and commodity frontiers. Thus, the paper moves from the resource curse thesis narratives to discuss how conflicts are produced through historical resources grabs tied to colonial empires at the coast and modern-day resource grabs tied to enclave development that can profitably exist alongside corruption, violent conflict and poor governance contrary to the resource curse theory.

Resource Grabs, Enclaves and Capitalist Development through Commodity Frontiers

Despite the important contribution of resource curse theory to conflict analysis, Furlong and Norman (2015) say abundance and scarcity narratives as applied by scholars from the resource curse theoretical position do not adequately explain resource violence and conflicts. However, increasing attention has been paid to resource violence and conflicts by scholars who recognize global resource grabs on land and at sea (Furlong and Norman, 2015). Resource grabs are features of power struggles between conflicting users who desire to control and use natural resources (Tietengberg and Lewis, 2000). Scholars

have studied both land grabbing (Hall 2013; Borras et al., 2012) and ocean grabbing (Bennett et al, 2015; Franco et al. 2014; Knott and Neis, 2016), but there is no clear consensus on what constitutes a resource grab (Borras et al., 2012).

The idea of resource grabbing has been used to define shifts in the control of natural resources, dating back to the enclosure of agricultural land in Britain from the 14th to the 18th century. McDonagh and Griffin (2015) explain that the enclosure of the land created a property-right regime depriving the indigenous and original users of the land. In recent times, researchers explain that enclosures are carried out by states, non-state investors and actors who prioritize development plans and make huge financial investments in natural resources, appropriating them from their original users (Furlong & Norman, 2015; Rulli et al. 2013). Ferguson (2006) asserts that the sovereign power of states to provide legal authority to extractive firms and the militarization of security produce development enclaves that attract direct foreign investments in resource rich nations. Further, he explains that political instability, and civil wars do not interfere with such forms of development but can be attractive to foreign firms (Ferguson, 2006). Furlong & Norman (2015) argue that resource grabs produce violence through enclosure and exclusion, mostly in communities adjacent to sites of resource extraction. Crucially, this has extended the scope of violence and conflict analysis to include land and oceanic resources (Norman & Furlong, 2015).

In the recent discourses on fisheries, ocean grabbing has been used to describe a wide variety of conservation and fisheries management practices that appropriate fishing space from coastal communities and traditional users (Franco et al.,2015; Knott & Neis 2015,

UNO 2012). According to Bennett et al., 'Ocean grabbing refers to the dispossession or appropriation of use, control or access to the ocean space or resources from prior users, rights holders or inhabitants' (Bennett et al., 2015:63). Spaces and resources are appropriated through legal or extra-legal means in the form of enclosures (Bennett et al., 2015), primitive accumulation (Marx 1990), or accumulation through dispossession (Harvey, 1993). Ocean space and its resources such as fish species and hydrocarbons are appropriated and controlled by powerful hegemonic forces who decide on their use and management (Franco et al., 2014). Resource appropriation transfers the ownership, use rights, and control over once publicly owned resources or even those without ownership in the form of commons from the poor majority (Fairhead et al 2012; Furlong & Norman, 2015). National governments, for example, implement fisheries policies and reforms to enhance economic development that exclude marginalized groups and indigenous coastal communities (Bennett et al., 2015).

Exacerbating the issue, financial investment in fisheries by non-state corporate actors encouraged by international institutions such as the World Bank and International Monetary Fund re-allocate fisheries and ocean space to market actors (Franco et al., 2014; Bennett et al., 2015). These powerful forces focus on maximizing profit from the use of the ocean, to the detriment of small-scale food fisheries. Profit maximization through privatization converts the ocean commons into property, with a negative effect on the cultural identity and livelihood of indigenous fishing communities (Franco et al., 2014). This entails the transfer of lands and waters to private owners. Fairhead et al., (2012) assert that in the context of natural resources, profit maximization motives mean

depriving communities of their resource rights. This commodifies ocean space and limits access. The ocean grabbing literature has extensively been applied to fisheries and aquaculture development plans and reforms (Franco et al., 2014; Knott and Neis, 2015), but the theory can be applied to the capitalist appropriation of the fishing livelihood of indigenous coastal communities along the Gulf of Guinea littoral as well.

The appropriation of spaces and goods into property creates a shifting cycle of commodity frontiers, as discussed by Braudel (1972, 1981) and Hopkins and Wallerstein (1986) in their work on capitalism as a world system. Hopkins and Wallerstein (1986) explain commodity frontiers as locations where labor and raw materials are transformed into goods for sale. They demonstrate that commodity frontiers follow a chain that establishes a link between the products being traded and the efforts of capital and labor that are appropriated to contribute to create the products. Building on the earlier ideas of Hopkins and Wallerstein (1986), Moore describes frontiers in two ways: (1) 'a zone beyond which further expansion is possible,' and (2) a 'kind of space with forward movement of [the] capitalist system' emphasizing advancing commodification (Moore 2000; 412). According to Moore, the two explanations of commodity frontiers emphasize that the expansion of capitalist relations is possible as long as there is free space and labor available that are not yet commodified. Therefore, new possibilities for the creation of commodity frontiers always exist but rely on enclosure or appropriation by dispossession.

Similarly, in explaining how capitalism transforms the resources of a region into commodities, Beinart and Hughes (2007) stress that commodity frontiers refer to historical European trade, settlement and productive enterprises that focus on exploiting

resources in overseas territories, transitioning them into commodity forms that enable the creation of frontiers. Establishing a link between the resources appropriated by colonial forces and commodity frontiers, Moore (2010) says earlier capitalist relations formed new commodity frontiers in the 16th century after urban capital was forced out of Europe to where land and labor could be appropriated freely. The link between colonialism and commodity frontiers is best understood by situating capitalism as a historical-geographical process that transforms space and societies through appropriation and exploitation dynamics and the commodification of human and extra-human natures (see Moore, 2010; 2017a, 2017b).

The toponymy of the maps of the Gulf of Guinea coast illustrate what European colonists valued, and their naming of the Gulf marks the onset of colonial-capitalist relations. The names on the map show the evolution of the commodity frontier, from slaves, to gold, ivory, fish, and fossil fuel, with commodities expropriated first by European colonial leaders and now by multinational oil and gas corporations and the nation state. Resource grabs tied to commodity frontiers and enclave development therefore, turns the narrow framings of the resource curse theory on its head, explaining how conflicts can be understood from the perspective of planned colonial and post-colonial resource grabs rather than governance failures.

This paper argues that the conflicts between the small-scale fisheries and the oil and gas industries can be understood through the lens of the historical geography of the Gulf of Guinea. However, it does not consider the Gulf of Guinea (GOG) region in its entirety; rather, it focuses on the toponymy of the Ghanaian section of the region. Using the

toponymy of maps of GOG, the paper isolates and discusses specific historical commodities (gold and slaves) and the contemporary oil and gas extraction that have been central to the ongoing development of the Gulf of Guinea as a historical commodity frontier. It notes, however, that only oil and gas exploitation has appropriated ocean space from small-scale fisheries.

The first section of the paper provides background information on the Gulf of Guinea as it became a commodity frontier. The second section discusses capitalist trade and commodification along the coast as expressed in the toponymy of maps of the region after the arrival of the Europeans in the 15th century and the beginning of triangular trade in support of plantations in the new world. It examines the representation of ocean space as a means of transportation and as a site for trade establishments. The third section discusses oil and gas appropriation and enclosure of ocean space from small-scale fishers. It begins with an examination of oil and gas development and fisheries commercialization efforts after the implementation of the EEZ in the 1980s. The location of oil in the coastal zone inhibits fishing, something not associated with previous commodity frontiers. This raises issues of food security and sovereignty in a period of rapid capitalist development accompanied by environmental and social change.

Toponymy of Commodity Frontiers in the Gulf of Guinea, Ghana, 1500-2017

The Gulf of Guinea (GOG) is part of the Atlantic Ocean adjacent to the West African coast. The region is known for its numerous fish species (Marquette et al., 2002) and tremendous contributions to fish food security as shown on the map of the region created by Dutch cartographer Barent Langenes in 1612 (Figure 3.1). The region consists of

countries from three sub-regions in Africa: West, Southern and Central Africa, whose arm forms the GOG (shown in Figure 3.2). The region extends from Cape Lopez in Gabon near the equator to Cape Palmas in Liberia at 7^{o} west (Akpan, 2013:16). Its extensive coastline includes the Bight of Benin and Biafra, while the rivers Volta and Niger drain into the Gulf of Guinea.

Figure 3.1. Early stage map of the coastline of the Gulf of Guinea showing a fish species at the Gulf of Guinea. By; Barent Langenes (1612)

The origins of the name Guinea are disputed. It has been associated with the surrounding ‘Guinea’ African States, ancient cities in West African states along the coast, and the Guinea forest in West Africa. It comes from the Berber word ‘aguinaw’ or ‘gwana’ which refers to a black man or Negro; hence, the area relates to the land of black peoples as described by Arab traders (Akpan, 2013). Guinea is also said to have evolved from other names, such as ‘Jenne' or ‘Djenne’. ‘Jenne’ is a famous ancient city in the Mali Empire, a center of market activities between the Arabs from the north and the old southern West Africa states. The account of the names of Guinea described by Bovill (1995 cited in Hale 1997 and Akpan, 2013) conflicts with the assertion that the word Guinea is derived from ‘Ghana’ or ‘Gheneoa’. The name ‘Ghana’ or ‘Gheneoa’ is also said to have come from medieval Arab geographers who used it to describe the ancient empire that was said to have settled along the coast in the direction of the western branch of the river Niger (Akpan, 2013).

Figure 3.2 Modern map of the Gulf of Guinea coast (Rider, 2011).

There are several versions of the name 'Guinea' in the accounts of the European empires- France, England, the Netherlands and Portugal- who colonized and traded along the coast. From the 14th century onwards, European maps use different words, including 'Guinnia', 'Gheneoa', 'Ghinea' and 'Ginya'. The name 'Ghana' or 'Gheneoa' was used to refer to the coast next to the current state of Senegal by the Portuguese (Hussey, 1977 cited in Akpan, 2013). The Catalan Atlas dated 1375 uses 'Ginya' (Bovill, 1995 cited in Hale 1997). Also, a map by Genoese cartographer Giovanni di Carignano dated 1320 uses 'Guinnia' (Wolf, 1982).

The maps of the region also show a distinction between sections of the Gulf of Guinea coast. The southern shore of West Africa, which is also the north coast of the Gulf of Guinea, was named and known as 'Upper Guinea'. The west coast of southern Africa to the east was called 'Lower Guinea'. Hargreaves et al., (1991) explain that Upper Guinea can be traced from Cape Blanco in Senegal to Cape Shebro in Sierra Leone while the lower region extends from Shebro Island in Sierra Leone to the eastern end of the Gulf of Guinea at the Niger Delta (Hagreaves et al., 1991).

The toponymy of the GOG coast, with words such as 'Ivory Coast', 'Gold Coast', 'Slavery Coast' and 'Grain Coast', is shown in a 1725 map by Hermann Moll (Figure 3.3). The names are based on the commodities Europeans extracted from different locations along the Gulf of Guinea. In Lower Guinea, for example, three different goods were available in large quantities that shaped Europeans' understanding of the coast from the 15th to the 19th centuries: ivory, gold, and slaves. Ivory from elephant tusks was dominant in the area stretching between Cape Palmas to Cape Three Points; The 'Ivory

Coast' covers present-day Cote D'Ivoire and was last colonized by the French, with the country gaining independence in 1960.

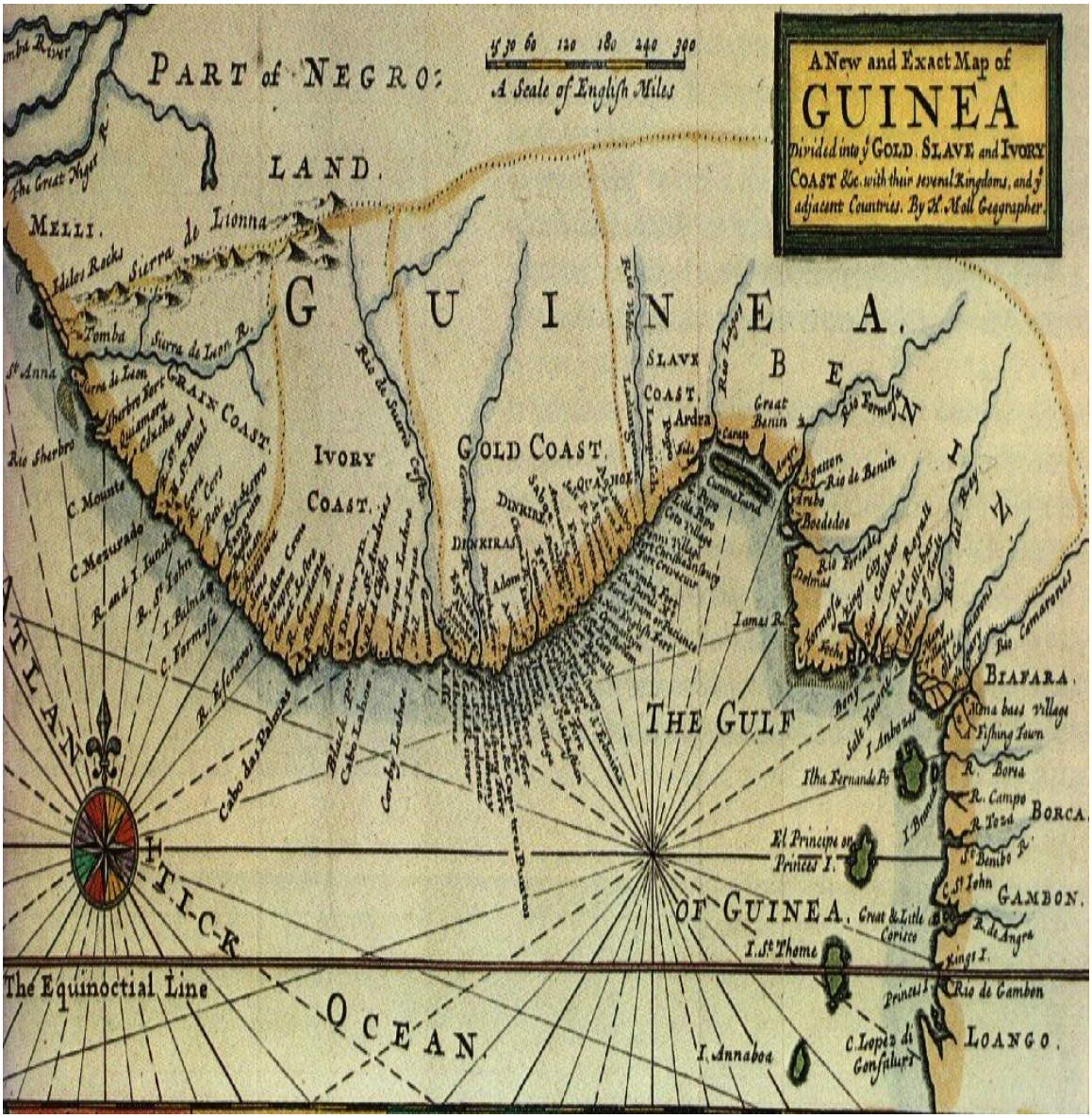

Figure 3.3; Historical map showing sections of the GOG coast made by Dutch Cartographer Hermann Moll c.1725.
Source; https://tracingafricanroots.wordpress.com/lower-guinea/

Gold was also commonly traded at the east end of Cape Three Points. This region came to be known as the Gold Coast. The Gold Coast covers modern-day Ghana and Cape Three Points, now a famous landmark for the oil industry. Slave trading activities were dominant along the coast between the rivers Niger and Volta beginning in the 15th century. The region had many people violently captured during wars and held captives; this practice enhanced the Atlantic slave trade. Hence, that area was called the 'Slavery Coast' in the late 17th and most of the 18th centuries. The region covers modern-day portions of Benin (formerly Dahomey), Togo, southwestern Ghana and the southwestern corner of Nigeria. Put otherwise, the toponymy reflects the commodities available at each of the locations along the GOG.

Arrival of the Europeans: Gold and Slave Grabs at the Coast and Commodity Frontiers

In the 15th century, the Portuguese arrived at the coast of West Africa and started their exploration from upper Guinea. They had extensive knowledge and experience of the wealth of the Atlantic coast and had been granted a charter by the Pope to embark on trade exploration in African and Asia. Their main interest was in Asia, but to reach Asia they had to pass through Africa through the Gulf of Guinea; they hoped to meet gold miners in the ancient Ghana and Mali empires to divert the trans-Saharan gold trade from the Arabs who were heavily involved (Akpan, 2013). By the late 15th century, the Portuguese discovered that the Gold Coast was the main source of gold on the West African coast. In 1471, the Portuguese captain Prince Henry the Navigator and explorers

Juan de Santerem and Pedro d' Escobar arrived at the coast of Ghana between the mouth of rivers Ankobra and Volta (Agbodeka, 1992).

When the Portuguese arrived at the coast, they established several commodity frontiers expressed in the toponymy of the maps. The colonial trade focused on gold, slaves and ivory, as well as the production of sugar, cotton, cacao, rubber and other crops. The Portuguese used the sea for trade purposes. During the period, the ocean space was not appropriated. Rather, it was a site for the establishment of forts and castles as warehouses for the gold and slave commodity trade. It was also an important means of transporting commodities to Europe and the new world.

The commencement of trade was fueled by the discovery of the vast deposits of gold at the coast (Decorse, 1992). The southern part of modern-day Ghana, west of the Volta region, is dominated by two geological formations—the Tarkwain and Birimian systems. These were formed 2,200 million years ago (Agbodeka, 1992; Hirdes et al., 1994). The gold in the Birimian and Tarkwain systems was mined by the indigenous kingdoms; its trade was controlled by the Akan kingdom. The Akan kingdom was in the interior forest of the present-day Eastern, Western and Ashanti regions in Ghana; the kingdom produced most of the gold and traded it at the coast with the Europeans. Salt, pepper, kola nuts, gum, ostrich feathers, dye-woods, beads and expensive clothing could be exchanged for gold and slaves. The internal gold trade was also concentrated at the mouth of the river Benya in Elmina (Agbodeka, 1992), where salt and gold were exchanged. Elmina and other coastal communities produced salt from coastal lagoons through the natural process of evaporation. After evaporation through the sun, the crystal salt left on the sea bed was

gathered for sale or exchange. This natural process continues to today (see Agbodeka, 1992; page 18, 19).

By 1480, the Portuguese dominated the West African gold trade; they bought most of the gold stock from the Akan Kingdom, which mined, stockpiled and controlled it. Making a clear statement that they intended to control the trade of gold and ivory and later slaves through force, the Portuguese built Elmina Fort in 1482 (Figure 3.4). This military installation allowed the military control of trade routes inland and protected them against any incursion from other European competitors—and there were many. The enormous gold resources at the coast and in the Elmina region led to the region being called 'mina' meaning 'mine' or a town of gold (Decorse, 1992, Freeman-Grenville, 1991; Hilson, 2002).

Figure 3.4. Elmina Fort/castle built by the Portuguese in Ghana in 1492.

The continuous development of the gold trade fostered growing interest among Europeans; they viewed gold as a mercantile commodity to be bought cheaply in West Africa and sold for considerably more back home. The ensuing trade war encouraged the Portuguese and other Europeans, including the Dutch, Danes and British, to build castles and forts as barracks, warehouses and lodging places for gold trading and military control of the trade. On the western coast of Ghana, for example, forts were built at Axim, Shama, Ankobra, Princestown, Takoradi, Sekondi and Butre. These forts eventually became slave forts where slaves were gathered, traded and held for export during the era of the trans-Atlantic slave trade from the 15th to 19th centuries. The forts also acted as supply depots for Asian, American and European materials, vegetables, and fruits introduced at the coast as part of what environmental historian Alfred Crosby called the 'Columbian exchange' (Crosby, 1972).

The main aim of building these forts was not the colonial domination of the people of the littoral but the maximization of opportunities for profitable trading activities (Agbodeka, 1991). However, as the Europeans had an interest in keeping trade and commerce routes monopolized and on favorable terms, the Ghanaians became colonized, establishing unequal relationships of trade and eliminating self-rule (Freeman-Grenville, 1991). The European navy, lighthouses, forts and other coastal installations helped to produce and secure the Gulf of Guinea as a commodity frontier in ways that continue to impact the present.

The forts were initially established by the Portuguese and were later employed by the Dutch and the British after the Portuguese were forced out due to financial

mismanagement, colonial revolts and the unsuccessful exploration of new resource frontiers (Hilson, 2002). This paved the way for the Dutch in the gold trade, but their reign was short lived. They were profoundly challenged by the British militarily, illustrating Gavin Bridge's (2009) assertion that gaining access and control of natural resources is always an issue of political contestation that involves and produces violent conflict. Despite the revolts and contestations, the gold trade remained dominant along the coast; it was firmly controlled by the British after the Portuguese left. The British built other forts at Komenda to gain access to the interior forest for gold resources and to enhance trading opportunities (Hargreaves et al., 1991).

By the 16th century, attention had turned from the gold to the slave trade. When the slave trade began at the West African coast, the Dutch and Portuguese empires preferred to continue their gold exploitation (Agbodeka, 1992; Rodney, 1969). During this period, the economy of most European states was based on gold that had been obtained through ongoing military conflict and colonization (Agbodeka, 1992; Utter, 1992). However, the slave trade became the main activity when the existing stock of gold at the coast ran out, and efforts by European empires to invade the interior forest and raid the Akans failed. The Europeans withdrew the favourable mercantile policies Ghana enjoyed that excluded them from the slave trade, replacing one commodity frontier with another (Agbodeka, 1992; Hargrove, 2015). The demand for labor in silver mines and plantations in Spain, the need for sugar cane cutters in Portuguese colonies and Portuguese Brazil's demand for millers in their extremely profitable sugar plantations propelled the slave trade and drove up the prices for slaves and the profits of their sale (Wolf, 1982). Slaves were

violently appropriated along the West African coast by the West African kingdoms and empires and transported to the western coast of Ghana, where they were sold to Europeans at the forts and castles (Akpan, 2013).

Before the escalation of the slave trade at the West African coast, the African economy had developed a feudal class structure, with many people in the low-class category. At the gold coast, many people were classified as porters and laborers, though slavery was never inherited. Slaves could become part of the elite group after long years of servitude (Agbodeka, 1992; 25). This structure of African slavery was quite different from the system deployed on plantations in the Americas, where captives and their offspring remained slaves forever—so called chattel slavery (Davidson, 1988; Decorse, 1992). The slaves traded to the Europeans were people who had been used to settle debts, those punished for disobeying kings' rules, and those captured in war (Rodney, 1969; Wolf, 1982).

Many people were captured and slave numbers dramatically increased along the coast of Ghana with the advent of firearms in the 16th century. The firearms led to the emergence of wars among many small states and kingdoms vying to control the slave trade; activities revolved around people known as 'Big Men'[27] (Wolf, 1982).

[27] In the 16th century, 'Big Men' were powerful entrepreneurs in the ancient kingdoms. They controlled trade with the European traders. According to Wolf (1982), some had fleets of war canoes and an army to facilitate their wealth accumulation. An example is the Akrosan brothers. The younger Akrosan brother controlled the Fetu kingdom after the death of the elder brother. He wanted to trade with the Dutch at Elmina. Other Big Men include the Akomani of the Akwamu kingdom, who controlled Christianborg Castle (see Wolf, 1982). Contemporary Big Men are powerful actors in the resource sector, particularly oil and gas. They include traditional heads, ministers in charge of energy, and leaders of oil companies. They desire to benefit from oil and gas exploitation. The documentary

The local states got firearms through the Europeans, who sold or distributed them to local traders. The Portuguese, in an attempt to protect their trading forts at Elmina, spread firearms to the indigenes along the coast. Similarly, the British traded knowledge of firearms with Akan traders in the 1660s. Inikori (1977) and Richards (1980) cited in Wolf (1982), demonstrate that over time the number of firearms significantly increased in the region from 180,000 in 1730 to between 283,000 and 394,000 between 1750 and 1807. The increased number of firearms at the coast promoted warfare among the Ghanaian kingdoms: Denkyira, Akyem, Adanse, Akwamu, Akan and the Asante all attempted to protect their territories and expand them. The firearms and increased violent warfare produced captives who were traded as slaves. The Ashanti, for example, had a well-armed military that conquered kingdoms in military campaigns and traded captives as slaves with the Europeans at the coast (Wolf, 1982). In short, the arming of the Ghanaian kingdoms enabled resources, including slaves, to flow. Therefore, when considering commodity frontiers, we must also consider the need for violence to maintain resource flows. As Moore (2017a) argues, resources require violence to be produced and maintained; thus, conflicts are often associated with resources in the GOG.

By the mid-17th century, the slave trade exceeded the gold trade in economic value at the littoral. The Dutch West Indies Company took control of the trading ports in Elmina, Axim, and Shama along the Gold Coast in 1637. In 1665, the heavily militarized British Royal African Company conquered the Dutch at the coast and took control of the

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Big Men by Rachel Boynton examines corruption in Ghana and Nigeria (see https://www.youtube.com/watch?v=qsjubN_4H3E; Klieman, K. (2016). Cultures of Energy Podcast. Episode #70. http://culturesofenergy.com/ep-70-kairn-klieman/

slave trade. The British Royal African Company had made Ghana the primary source of the Atlantic slave trade by the 18th century. Slaves came from all corners of the powerful Ghanaian kingdoms; Akwamu, Ashanti and Volta. They were traded for mirrors, knives, iron, beads, and expensive clothes brought from Europe (Agbodeka, 1992).

The slaves were shipped to Europe, the American mainland and the Caribbean to work on different commodity frontiers (Moore, 2017a). Early capitalism relied on cheap labor to enhance productivity, reducing the cost of production and increasing profits (Moore, 2017a). Slaves were appropriated as cheap nature[28] and exported to the West Indies, Central America, North America and South America, particularly Brazil, by the mid-1500s (Klein, 2010; Thomas 1997). The slaves worked in mines and on rice, coffee or cotton plantations. In later stages, large numbers of slaves worked on sugar plantations (Moore, 2017a).

African slaves were in high demand; they were hardworking and resistant to disease. Once they were captured, they were marched to the slave forts on the coast and could not be rescued by their relatives (Wolf, 1982). On the ships, the captains cut off the ears of slaves as proof of their purchase. Some died of disease due to poor sanitation (Wolf, 1982), and because of the number of readily available cheap slaves along the coast, captains threw the sick into the sea. Klein (2010) says many slaves who had not seen white men before saw them as carnivores. Many committed suicide or starved themselves to death, believing their souls would return home when they died. Women and children

[28] According to Moore (2017a), cheap nature is appropriated by empires and put to work for free or at a low cost based on the law of value to increase productivity.

were kept above the deck; they were abused, harassed and raped. The men were kept below deck and made to dance or exercise to curb any rebellions until they reached their destination (Thomas, 1997).

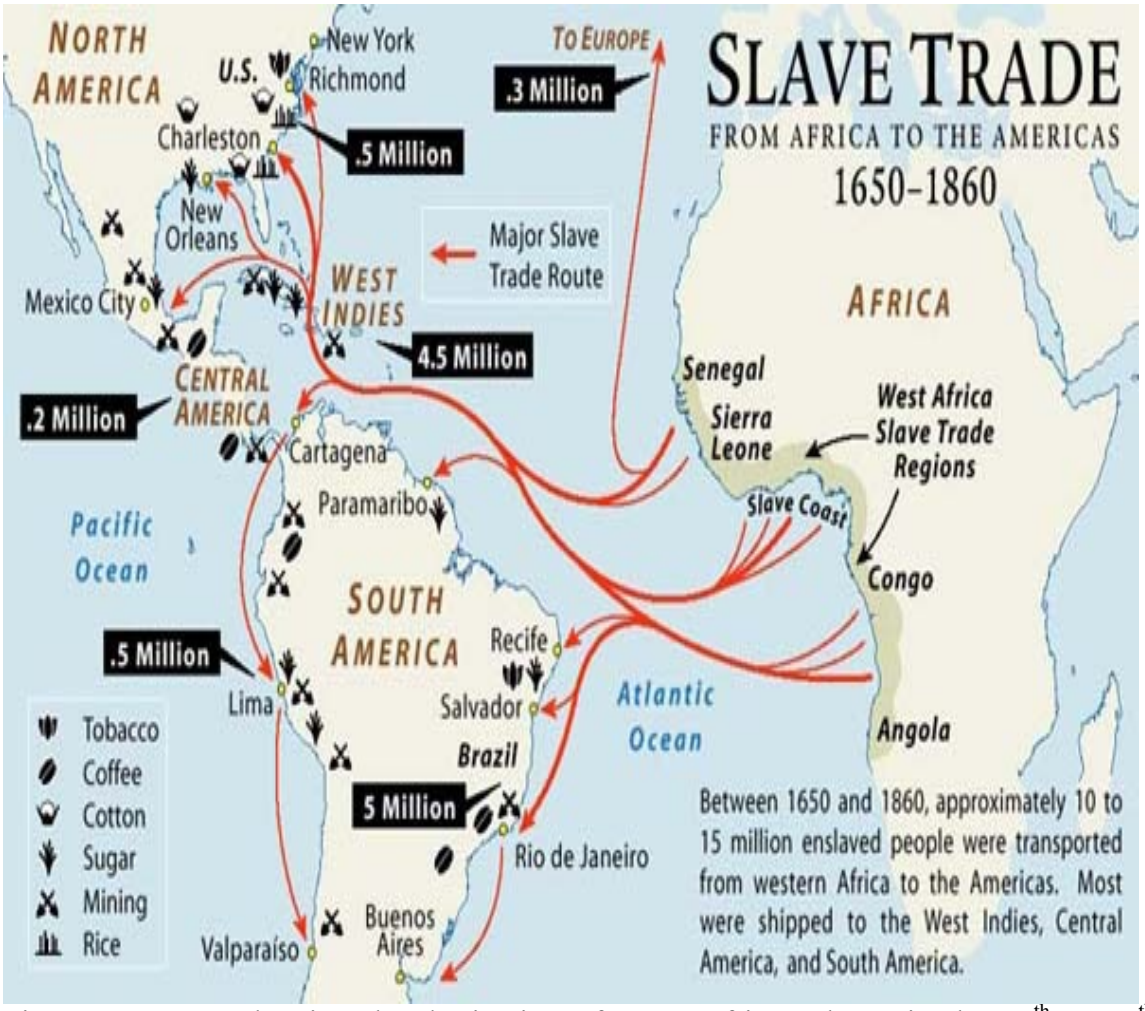

Figure 3.5; Map showing the destination of West African slaves in the 15th to 17th centuries. Source; Atlas of Trans-Atlantic Slave Trade (Eltis and Richardson, 2010).

By the 18th century, up to 15 million Africans had been traded from the slave coast to Europe, North and South America **(**Eltis and Richardson**,** 2010), as shown in Figure 3.5. Slaves were exported through the forts and castles in Axim and Elmina constructed by the Portuguese, Dutch, British and the Danes along the coast. Agbodeka's (1992) analysis shows that about 10,198 slaves aggregated from different parts of the western region and coastal Ghana were exported from Cape Coast castle alone in two and half years and about 5,000 slaves passed through Anomabo annually. When the slave trade was abolished in the 19th century, resource capitalism at the Gulf of Guinea entered a new stage with far reaching consequences for ocean space and other economic activities along the coast.

Oil and Gas Development, Fisheries and Ocean Grabbing

This section discusses developments in oil and gas and fisheries from the colonial period to the present and explains how oil and gas contributed to the appropriation of ocean space.

Oil and Gas Development

By the end of the 19th century, resource exploration and exploitation at the coast focused on oil and gas extraction. The geology of Ghana was exploited again, this time for fossil fuels. The coast of Ghana has four sedimentary rock basins; the Western Basin (Tano-Cape Three basin), Central Basin (Saltpond), Eastern Basin (Accra-keta basin) and inland Volta Basin (Figure 3.6) that contain hydrocarbons (Boateng, 2008). The enormous sedimentary rock basin attracted new users, oil and gas explorers and industrial development. Most of the exploration activities at the coast in the 19th and 20th centuries

were unsuccessful and had minimal detrimental effects on fisheries. The oil and gas explorations of the early 21st century found large deposits, however, and this transformed the fishing coast.

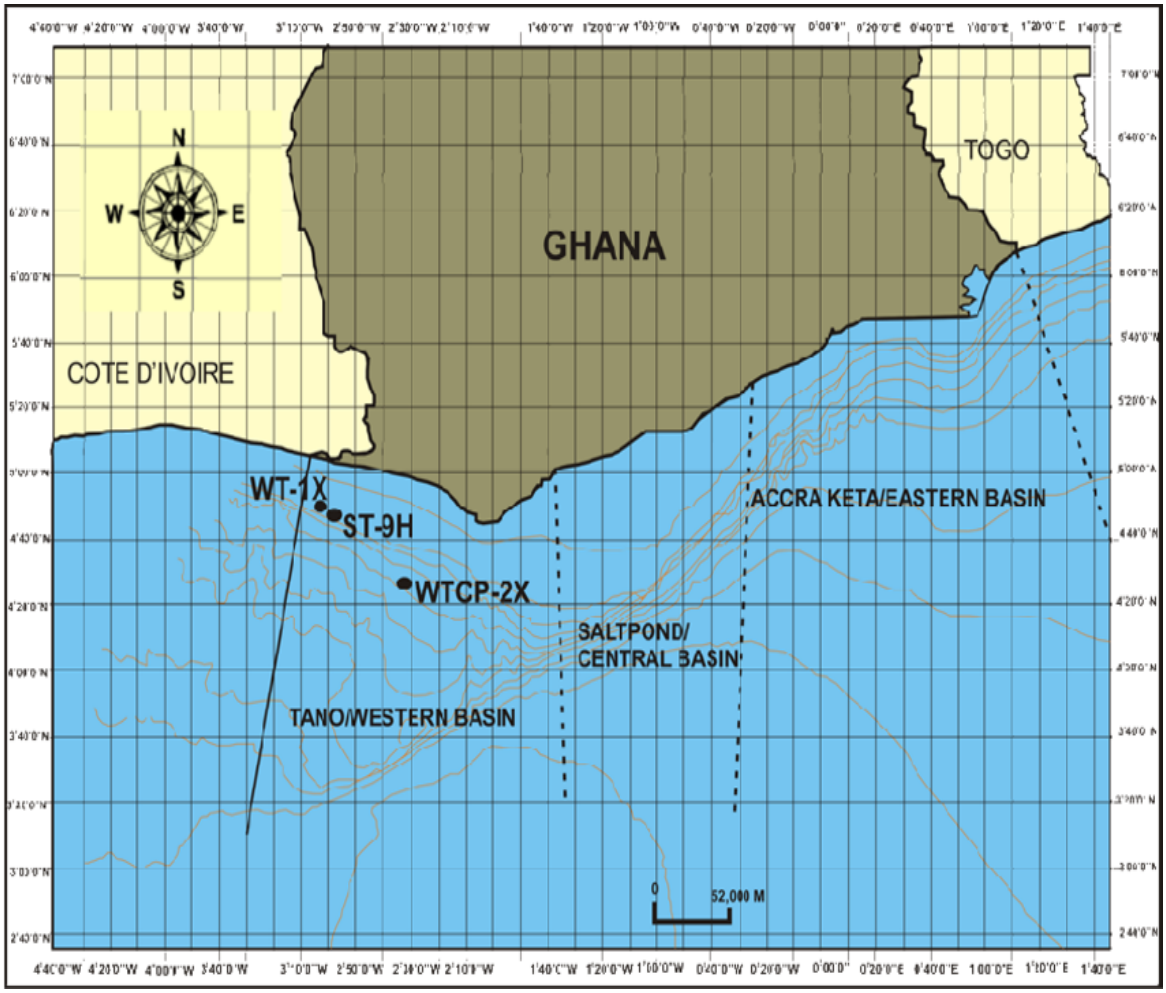

Figure 3.6; Offshore sedimentary basin of coastal Ghana. Adapted from Peters and Garrey (2014).

The British West African Oil and Fuel Company (WAOFCO) started oil exploration in 1896 but oil was only found through natural 'seepages' as described by the Ghana Petroleum Commission. During this period of exploration, there was no

sophisticated technology. The only means to identify the presence of oil was to see traces floating on the surface of water. Such observation was followed by the drilling of shallow wells to confirm the presence of oil. WAOFCO conducted five hydrocarbons drills between 1896 and 1903, but only one of the wells at a depth of 35 meters was successful and produced five barrels of petroleum per day (Boateng, 2008; Gatsi, 2017).

Societe Francaise de Petrole (SFP) arrived between 1909 and 1913. SFP drilled six wells, which produced seven barrels of oil per day at a shallow depth of 12-17 meters. However, between 1923 and 1925, the British owned company, Africa and Eastern Trade Corporation (AETC), drilled two wells at the coast and discovered both oil and a shallow depth of gas for the first time in the history of oil and gas exploration in Ghana (Boateng, 2008; Gatsi, 2017). This enticed an American corporation, the Gulf Oil Company (GOC), to explore the coast in search of commercial oil and gas between 1956 and 1957, but their efforts proved futile.

In 1957, Ghana became the first of any colonized state in Africa to gain independence. Dr. Kwame Nkrumah, the country's first president was a nationalist who wanted to do away with British domination and make Ghana economically independent. In his speech at the formal open opening ceremony of the Tema oil refinery in 1963, he stressed the need to make Ghana an independent and industrial capitalist state through resource development. This, he said, began with the establishment of the Tema oil refinery. He emphasized modernization and the importance of oil to the successful development of the nation:

> Since the attainment of our political independence, there has been no doubt in our minds as to the direction in which our duty lay; namely to develop Ghana into a modern industrial state. It is only in this way that we can survive as an independent country. To achieve this, we have to rid ourselves of the economic patterns and institutions imperialism left behind by colonialism. Oil is the life blood of industry. It is as important for industry as water is for human existence. Without oil the wheels of industry refuse to turn that is why government has decided to buttress its program of industrialization by the establishment of an oil refinery in Ghana. (Nkrumah, 1963)[29].

Nkrumah's administration focused on the Volta and the Accra/Keta basins, searching for commercial oil and gas between 1960 and 1966. Based on a Ghana-Soviet Union collaboration, Nkrumah introduced Soviet and Romanian geoscientists from the Industrial Export Company of Romania to exploration activities, but they were unsuccessful (Boateng, 2008). The data gathered by the Soviet and Romanian geophysicists, however, marked a shift in oil exploration from onshore to offshore discoveries and drilling (Dickson, 2011).

In the 1970s, the search for commercial oil and gas continued offshore in the Saltpond field in 1970, but it was not until 1979 that an oil discovery was made in the field by the US-based company Agri-Petco (Ghana Petroleum Commission, 2007). A sub-commercial discovery of gas was made in the South-Tano Basin by another American oil firm, Philips Petroleum, in 1981, but there was no market for the gas, so the company abandoned the field (Boateng, 2008). The progress in the Saltpond field and other offshore explorations resulted in the creation of a national oil and gas regulatory body to expand offshore oil and gas exploration.

[29] http://nkrumahinfobank.org/article.php?id=439&c=51

Provincial National Defense Council Law 64 (PNDCL 64) created the Ghana National Petroleum Company (GNPC) in 1983 as a regulatory body to oversee oil exploration and production processes. In addition, the introduction of the United Nations Convention on the Law of the Sea (UNCLOS) and Exclusive Economic Zones (EEZ) in 1982 gave the governments of the Gulf of Guinea states control of the neighboring littoral out to 200-nautical miles (Dundas, 1994). The EEZ gave Ghana the rights, control and management responsibilities for natural resources, hydrocarbons and fish, at the littoral. With the region's available resources and the power conferred on GNPC by PNDCL 64 and UNCLOS, oil and gas development in the region intensified. However, GNPC's attempts to commercialize oil and gas were unsuccessful. As part of its ongoing efforts, GNPC funded a 3D seismic dataset and acquired a 2D seismic dataset with the support of the governments of Japan and Canada. Petro-Canada International Assistance Corporation (PCIAC) intensified oil and gas exploration at the coast in the Tano-Cape Three Basin from 1984–1989 (Boateng, 2008; PCG, 2016). Wells were drilled and oil rigs and infrastructure were developed over the South Tano Field (Cape Three Point fields) by the GNPC in 1994, but little was achieved until exploration moved to the deeper water off the coast.

In the post-independence era, capitalist development through commercial oil and gas resource exploitation was aided by transnational corporations, not government run oil companies like Petro Canada. This period marked a neoliberal phase of capitalist development where transnational corporations invested heavily in oil and gas exploitation in the offshore basin of the coast. GNPC signed a contractual agreement with oil and gas

investors and companies to undertake exploration in the deep water Tano Basin/Cape Three Points using a 3D seismic dataset in 2003. The abstract representation of ocean space as an oil frontier depicts the ocean as divided into private property holdings and oil and gas blocks of exploration sites (shown in Figure 3.7) leased to a consortium of oil companies from the US and the UK - Kosmos Energy, Anadarko, E.O. Group, Hess Corporation and Tullow Energy (Whaney, 2010).

After over 100 years of concerted efforts exploring for oil, the big find came in 2007 when commercial quantities of oil and gas were discovered in the Tano Basin in the Jubilee oil field (Figure 3.7). The exploration continues to expand the occupation of significant sections of ocean space, with many other major discoveries made at sites such as Dzata, Ebony, Odum, Sankofa, Owo, and Teak 1[30] in the Deep Tano Basin following the Jubilee discovery. However, the post-independence exploration encroaches on ocean space and has alienated small-scale fisheries. Whenever the government grants licenses to oil firms to carry out the exploration and exploitation of oil in the ocean, the zone of appropriation and exploitation also extends and widens, harming those who gain livelihood from the sea in the form of fishing rather than drilling.

[30] Tweneboa, Dzata, Ebony, Odum, Owo, Mahogany 1 and Hyedua (seen on coastal maps in Figure 12) are local names given to property sites or blocks where oil and gas are exploited. The names stem from the names of wood found in the forest; Sankofa is a popular Ghanaian adage that expresses 'a revisit to the past for a forgotten culture/tradition'.

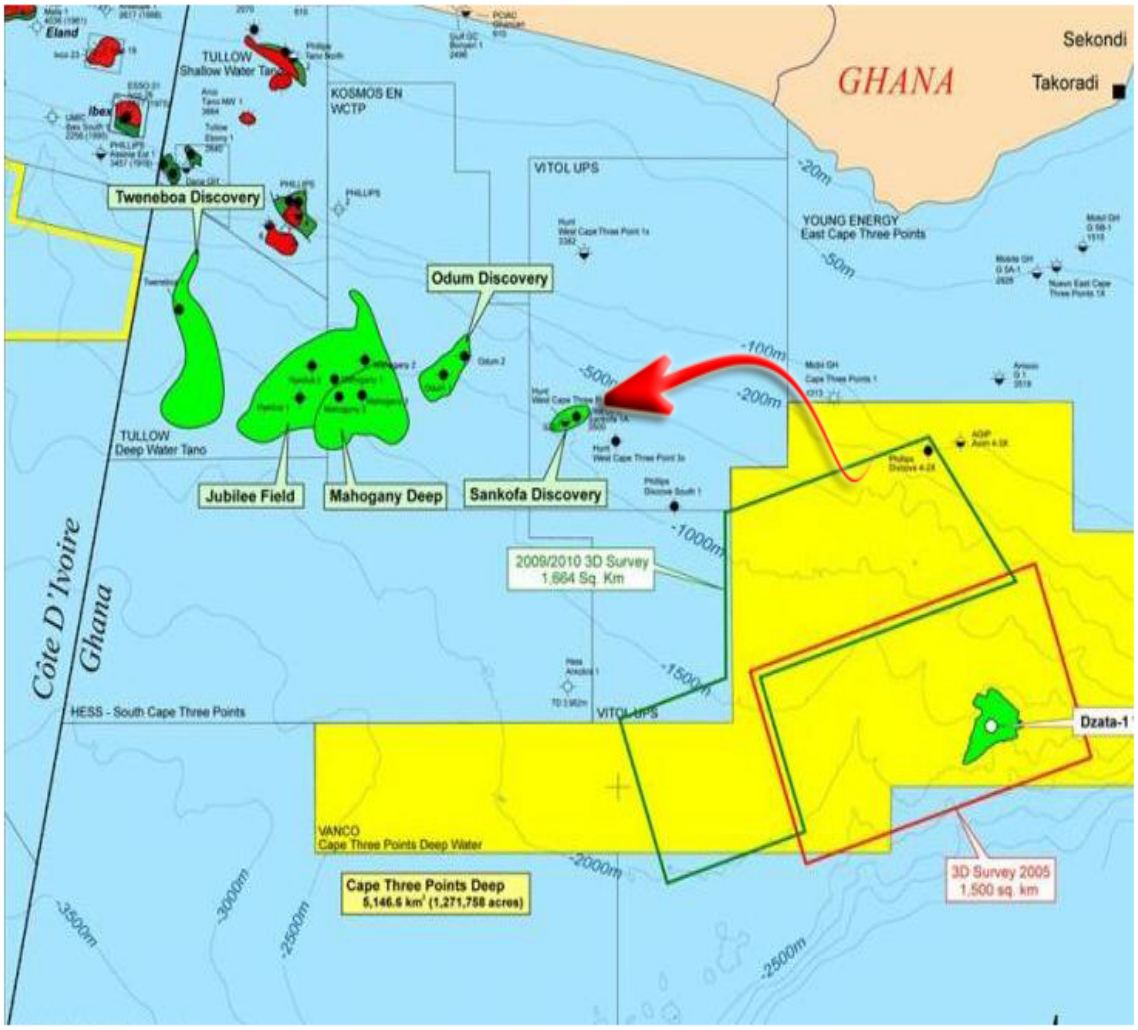

Figure 3.7; Private property map showing license oil companies, the Jubilee field and other discovered fields. Source; ghnanaweb.com (2010)

Commercialization of Fisheries and Ocean Grabbing

The Gulf of Guinea littoral has been an important food source of marine fish for a growing population that pre-dates European colonialism (Adjetey, 1973). Traditional fisheries with uniquely designed dugout canoes dominated the fishing sub-sector. The dugout canoes used traditional fishing gear: the cast net, 'Ali' net (gillnet) or floating and bottom nets to catch fish seasonally between July and October (Akyeampong 2007; Adjetey 1973; Nunoo et al., 2014). Common marine fish species were small pelagic species: round and flat sardinella, chub mackerel, herring, and anchovy. The colonial and post-colonial governments made conscious efforts to commercialize the fisheries resources to ensure Ghana and many West African states could create a modern, industrialized and commercial fishing industry (Akyeampong, 2007; Finegold et al., 2010; Nunoo et al. 2014). However, the efforts for the commercialization of small-scale fisheries did not impact the activities of fisher folk, as they were geared towards creating self-reliance in food production and promoting the export of larger tuna species using large fishing vessels.

The high demand for fish ignited partnerships between the UK and the British West African colonial governments to invest in commercial fishing aided by the Colonial Development Fund as early as the 1950s (Akyeampong, 2007; 178). Fishing vessels of varying sizes were introduced, boatyards were constructed, and repair and maintenance facilities and refrigerating stores were established. Such investments ensured the continuous provision and maintenance of the protein content in Ghanaian diets. At the

same time, they aimed to avoid the import of canned and frozen fish and to develop a fish export trade to boost foreign exchange (Adjetey, 1973).

On an experimental basis, in 1948, the Gold Coast colonial government through its fisheries department introduced planked vessels with inboard motors to industrialize fishing (Nunoo et al., 2014; Odotei 2002). Two 30-foot vessels with inboard engines were imported from UK shipyards. The boats were functional but too expensive for the local fishers. Nonetheless, the success of the two boats led the fisheries department to set up a local boatyard corporation at Sekondi. Boats were built from wood and supplied to artisanal fisher folk, with the cost to be paid off in installments (Akyeampong, 2007). The boatyard industries produced about 163 vessels 27'-32' long (for the inshore fishery); they were leased to fisher folk throughout the 1950s and 1960s (Akyeampong, 2007; Bennet et al., 2001; Nunoo et al., 2014).

In 1959, outboard motor vessels were introduced into the small-scale fisheries[31] sector, and this helped transform artisanal fishing productivity. These were dugout canoes with an outboard motor, allowing movement further offshore and bigger catches farther from the coast. But these boats were limited in their function because wind and other physical conditions offshore dictated dugout speeds and fishing pace (Akyeampong, 2007; Bennet et al., 2001; Nunoo et al., 2014). Boats with massive gears (particularly the

[31]The paper uses artisanal and small-scale fisheries interchangeably to reflect FAO definitions of small-scale or artisanal fisheries. Artisanal/small-scale fisheries describe traditional fisheries that involve households as opposed to commercial entities; they use relatively small amounts of capital and small fishing vessels (canoes in the case of artisanal types) and are intended for subsistence rather than commercialization. The prefix 'artisanal' or 'subsistence' is applied based on the level of technology at the local scale where it is practiced. See http://www.fao.org/faoterm/collection/fisheries/en/

'Ali', herring seine net popular among artisanal fishers) were unable to reach distant fishing locations because the gears were too heavy. Only those fishing with hook and line could access remote places over 20 miles from the shore (Akyeampong, 2007). In 1962, the Tema boatyard was established to enhance large-scale fish catches. Large, locally-made wooden fishing vessels up to 70 feet long were built, with many performing the dual role of bottom trawling and purse seining (Anon, 2008; Bennet et al., 2001; Kwadjosse, 2009).

The industrialization program continued in 1962, when a national fisheries corporation was established to help the already heavily capitalized fisheries sector and transform it into a modern industrial sector using wage labor. The fisheries corporation oversaw the fishing fleets and their activities and operations in deep sea fishing. Their activities were complemented by the implementation of the 200-mile EEZ in June 1983 (Dundas, 1994; FAO, 2008). This gave Ghana exclusive jurisdiction over the continental shelf and natural resources therein. The EEZ also gave the government the right to engage in a contractual agreement with foreign fishing fleets today known as fishing access agreements.

However, unlike other West African nations, the Ministry of Fisheries in Ghana does not have fish access agreements with any nation; rather, private fishing companies are contracted to extract, process and export fish (Antwi, 2016). The government wants to generate revenue by commodifying fish and to make large contributions to the country's GDP by exporting high value fish species such as tuna. For example, the government contracted foreign companies such as Pioneering Food Processing Industry International

(Starkist) from America and the Ghana Agro Foods Company (GHAFCO) in Tema to harvest, process and export canned tuna found in Ghanaian waters but rarely caught by inshore fishers (Antwi, 2006; Finegold et al., 2010). The revenue generated was used to import less expensive fish to supplement the small pelagic catches of artisanal fisher folk to meet the growing demand for seafood in the country (Antwi, 2006). According to Atta-Mills et al. (2004), quotas of high-value species are sometimes exchanged for research or economic assistance in fisheries sciences from the developed world and management assistance tied to bilateral relations between industrialized nations and Ghana. An example is the strong mutual relationship between China and many other states in Africa, including Ghana.

In 2002, the state and fisheries department implemented an Inshore Exclusive Zone (IEZ) based on the Fisheries Law of 2002 Act 625 (Fisheries Policy of Ghana, 2002; Kwadjosse, 2009). The IEZ denotes territorial waters of a depth of less than 30 m extending to 12 nautical miles. This was implemented to protect small scale inshore fisheries and ensure there is no trawling activities by inshore and industrial vessels. However, fish migrate and this has not stopped the steady decline of inshore fishery resources as the law intended (Attah- Mills et al, 2014).

Decline and Enclosure of Fisheries as 'Ocean Grabbing and Enclaving'

The rationale for ocean grabbing in Ghana is the need to enhance food production to feed the growing national and global population (Franco et al., 2014). In the colonial and post-colonial era, Ghana made an effort to sustain and improve food production but the inshore fish stock crashed in the 1990s. As I go on to show in this section, despite the

decline in the fish stock, small-scale fishers were not excluded from the use of the ocean. This only happened when oil and gas commercialization began in the mid-2000s.

The decline in the inshore fisheries has been attributed to the rate of commercial development of the fisheries. The transition from artisanal fishing to industrial fish exports with the introduction of larger vessels did not occur concurrently with other needed facilities such as cold storage and infrastructure for the cold distribution of fish[32] (Adjetey, 1973). Therefore, this can be framed as a development failure, with not enough modernization occurring quickly enough. The round, flat sardinella and chub mackerel were once common but declined due to high levels of exploitation through industrial purse seining by national fleets, as well as the use of inappropriate gears and small mesh sizes (Attah-Mills et al., 2004). Industrial fleets destroyed the small-scale fishing stocks following an absurd but repeating global pattern of overfishing by these fleets known as roving bandits (Atta Mills et al., 2004; Berkes et al, 2006; Nunoo et al., 2014). In the Ghanaian waters, many of these trawlers extracted fish very close to the shoreline, destroying the fishing gear and grounds of small-scale fishers. Fishers complained that trawlers damaged the sea floor, destroying the breeding grounds of fingerlings. The financial compensation offered by foreign fleets and trawlers in the name of foreign aid were not adequate to promote the growth and development of a Ghanaian industrial fishing industry (Alder and Sumaila, 2004). The scope of their activities was such that the

[32] Modern fish preservation through mechanical refrigeration or ice packed on the fish during and after harvesting at a temperature of below 0^0C keeps the freshness of the fish; this surpasses the culturally preferred practice of smoking preservation led by women, even though the smoking method has advantages.

Ministry of Fisheries and Fisheries Department made trawling in Ghanaian waters illegal in 2008, but only after major stock declines (Ministry of Fisheries, 2008).

Local fishing communities saw little in terms of development because revenue from fish resource exports landed in the coffers of the central government without reaching coastal fishing communities (Alder and Sumaila, 2004). This created food insecurity and a loss of sovereignty. Fishers and indigenous communities lost culturally preferred fish species and the revenue generated from exporting fish. Their plight was complicated by the fact that high-value fishery resources must be exported to generate revenue for the importation of less expensive, but low-value frozen fish (chub mackerel, sardinella) mainly from Spain, Mauritania and Namibia, arguable less nutritious than the fresh and locally caught and prepared fishes.

The declining fish stock and the export of high value fish species affected the key role of fish workers and processors in the fish value chain. According to Fisheries Act 625 (2004), 10 percent of tuna species extracted by Pioneering Food Processing International and the Agro-Food Company of Ghana are to be sold in Ghana; however, these contracted companies export to America and Europe rather than the local market (Antwi, 2006). These dynamics not only displace artisanal fishers but, more importantly, the exclude women from their central role in fish processing and selling. The women who process, distribute and sell the fish throughout the country have no role in the industrial fishery system. When the small-scale inshore fisheries fail, women are forced to migrate with their husbands or are excluded from the fishery (Adusah-Karikari, 2015). The only

profitable fishing businesses in Ghana at present are those importing fish for local consumption from European and other African nations (Attah-Mills et al., 2004).

Although the introduction of UNCLOS and the EEZ promised to serve a useful purpose in conserving living resources in Ghanaian waters, they limited the access of Ghanaian fishing fleets (Akyeampong, 2007; Nunoo et al., 2014; Odotei, 2002). Many Ghanaian fishing fleets that plied the waters of neighboring West African countries such as Senegal, Benin, Togo and Nigeria during the pre-colonial and early parts of the colonial era were banned from fishing in these newly nationalized waters in the 1960s (Akyeampong, 2007; Atta-Mills et, 2004; Odotei 2002). Fishing fleets in the waters of overseas nations were now considered a security risk (Acheampong, 2007; Odotei, 2002). The implementation of the EEZ limited Ghanaian fishing fleets' access from 13 countries to six between 1976 and 1988, while the fleets in national waters were unable to compete with the international fishing vessels from Europe, North America, and Asia allowed into the Western Gulf of Guinea both legally and illegally.

While the decline in small-scale fisheries had long been a concern, 21st century oil and gas extraction (beginning in 2007) was the final blow to small-scale inshore fisheries. In the quest to enhance development through oil and gas exploitation, ocean space was appropriated from inshore fishing people. GNPC sold the right for oil and gas exploration and production in the ocean to companies from the United States, Canada and Europe; these companies finance the exploration and exploitation. The extension of financial capital into natural resource industries leads to the control of those resources, driving ocean grabbing and processes of enclave development with securitization that excludes

resources communities and alienates previous users of the resource space (Franco et al., 2014; Ferguson, 2006). Oil and gas exploitation involves the installation of large and expensive capital equipment in sizeable portions of the ocean. The floating production and offloading storage (FPSO) MV21 Kwame Nkrumah[33] is installed in deep offshore waters; it stores crude oil from the Jubilee field temporarily before it is offloaded to oil terminals at Tema and Takoradi. Gas pipe lines about 45 km long are laid to connect the deep-water pipes of the Jubilee field (Stephen in Pereira, 2015). The offshore gas from the Jubilee field is transferred to the gas processing plant at Atuabo, which generates and supplies liquefied petroleum gas (LPG) and electricity to meet domestic market demands (Stephens, cited in Pereira, 2015). The West African gas pipe line project runs along the Gulf of Guinea coastal states as well from Nigeria. The FPSO, oil tankers, onshore Ghana pipelines, and West African gas pipe lines occupy parts of the ocean space formerly used by inshore fisheries (shown in Figure 3.8).

[33] Kwame Nkrumah MV21 is the floating production storage and offloading (FPSO) vessel used offshore in oil and gas exploitation. It is named after Kwame Nkrumah, the first president of Ghana.

Figure 3.8; Ghana's oil blocks and the West African gas pipeline originating from Nigeria. Source; GNPC, 2011

Oil and gas exploitation rules require that no activity be done within 500-m radius around the oil and gas rigs, pipelines and other infrastructure (Thuy and Arbo, 2015). This law is backed by the Ghana National Petroleum Act 1983 (PNDCL 64) which confers the right to 'explore, produce and dispose' of (Stephens, cited in Pereira, 2015) petroleum resources for the Ghana National Petroleum Company (GNPC) on behalf of the state. The regulatory activities back oil and gas exploration, relegating fishers and their activities to the periphery.

Evidence suggests that the activities of small scale fishers in communities in the western region are enormously impacted by oil and gas. In small communities such as Cape Three Points and Akwidae, fishers claim oil and gas activities have reduced their fish catch levels, affecting their source of income (Agyei et al. 2012; 186). Adusah-Karikari (2015) demonstrates that in Axim and Atuabo in the western region, the livelihood of female fish processors has been greatly impacted due to the low fish catch. Many of these fish processors have had to follow their husbands who migrate to nearby countries like Cote D'Ivoire to fish or engage in other economic activities. Fish species are obviously not the main focus of the oil and gas industries; however, the strong lights around the oil rigs draw fish to the rigs, thus closing off the ocean space around the oil rigs for fishers.

Despite the impacts, the state continues to exercise its powers to benefit from the Gulf of Guinea frontier at the expense of marginalized fishers and fishing communities. The fishing places have been appropriated as private property sites for capital accumulation and are guarded by the navy through violent enforcement of the no-go zone

regulations (Gary, 2009). This denies the small-scale fisheries access to their livelihood and source of food, compounding the problems small-scale fishers already face because of industrial trawlers.

The coastal communities in western Ghana, like many others along the West African coast are part of a high fish consumption zone—the highest per capita fish consumption in the world (Figure 3.9). But the small-scale forms of food production and consumption have been suppressed to enable oil commodification. Restricted areas around the oil and gas infrastructure have become a 'de facto' no-take, marine protected area (MPA). Consequently, the catches of artisanal fishers have been reduced (Agyei et. al., 2012; Adusah Karikari, 2015; Boohene and Peprah, 2010) and they are being excluded from newly emerging fishing grounds. Their plight is heightened by the fact that oil and gas jobs require skilled personnel, but many of the fishers and the community youth do not possess the requisite skills.

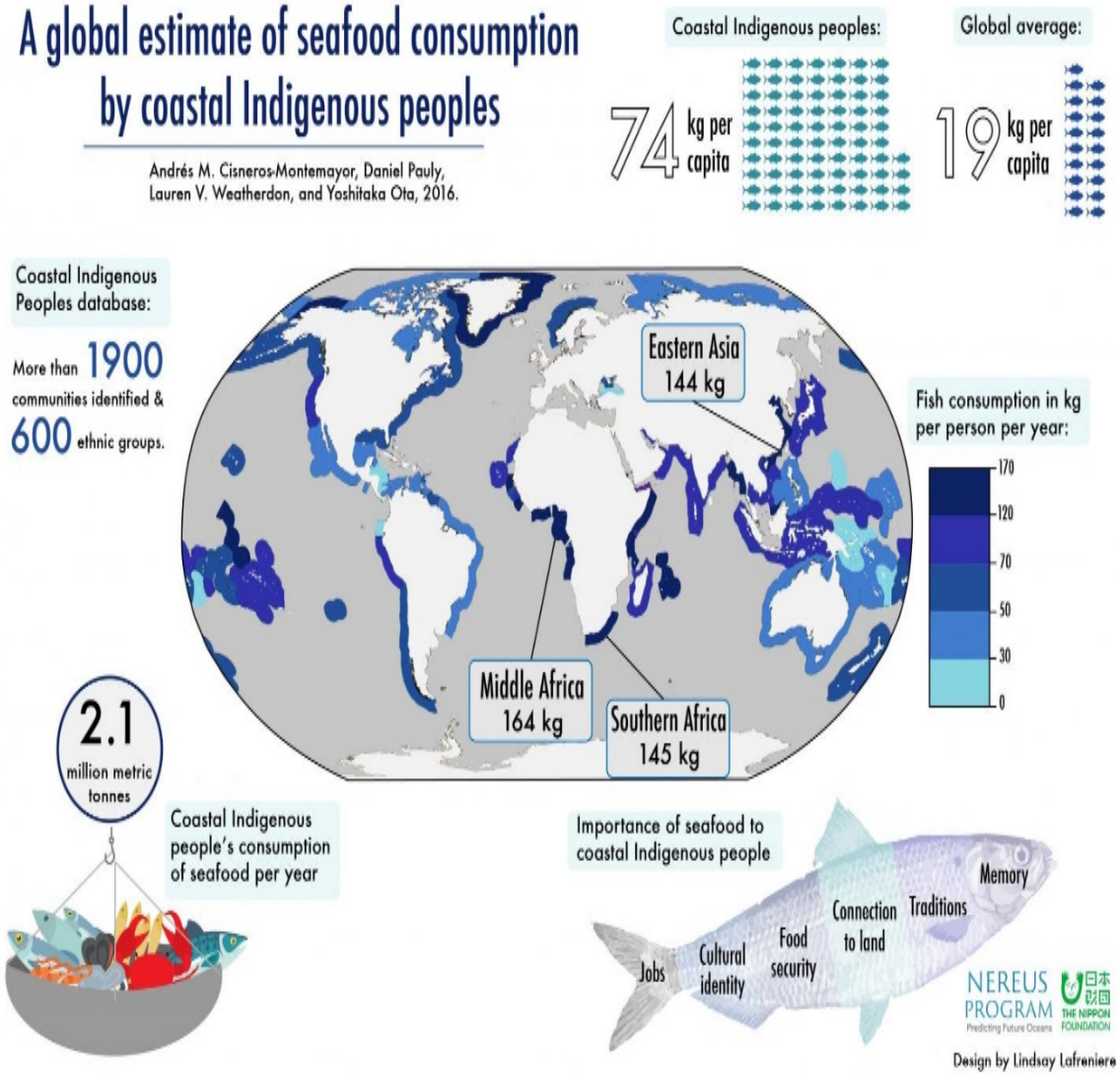

Figure 3.9; Seafood consumption by coastal communities. Adapted from Cisneros-Montrmayor et al., (2016)

The negative impacts of oil and gas exploitation have led to resistance and conflicts between small-scale fisheries and the oil and gas industries. In the western region, some fishers have defied the no-go zones to fish closer to the oil infrastructure, but there are clashes with the navy whenever they fish close to the oil rigs (Gary, 2009). Although such stories are officially denied, a Cape Militia has been formed by the youth of the coastal communities. The youth are protesting the effect of oil and gas on their livelihoods; they aim to fight against what they describe as injustice. Violence is bound to occur when there is alienation, enclosure and exclusion (Franco et al., 2014).

However, these structural factors are not part of the resource curse explanation, as it focuses on the agency of government leaders and regulators. The resource curse theory postulates the conflict between fish and oil as a problem emanating from poor governance and mismanagement of resource rents. Such emphasis considers conflicts as problems that can easily be fixed, ignoring the crucial role of resource commodification and ongoing global resource grabs tied to enclave development by colonial and neocolonial actors, government and non-state actors operating in global resource capitalism.

Conclusion

The Gulf of Guinea littoral today is a geopolitical space known for oil and gas exploration and exploitation (Soares de Oliveira, 2009). These activities have generated conflicts because of the enclosure of part of the ocean space. The resource curse theoretical position attributes economic under-performance and conflicts associated with resource-endowed nations to the abundance or scarcity of resources and the agency of

political leaders. But researchers have criticized the resource curse thesis as reductionist and ahistorical, failing to take structural economic and historical contexts seriously (Ayelazuno, 2014; Obi 2009, 2010a). The resource curse theory ignores historical resource and commodity grabs by hegemonic colonial forces, empires and modern state and non-state actors who influence resource appropriation and perpetuate the establishment of commodity frontiers and the violence generated by them.

Exploring the conflict through the lens of historical geography leads one to reject the simplistic assumption that the abundance of resources in resource-rich economies results in conflicts. Instead, it considers a diversity of actors, processes and discourses to create a holistic understanding of resource conflict. Using the ideas of resource grabs tied to enclave development, and commodity frontiers, the paper discusses ongoing commodity exploitation along the Ghanaian littoral since the 15th century. It argues that despite the diverse use of the coast in the long history of capitalism, only oil and gas exploitation have managed to appropriate and enclose fishing spaces central to the well-being of coastal and inland Ghanaians.

The toponomy of maps of the region shows diverse resource geographies and commodities of the western Gulf of Guinea tied to colonialism. The names slave coast, gold coast, ivory coast and oil and gas coast appear together or in succession, each promoting appropriation and exploitation. During colonial periods of appropriation beginning in the 15th century, the coast and ocean space served as a trade site and a means of transportation for commodities to Europe and the Americas. Fishing activities and food production were not the focus, so the ocean space was not enclosed. As

Steinberg (2001) argues, the ocean space was simply a route to enhance trade during this period. However, the Gulf of Guinea has shifted from this Steinberg classification. The ocean is now understood as 'land' that can be divided into territories, enclosed and commodified. Although fishing commercialization and commodification led to the decline of inshore fisheries, small-scale fisheries survived until oil and gas exploration and exploitation began in the 19th century. Even then, the situation was not critical. Only in the new millennium has it become a matter of life and death for fishing communities and those who rely on them. Capitalist oil and gas commercialization since 2010 has exploited and appropriated fishing places and shut out small-scale fisheries. The exploitation and appropriation are aided by the Ghanaian navy who ensure oil and gas exploitation spaces in the ocean are not encroached upon. Fishers and other fish workers are deprived of their livelihoods and must depend on revenue generated from the oil and gas commodification or must migrate in search of paid work. Fish in the ocean and small-scale fisheries activity have been replaced with oil and gas revenue that is highly centralized. In this age of capital and development, it is assumed that a fish consumption deficit due to oil and gas exploitation can be easily rectified through imports, using the higher revenue that would be generated from oil and gas exploitation. Fish workers are made to believe that the higher GDP and revenue contribution from the oil and gas development can provide for all the infrastructure and social amenities—but this is by no means certain. The plight of small-scale fisheries is ignored to ensure the continuous production of oil and gas, yet there is little contribution to the western region where the oil and gas are located, threatening the fishing sector, food security and sovereignty.

This paper has presented the conflict between fish and oil from the perspective of historic resource grabs tied to enclaves and commodity frontiers instead of adhering to the dominant narrative of the resource curse that focusses on poor governance in the present. The resource grab approach explains the conflict holistically by considering all factors and uses of the ocean space that might result in resistance and conflict. It identifies the key agents involved in colonial and post-colonial resource grabs and the degree of power and control they possess. Future study to solve resource grabs politically and through non-violent means could include historical political ecology analysis aimed at understanding resource access. Such an approach would expose all the processes of dispossession, and political marginality that influence resource access. This might involve studying property rights, forms of exclusion, and the legitimacy of key stakeholders in resource access.

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CHAPTER 4

Conclusion

4.0 Introduction

In the western region of Ghana, ocean space is now recognized as an oil and gas frontier, but the exploration and exploitation of oil and gas has created conflict between the oil and gas industry and small-scale fisheries in the use of ocean space. This thesis gives an account of the conflict in the use of ocean space, seeking to answer two important questions. First, how might the resource curse theory frame an understanding of the conflict between the oil and gas industry and the artisanal fisheries? Second, how has the historic Gulf of Guinea ocean space been mapped, represented and valued as a resource frontier from the time of European contact in the 15th century to the present, and how does this relate to the resource curse theory? These questions follow from the thesis' two objectives: (1) to understand the complexity of the conflict between the oil and gas industry and small-scale fishing (SSF) activities; (2) to understand how the oil and gas industry and SSF value, represent and map ocean space and the implication for fisheries, food security, and sovereignty in the western region of Ghana.

Findings in the resource curse literature suggest that problems such as poverty and conflicts associated with resource exploitation and development in resource endowed states can be explained economically (Bougrine, 2008; Subramianai, 2013). Such analysis obscures the different ways conflict could be explained based on past resource uses, commodification and colonial contacts and interactions. The thesis suggests that the conflict in the region could be understood through a historical geography of resource

grabs tied to enclaves and commodity frontiers. The use of an historical geographical approach rejects the reductionist and simplistic explanation of conflict and focuses on broader historical factors, actors and processes of dispossession that underline resource conflict. Put otherwise, the thesis explores alternative ways of understanding the conflict between the oil and gas industries and small-scale fisheries. This concluding chapter recapitulates the key findings and explains the impact of the conflict on food security and sovereignty.

4.1 Summary of the Chapters

Chapter 2 explored the resource curse literature to show how conflicts can be understood in the context of the abundance and scarcity of natural resources. The literature shows that an abundance of resources in resource-rich economies tends to enhance economic growth when proper management regimes and governance practices are enforced (see Bougrine, 2008; Robinson et al., 2006). However, resources have been the source of conflicts and underdevelopment in many resource-endowed nations in the sub-Saharan African region. In Nigeria, Angola, DR Congo, Chad, and Sierra Leone, the abundance of oil and gas and diamonds has led to resistance and violent conflicts. This stems from adverse conditions such as heightened poverty, lack of social amenities, histories of (neo)colonialism and the corrupt practices of officials in public and private organizations. Resource communities in Sierra Leone and the Niger Delta region of Nigeria, for example, remain impoverished and marginalized; the livelihood of the people suffers amidst oil wealth (Ukiwo, 2008, Kabia, 2008).

In the western region of Ghana, oil and gas production since 2010 has appropriated and enclosed fishing spaces. The ocean space has been commodified as oil and gas space to generate revenue for the nation at the expense of fish for food. There is abject poverty in coastal communities in Ghana, a higher rate of corruption, and mismanaged resource rents which can be situated within the resource curse literature of sub-Saharan Africa. Furthermore, the oil and gas extraction requires people with expertise, leaving no job avenues for small scale fishers seeking alternative employment. Moore (2017b) says conflicts are inevitable when there are exclusions. Furthermore, there is ongoing resource appropriation in commodity frontiers; oil and gas commercialization in the ocean has resulted in conflicts with small scale fisheries. Resource conflicts and resistance like these are generally framed as inevitable in the resource curse literature on sub-Saharan Africa (Le Billion, 2001a, 2001b; Obi 2009; Obi 2010).

The resource curse theory, however, has been increasingly criticized. Researchers contend it does not adequately explain conflicts, as it focuses on the agency of governance actors and not those actors excluded from resource access. The resource curse theory is considered reductionist, simplistic and ahistorical (Ayelazuno, 2014; Obi 2009, 2010). Researchers contend that the theory focuses on internal economic factors, ignoring external geopolitical forces, the central role of (neo)colonial military forces, and the structural relations between resource endowed states and their colonial and neocolonial masters (Ayelazuno, 2014; Obi 2010). It also ignores the on-going global network of mineral rich enclave developments where resource rent is appropriated by hegemonic multi-national corporate actors in the global petroleum chain. This enclave

development leaves resource adjacent communities impoverished and the resulting inequality helps to stoke resentment and violence (Obi, 2010). Scholars are paying more attention to violence and conflicts caused by global resource grabs tied to enclave development and appropriation by multinational corporate actors and their supporting institutions which alienate resource communities from adjacent resources (Furlong and Norman, 2015, Ferguson, 2006).

Chapter 3 establishes a connection between the hegemonic forces of colonialism and resource development in the Gulf of Guinea (GOG) to historically explain the conflicts. It employs three main theories, resource grabs tied to enclave development, commodity frontiers, and shifting toponymy, to offer alternatives to resource curse explanations of the conflict and illuminate the challenges posed for food security and sovereignty. The toponymy of maps of the GOG shows a shifting commodification along the coast, from gold, to ivory and slaves. Commodity frontiers are transformed and expanded by the appropriation of resources (goods, labor, and land) as Moore (2000) explains. The coastal resources have been grabbed, from the gold appropriated by Europeans to the present-day development of oil and gas.

The arrival of the Europeans in the 15th century marked the onset of capitalist exchange of gold and the slave trade at the coast. The forts and castles built by the Europeans enhanced the flow of resources and expanded commodity frontiers. Elmina and Axim castles, for example, served as warehouses to enhance trade. They stored the gold and slaves appropriated along the coast through colonial contacts with the indigenous Ghanaian empires. However, the slave and gold trade and contestation around

its control did not transform and appropriate ocean space from small-scale fisheries. The ocean was a means of transportation and a way to control trade.

A much later commodification was the implementation of the EEZ and colonial fish commercialization efforts in the 1950s and 60s. The revenue raised was used to import cheap fish for local consumption; once again, however, the ocean was not transformed – small-scale fisheries were not enclosed or directly appropriated.

Changes that threatened the livelihood of small-scale fishers in Ghana only came with recent oil and gas development. Beginning in the 19th century, resource development on the Ghanaian coast included exploration for oil and gas. But large oil quantities for commercial production were only discovered in 2007 by a consortium of oil companies led by Tullow Oil and Kosmos Energy. Since that time, GNPC oil and gas commercialization policies have created a block of sites licensed for transnational oil and gas companies. Oil and gas exploration activities in the Jubilee field and the associated physical infrastructure and no-go zones have transformed the behavior of fish (attracting them within no-go zones due to the mandatory use of lights on oil infrastructure) creating de facto marine protected areas and enclosing coastal fishing commons. The International Association for Standardization (ISO) requirements for oil and gas exploitation ban all activities within 500m of the oil rigs and infrastructure but the bright lights of the rigs have attracted the fish into the no-go zones. This has marginalized the fishing activities of the coastal fishers and reduced the fish catch (Adusah-Karikari, 2015; Boohene and Peprah, 2010). This impacts fish food security and sovereignty in a region with the highest per capita fish consumption in the world.

4.2 How does the conflict affect food security and sovereignty in the western region of Ghana?

In spite of the emphasis on the use of ocean space for oil and gas exploitation, fish remains very important in the diet of the average Ghanaian (Anon, 2008, FAO, 2016; Mensah et al., 2006). It is a source of food for 60 percent of the nation's population (Anon, 2008; Boohene and Peprah, 2010; Finegold et al., 2010; FAO, 2016). Among many sources of animal protein in Ghana, fish ranks as the cheapest and has the highest quality (Anon, 2008; Boahene and Peprah, 2010). The traditional ways fish are preserved prolong the shelf life, making it readily available to all for long term use even without refrigeration (Mensah et al., 2006). On average, per capita fish consumption in Ghana is estimated to vary between 20kg and 25kg per annum (Anon 2008; FAO, 2016; Mensah et al., 2006; MOFA, 2016), almost double the world's average per capita fish consumption of 13kg per annum (FAO, 2016). Global estimates of fish food consumption by indigenous coastal communities (Figure 4.1) show the highest per capita consumption in the world in the Gulf of Guinea, with rates of over 165kg per annum (Cisneros-Montemayor et al., 2016).

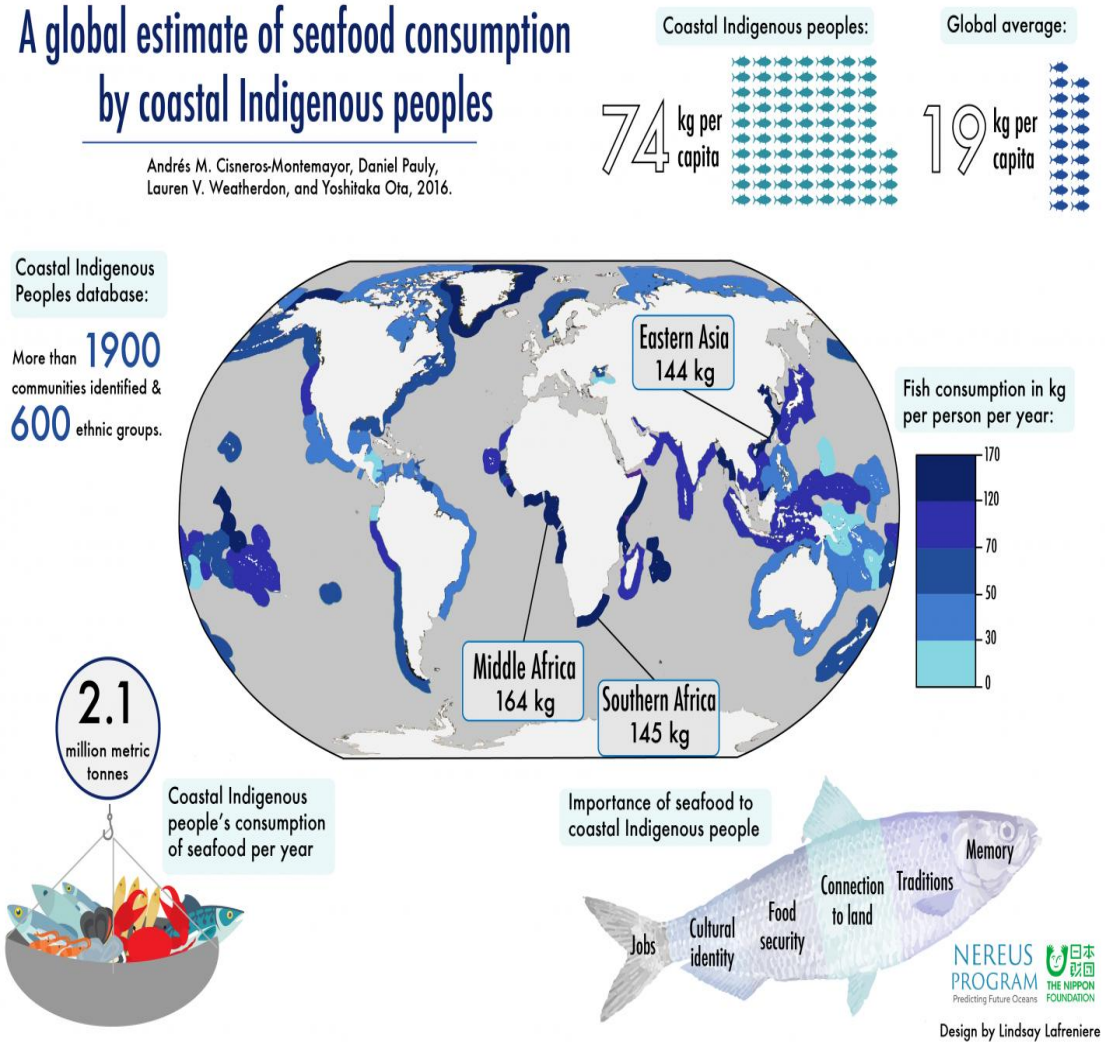

Figure 4.1; Global estimates of fish consumption by the coastal indigenous peoples. Adapted from Cisneros-Montemayor et al., (2016)

Despite the pressure on marine resources from foreign and industrial fishing fleets and non-renewable resource discoveries such as oil and gas, per capita fish consumption remains high in coastal communities and nations (see Cisneros-Montemayor et al., 2016). The Ghana Ministry of Fisheries has adopted intensive aquaculture development programs to increase fish food production to enhance coastal food security (Mensah et al., 2006, MOFA, 2010). There is an estimated consumption deficit of about 460,000 metric tons (MOFA, 2010). The total annual fish required for the domestic market is 880,000 tons, but annual production is around 420,000 tons. This 'fish deficit' is made up by imports to supplement what is produced in the nation. The high value tuna species in Ghanaian waters are generally sacrificed to generate foreign exchange to import the low-quality frozen fish like herring and sardinellas to make up the fish consumption deficit (Antwi, 2016).

With per capita fish consumption in Ghana further hit by the enclosure of ocean space, traditional/cultural food security and sovereignty are undermined and impacted. In what follows, I use the traditional Ghanaian fish sauce (*shito*) to illustrate the impact on food security and sovereignty in the country. Food security has been explained as the situation where people have economic, social and physical access to enough nutritious food for a healthy lifestyle (Pinstrup-Andersen, 2009). The analysis of food security has focused on availability of food at levels of scale ranging from the global to the national, community and household. The analysis often over-emphasizes the international and national scale and is based on countries achieving self-sufficiency in food crops and fisheries production based on market forces of demand and supply. But the FAO

understanding of food security calls for food access at all levels, from households to the national scale (Pinstrup-Andersen, 2009). This stresses the need to meet the nutritional needs of individuals through culturally, socially and religiously preferred foods, not just the availability of calories (Pinstrup-Andersen, 2009).

Despite calls for an emphasis on culturally preferred nutritional needs to underscore food security, this has not been achieved when neoliberal globalization and international agencies determine food trade and policies (Lele, 2010, Wittman et al., 2010). Sowman and Carddoso (2010) argue that food security is determined by market narratives and intense competitive demands that consider the global scale. There is little emphasis on nutritious culturally accepted food for local communities, families, and individuals.

Researchers now stress the need for the analysis of food security to include food sovereignty (Harcourt, 2008; Wittman et al., 2010). Food sovereignty refers to community food production and consumption of local and culturally nutritious, desired and acceptable food (Harcourt, 2008; Wittman et al., 2010, Windfuhr, 2005). This implies the eradication of food insecurity and poverty in food production communities and the avoidance of dumping surpluses from developing countries and corporations. It ensures indigenous people are the architects of their local communities; they control their natural resources, means of production and accessible markets and enjoy culturally acceptable foods; this alleviates poverty and hunger and allows people to live healthy lives (Wittman et al., 2010).

The principles that underpin the concepts of food security and sovereignty explain some of the key problems in small-scale fisheries and issues of ‘no-take' and ‘no-go'

zones that undermine culturally acceptable and locally prepared foods from farmers and fisher folk in the western region. The ocean space is a source of traditional and locally preferred food but has been appropriated by commercial oil and gas to earn higher revenue for national development. Fishers and fishing communities are deprived of fresh fish and fish catch levels have declined (Adusah-karikari, 2015; Boohene and Peprah, 2010).

The appropriation of the fishing commons through oil and gas capitalism has limited the security and sovereignty of food fish production and the traditional food *shito* (Figure 4.2). This food is part of traditional Ghanaian cuisine developed by the Ga ethnic group and is eaten by all ethnic groups in the nation. *Shito* has cultural significance in Ghanaian society. The 'sauce' is prepared and served on such occasions as funeral ceremonies, and weddings. It also signifies a bond between a mother or father and a child who stays away from home on a periodic basis for schooling. The parents/mothers are unavailable to help the child's food preparation so the sauce supports the child's meals. It serves as a quick means to have easily accessible meal at all times. The sauce lasts for months as the cooking process ensures all water is drawn out leaving the oil content as the preservative of the sauce.

Fish Sauce (*Shito)* is made with a combination of smoked dried grounded fish, composed of herring and shrimp. Preparing the sauce involves cooking the 'grounded fish' in oil with blended onions, ginger, red hot chili (depending on the individual) and, in rare cases, tomatoes. The prepared sauce is bottled to be sold in commercial quantities or

served to family members. The fish sauce is served with fries, roasted meat, and traditional Ghanaian dishes like Kenkey, Waakye, and Yam.

Figure 4.2; Pictures of locally prepared fish sauce (Shito).

Speaking personally, I recall the fish sauce made by my grandmother for my uncles and me during senior high school days. Knowing the relative importance of the fish sauce to a student, it was particularly surprising when my grandmother brought home a small quantity of fish from the market for Ghc60 (CAD $20) to prepare a sauce for my younger brother when the academic year began in August 2011. I asked her why there were so few fish; she said, 'The market is almost empty today,' meaning there were few market women and distributors (fish processors) in the market, hence the reduction in quantity but increase in the price of fish. That was strange because the academic year that begins in August coincides with the major fishing season. Fish from all fishing communities along the Gulf of Guinea coast flood markets across the country. I expected more because the supply of the fish generally exceeds demand during this season.

However, I now realize that the appropriation and enclosure of ocean space for oil and gas has influenced the availability of fish for subsistence food fisheries, including vernacular fish 'sauce' customs. My grandmother, for example, has enormous experience with fish sauce. Though she is not from a fishing community, she has learned how to prepare fish sauce and many foods made from fish. She learned how to prepare fish sauce from her mother (my great grandmother) and perfected it through routine food preparation to have a unique taste loved by my family. Cooking foods, soups, stews, and sauces are part of her daily life. She has become so accustomed to cooking with fish that she cannot imagine herself without it. In a personal conversation with my grandmother in 2016, I asked her whether she still eats fish. She said: 'How can I stop cooking with and eating fish? Though I don't prepare *shito* as often as I used to do when you were all in

school but what will I eat if I don't take fish every day? Besides it is the best for my health at my age. There is fish in every food I prepare, but it is expensive these days.'

Her statement underlines the impact the oil and gas commodification and enclosure of the ocean space have had on artisanal fishing activities and traditional food fisheries. This personal anecdote is consistent with the findings of researchers (Boohene and Peprah, 2010; Agyei et al., 2012; Adusah-karikari, 2015) on what is happening in western Ghana. Their findings show a reduction in the quantity of fish caught by fishers (Boohene and Peprah, 2010; Agyei et al., 2012; Adusah-karikari, 2015). Fish processors have limited fish for the markets and Ghanaians have less fish in their diets (Agyei et al., 2012; Adusah-karikari, 2015) and many fish processors follow their husbands to nearby countries in search of fishery work (Adusah-Karikari, 2015).

4.3 Significance of Study

This thesis focused on a relatively small territory in the western region of Ghana. Nonetheless, its findings have important implications for both the resource curse theory and the resource grab theory. The resource curse theory is commonly used to explain resource conflicts (Obi 2009, 2010), but it is meeting with increased criticism (Ayelazuno, 2014; Obi 2009, 2010). At the same time, however, the use of the resource grab theory in explanations of conflict remains limited (Furlong and Norman, 2015). To fill the research gap, I assembled and analyzed maps and documents on resource grabs and appropriations in the Ghanaian portion of the Gulf of Guinea. My work illustrates the importance of situating the current conflict between oil and gas companies and local fishers back to previous conflicts that stretch back to the 15th century. It identifies various

resources that were exploited by colonial European empires and the conflicts this generated.

While previous studies use the resource grab theory to describe land appropriations and the extreme consequences to indigenous livelihoods (Borras et al, 2012), I explored the novel ways colonial and contemporary resource appropriation explain conflicts through diverse uses of the Gulf of Guinea. I used the resource grab theory to highlight ocean grabbing, thus adding to the existing literature on resource exploitation and uneven capitalist development. Finally, the thesis contributes to the 'Too Big to Ignore (TBTI)' research partnership on small-scale fisheries around the world by emphasizing their long history and contemporary importance.

4.4 Ways Forward: Limitations and Future Study

The main limitation of this study of the fish-oil conflict is the lack of detailed fieldwork data from on the ground observations in Ghana. I was unable to elicit the views of indigenous communities, fishers and the oil and gas industry. I have described the conflict by relying on government and non-governmental organization documents, archives, colonial maps, photographs, and reports. However, the government and non-governmental agencies do not have proper documentation of the conflict between oil and fish. It is only documented and discussed in the popular media, such as the Internet news, websites, and some newspapers, none of which can be described as totally reliable or accurate sources. However, I made sure to triangulate as much as possible from multiple sources to avoid reliance solely on the popular press.

I found ways to work around the lack of field work by exploring how conflict is framed and looking for an alternative way to understand it. I began by framing the conflict as a resource curse, exploring the resource curse tendencies in the western region. I then proposed an alternative explanation using resource grab theory (Furlong and Norman, 2015). By framing the conflict as a problem of resource grabbing, I was able to trace the historical slave, gold and modern oil and gas appropriations along the coast as a way to contextualize contemporary resource conflict.

In light of the continuous expansion of the oil and gas activities in ocean spaces in the Ghanaian portion of the Gulf of Guinea, further research could explore marine management and conservation practices put in place by the Ministry of Fisheries and SSF reactions to them. This could include the possibility and consequences of the oil rigs and other oil and gas infrastructure serving as marine protected areas or fish conservation zones that may be opened up to periodic access by small-sale fishers.

Also, considering the critical role of the ocean in maintaining food security and sovereignty among the coastal population and in Ghana at large, increasing attention needs to be paid to the conflict, the Gulf of Guinea ocean ecosystem, and the political economy and ecology of its use and management. Conflicts have traditionally been framed as resulting from poor governance and the mismanagement of windfalls from natural resources. The conventional resource curse approach says resource abundance and its economic windfalls do not result in conflicts if there is good leadership (Robinson et al., 2016). But this approach has failed to lead to changes in policy or belief that alternatives to conflict are possible. Conflicts should be examined politically and

historically from the perspective of resource grabs to ground scholarship in empirical observation as opposed the abstractions and essentialisms embedded in resource curse theories.

An in-depth exploration of historical commodity frontiers, the Gulf of Guinea ocean use and capitalist activities can be considered vital to understanding how capitalist activities can co-exist in the same space, including oil and gas activities and small-scale fisheries. Such an exploration would consider how Ghana can accumulate wealth through oil and gas commercialization and, at the same time, ensure continuous food production through fishing, and the limits to these assumed win-win approaches. The revenue generated by oil and gas exploitation cannot replace the fish and culturally preferred fish foods like sauce. Therefore, exploring marine spatial planning and opportunities and limitations to peaceful coexistence between fish and oil seems critical at a time when oceans are changing due to climate change brought on by centuries of colonial capitalist (under)development.

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