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WORLD MARITIME UNIVERSITY
Malmö, Sweden

**LAW ENFORCEMENT IN RELATION TO ILLEGAL UNREPORTED AND
UNREGULATED (IUU) FISHING IN SIERRA LEONE**

By

MAHMOUD PAPA CONTEH

A dissertation submitted to the World Maritime University in partial fulfillment of the
requirements for the award of the degree of

MASTER OF SCIENCE
in
MARITIME AFFAIRS
(MARITIME LAW AND POLICY)

2021

Declaration

I certify that all the materials in this dissertation that is not my work have been identified and that no material is included for which a degree has previously been conferred on me.

The content of this dissertation reflects my own personal views and are not necessarily endorsed by the University.

(Signature):

(Date):

Supervised by: Professor Henning Jessen

Supervisor's affiliation

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Abstract

Title of Dissertation: **Law Enforcement in Relation to Illegal Unreported and Unregulated (IUU) Fishing in Sierra Leone**

Degree: **Master of Science**

This research work is based on Law enforcement in relation to illegal, unregulated and unreported (IUU) fishing activities in Sierra Leone as the main reason for the country not benefiting from its fish resources.

The Management system of the Sierra Leone's Fisheries Sector is briefly looked at from the perspectives of its existing laws and policies, evaluating their implementation. The role of the current management system was defined in relation to the implementation of the 2006 policy, taking into consideration its focus on short term objectives in revenue generation. The effects of this implementation on the sustainability of the fishing industry was investigated. The proposed 2010 policy which has not been implemented was found to be appropriate in the sustainability of the fishing industry and in line with international best practice, especially from the angle of preservation and conservation of the fisheries resources in contributing to the concept of the blue economy.

The potential of the country's fisheries resources and its contribution to food and the economy of the country and the livelihood for especially the coastal communities was established alongside the effects of IUU Fishing. Several literature on the prevalence of IUU Fishing in the country were reviewed and the data analyzed. It was discovered that the implementation of the proposed policy will enhance positive results.

Furthermore, the implementation capability of the fisheries management system was seen as very crucial, especially for the compliance directorate proposed by the 2010 policy, with law enforcement authority and answerable only to the Minister of Fisheries.

The study concluded by assessing how the current management system is limiting the country from fully benefiting from its huge fisheries potentials due to its focus on short term revenue generation which could lead to a long term economic and biological overfishing and a number of recommendations were made.

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List of Abbreviations

IUU:Illegal Unreported and Unregulated Fishing
FAO:Food and Agricultural Organizations
IPOA:	.....Prevent, Deter and Eliminate IUU Fishing
UNO:	.....United Nation Organization
COVID:	.....Corona Virus Disease
GDP:	.....Gross Domestic Product
MCS:	.....Monitoring Control and Surveillance
EEZ:	.....Exclusive Economic Zone
SRFC:	.....Sub Regional Fisheries Committee
ITLOS:	.....International Tribunal For the Law of the Sea
GCLME:	.....Guinea Current Large Marine Ecosystem
MFMR:	.....Ministry of Fisheries and Marine Resources
UNCLOS:	.....United Nation Convention on the Law of the Sea
MDA:	.....Ministries, Department and Agencies
SDG:	.....Sustainable Development Goals
IMO:	.....International Maritime Organizations
RSLAF:	.....Republic of Sierra Leone Armed Forces
JMC:	.....Joint Maritime Committee
SLMA:	.....Sierra Leone Maritime Administration
EVD:	.....Ebola Virus Disease
IMBO:	.....Institute of Marine Biology and Oceanography
MoD:	.....Ministry of Defence
TAC:	.....Total Allowable Catches
ICCAT:	.....International Commission for the Conservation of Atlantic Tunas
CECAF:	.....Fishery Committee for the Eastern, Central Atlantic
IOTC:	.....Indian Ocean Tuna Commission
STCWF:	.....Standards of Training Certification Watchkeeping for Fishing
SOLAS:	.....Safety of Life at Sea
MARPOL:	.....Maritime Pollution
RFMO:	.....Regional Fisheries Management Organizations
MCS D:	.....Monitoring, Control and Surveillance Department

UN/DOALOS:Office of Legal Affairs of the United Nations
CLCS:Commission on the Limit of the Continental Shelf
SLEPA:Sierra Leone Environment Protection Agency
CPUE:Catch Per Unit Efforts
IEZ:Inshore Exclusive Zone
ATLAFCO:Atlantic Regional Convention for Fisheries Cooperation
WAEMU:West Africa Economic and Monetary Union
SLAFU:The Sierra Leone Artisanal Fishermen Union
SLAAFU:Sierra Leone Amalgamation Artisanal Fishermen Union
NGOs:Non-Governmental Organizations
ISFM:Institutional Support for Fisheries management
NSTC:National Scientific and Technical Committee
GoSL:Government of Sierra Leone
FCWC:Fisheries Committee of the West Central Gulf of Guinea
MRU:Manor River Union
NEPAD:New Partnership for Africa’s Development
WARFP:West African Fisheries Program

CHAPTER 1

1.0 Background of Study

The importance of the fish components to mankind cannot be overemphasized. For thousands of years mankind had relied on fish as a source of food. It has also contributed in the area of food security for 3 Billion of people or more around the world and 200 Million people in Africa and greater part of that number is coming from West and central Africa who form the Gulf of Guinea (Okafor-Yarwood & Bilhabib, 2020). 40 % of the population in West Africa dwell in the coastal communities. An estimated number of Nine million of that population depend so much on Fisheries and its related components for employment. This huge number of people in the sub region contribute highly to their respective national revenues (Okafor-Yarwood, 2019). Fisheries have therefore turned out to be a vital component in the promotion of food security, trade , employment and economic wellbeing for a greater number of the population in Africa. The international community's efforts in protecting and securing the fisheries had greatly been undermined by Illegal Unreported and Unregulated (IUU) Fishing in the world (Belhabib, Sumaila, Pauly et al, 2015)

IUU Fishing is the main reason why North Africa alone accounts for 10 to 20 % of global fish catches (Doubouya, Camara, Mamie et al, 2017). This alarming situation captured the attention of the UN General Assembly to adopt the 2030 Agenda for Sustainable Development which called for concerted efforts in regulating IUU Fishing practices (Reddy, 2016). To respond to the call for conservation and sustenance of these targeted fisheries resources, the 1995 Food and Agricultural Organization (FAO) conference adopted the FAO Code of conduct for responsible fishing (The Code) (Hosch, Ferraro, Failler, 2011).

Ever since its adoption, the code had been instrumental in the sustenance of fisheries and aquaculture. It provides the framework for the implementation of International Plans Of Action (IPOA), strategies and technical guidelines and has developed overtime to include an ecosystem approach. Most countries have also developed their national laws in the fight against IUU Fishing to be in line with the code. The main objective of the code is to demonstrate

responsibility in the management of fisheries and which has resulted in a biannual analysis of the world fish catch since 1990 (Pauly & Zellar, 2017).

As a lead body established by the United Nations Organization (UNO) in the fight against IUU Fishing, FAO, is promoting “Blue Growth” as a systematic approach for the Sustainable, all-inclusive and socio economic management of the ocean. This approach places emphasis on captured fisheries, aquaculture, ecosystem, services, trade and social protection in the management of fisheries. The FAO can contribute in the areas of capacity building, strengthen the policy environment, institutional arrangement and collaborative efforts among the fishing communities, civil society organizations and the public (Soma, Burg, Hoefnagel et al, 2018).

The global phenomenon of IUU Fishing is also plaguing the nation of Sierra Leone and it is this that has necessitated the need to investigate IUU Fishing in the country. In doing so, it is best that the subject of IUU Fishing is defined generally first and individually subsequently.

1.1.1 Illegal, Unreported and Unregulated (IUU) Fishing

The concept of IUU Fishing is said to be a broad one. It has its root from the activities of industrial fishing vessels operating in the high seas (Andrew, Song & Joeri, 2020). It was taken from this particular concept of high sea fishing activities to expand to the catalyst for the depletion of the world fish stock irrespective of the social or ecological manner in which it was done (Palma, Tsamenyi & Edeson, 2010). Further confusion is brought into the concept when the three broad concepts of IUU were regarded as one concept. This makes it easier to underrate its complexity by providing a solution for what is believed to be one issue when in actual fact there are more than one issue (Andrew, Song & Joeri, 2020).

In view of the above, Pautri, stated that, IPOA-IUU in explaining the broad concept of IUU Fishing, dissected them into three distinct categories; Illegal, Unreported and Unregulated Fishing (Pautri & Noor, 2018).

1.1.2 Illegal Fishing

a. The fishing activities that are conducted by national or foreign fishing vessels in the territorial waters that are under the jurisdiction of a sovereign state, without the permission of the state or contrary to the national laws of that state (ibid).

b. Fishing activities that are carried out by vessels flying the flags that are members to a Relevant Regional Management Organizations but contravenes the conservation and management measures put in place by those organizations and other international laws by which the states are bound (ibid); or

c. Fishing activities that are in violation of national laws and international obligation which includes the ones made by member states to a relevant regional fisheries management bodies (ibid).

1.1.3 Unreported Fishing

a. Fishing activities that have not been reported or have been misreported to national authority in contravention of national laws or

b. Fishing activities conducted in the controlled area of a relevant regional fisheries management body which have not been reported or have been reported in violation of the reporting method set by that organization (ibid).

1.1.4 Unregulated Fishing

a. fishing activities that occur in places under the control of relevant fisheries management bodies and done by vessels that do not have nationalities or by those flying the flag of a state that is not a member to the organization or conducted by a fishing body that contravenes conservation and management measures of that organization (ibid) or

b. Fishing activities that are conducted in areas where there are no conservation or management measures or in a manner that goes against states responsibilities for the conservation of marine living resources in accordance with international law (ibid).

1.1.5 Global Effects of IUU Fishing

With the growing population in the world, backed by the demand for fish stocks, the rate of depletion of fish stocks should be a concern (Agnew, Pearce, Pramod et al, 2009). IUU Fishing is a factor for the depletion of the world's fish stock and this has a major implication to food security and the environment (Long, Widjaja, Wirajuda et al, 2020). This practice has led to the loss of a huge amount of money. 10-23.5 Billion United States Dollars was recorded in the fisheries industry in 2009 (Agnew et al, 2009). Apart from the depletion of the fish stock and

money loss, IUU fishing activities also have an environmental impact on the world. Unchecked IUU Fishing activities will result in overfishing which will affect the ecosystems. This can result in the extinction of certain species and affect social cohesion (Hanley, Davies, Angelopoulos et al, 2008). The scenario for potential conflict over fish stock is a possibility if measures are not urgently taken (Spijkers, Merrie, Wabnitz et al, 2021). There are literature suggesting that other sea crimes like transnational organized crimes, drug and human trafficking, piracy among others are attributed to IUU Fishing (Stefanus, & Vervaele, 2021). Therefore, if measures are not fully implemented to tackle such a situation, it will have a devastating effect on the world.

The issue of Illegal Fishing has gained international attention with evidence to account for the severe damage it has caused to the Marine Environment. It is reported that over 70 % of the world's fish is affected as a result of Illegal Fishing (Petrossian, 2019). It furthered that fisheries scientists projected predatory fish such as Swordfish had dropped by 90 % leaving behind an alarming figure of 10 %. It is reported that if the exploitation of fish is to continue as it is now, there would be limited stock in the world for human consumption by 2050 (ibid). Even the Corona Virus Disease (COVID 19) pandemic has not spared the fisheries sector. With the introduction of health measures, there were stiffer measures to the fisheries sectors compared to others. For instance, in India, there was a total lockdown in the fishing industry unlike farming activities. It took the intervention of some advocacy before the ban was lifted in bounds (Mohan, 2020). This could underscore the established fact that, the fishing industry is been underrated (Béné et al, 2015) IUU Fishing and sea crimes have been prevalence due to the fact that the world was busy fighting the pandemic and were less focused on Maritime Security which created the room for IUU to thrive (Thomson, 2020). In Argentina and Indonesia for example, where government's efforts were focused towards the pandemic, foreign vessels took advantage of the situation and were engaged in IUU Fishing activities and this negatively impacted fish stocks (Gokkon, 2020). This act added to the burden already created by the pandemic.

Furthermore, it is even more important to take the issue of IUU Fishing more seriously because, it is projected that seafood global consumption is to increase by 30 Million metric tonnes, which is more than 20 percent by 2030 with greater demand in Latin America, Africa, Oceania and Asia (SOFIA, 2018). Since Sierra Leone is part of the African Continent and the world

community, it is faced with a similar threat. Therefore, there is the need for the issue of IUU Fishing to be taken more seriously in that part of the world.

1.1.6 Regional Effects of IUU Fishing

The concept of the Blue Economy is becoming popular among scholars and policy makers around the world (Karani & Failler, 2020). The central theme surrounding the Blue Economy is geared towards human development, enhancing social equity, reducing and protecting the environment (Silver, Gray, Campbell et al, 2015). The Fisheries Sector in Africa has the potential to contribute immensely towards the concept of the Blue Economy (Okafor-Yarwood, Kadagi, Miranda et al, 2020). The Sector contributes towards food and income for millions of people in the continent (de Coning & Witbooi, 2015). For instance, the sector contributed about 24 Billion United States Dollars which is around 1.2 of the continent's Gross Domestic Product (GDP) in 2011 (de Graff & Garibaldi, 2014). Also, about 80 percent of animal protein is obtained from food in littoral communities (Okafor-Yarwood, 2018). The fisheries sector in Africa also provide source of livelihood for 35 Million people and their family members (Belhabib, Sumaila & Billon, 2019) Amidst all of these potentials in the fisheries sector in Africa, it is seriously will be eroded by IUU Fishing perpetrated by both local and foreign flagged vessels Belhabib Cheung, Kroodsmas et al, 2020).

The recent trend of IUU Fishing in West Africa is beginning to look like a reemergence of the “scramble for and partition of Africa” in the previous century. China, which was unable to take part in that process, seems to be making its way in Africa in this new era. It is doing so by making for itself a formidable market for its manufacturing products in the Continent. The Asian country has grown so well in business to the point that it is competing with powerful producing nations in the world currently (Hodzi, 2019 p. 8). China has also made inroads into the continent by the aid they give to some African countries. They have been embarking on the construction of roads, Bridges, ports, barracks and providing expertise in the agricultural sector of some African countries. The relationship between China and Africa has been considered to be a relationship of equal status and one merely helping the other in the sense that the former still receives international aid like the latter (Broadman, 2008). Which means the relationship should not be viewed with suspicion of the kind of relationship that existed between Africa and the Colonial powers of the previous century. However, the activities of China especially in the maritime domain of the continent create more room for suspicious exploitative tendencies (Costa, 2019).

1.1.7 Sub Regional Effects of IUU Fishing

West Africa is endowed with good natural resources and climatic conditions making it the host to the most fertile fisheries in the world (Petrossian, 2018). It is blessed with the Canary and Benguela upwelling which makes it possible for the world's most productive tuna fish stock to thrive (Daniels et al, 2016). This could be the reason why it is the region that is mostly affected by IUU Fishing. An estimated amount of 2.3 Billion United States Dollars is lost annually and a paltry 13 Million United States Dollars is recovered through Monitoring Control and Surveillance (MCS) measures. (Doubouya et al, 2017). The main driving force behind the frequent occurrence of IUU Fishing in the Exclusive Economic Zones (EEZs) of the region is due to the availability of commercially valued fish stocks and their closeness to ports of convenience (Petrossian, 2015).

Sierra Leone is a member of the Sub Regional Fisheries Commission (SRFC), which is an inter-governmental fisheries corporation organization that came into existence as a result of the 1985 Convention and was amended in 1993 in Cabo Verde¹. The other countries that share membership with Sierra Leone are The Gambia, Guinea, Guinea Bissau, Mauritania and Senegal. SRFC is headquartered in Dakar Senegal and comprises various expertise and has the mandate to enforce the existing structures through governance in managing the fisheries of member states. It is financed by contributions from member states. The main objective of the SFRC is to ensure that national policies of the various members are harmonized in the preservation, conservation and exploitation of their fishery resources. Their engagements had strengthened the corporation of member states over the years (ibid).

The spate of Illegal Fishing in the EEZs of developing countries is a cause for alarm not only for its economic impact but also for the health of the Marine Environment and global food security. There have been extensive debates with regards to the obligation of flag states to curb IUU Fishing in developing countries but they have not produced the required results. However, the SRFC has stepped up further in that effort by seeking an advisory opinion to the International Tribunal for the Law of the Sea (ITLOS, Case No 21). This action has turned the spotlight on the conduct of IUU Fishing in the EEZs of members of the SRFC (Schatz, 2016).

¹ www.spcsrp.org/en

The SFRC submitted four questions to ITLOS for interpretation. One of the most important was “what are the obligations of the flag state in case where IUU fishing activities are conducted within the EEZ of third party states?” In answering this question, the tribunal considered the following factors; the meaning of IUU fishing activities within the EEZ of third states and the issue of conservation and management of living resources within their EEZs².

In March 2013, the SRFC through its secretariat and in accordance with the revised MCA Convention of 2012, on behalf of its members, submitted a request to ITLOS for a legal opinion on their obligations in tackling IUU Fishing in their EEZs (Schettini, 2018). In 2015, ITLOS gave their opinion on the matter where it stated that, the Coastal State members of the SRFC, for the conservation and management of their Marine living resources, have the responsibility to protect their EEZs (ibid Para 106). The tribunal added that they also have the responsibility to prevent, deter and eliminate IUU Fishing in their EEZs (ibid Para 106).

1.1.8 IUU Fishing in Sierra Leone

As previous literature have postulated, West Africa is endowed with abundant fish resources, Sierra Leone shares the blessing of those resources (Ukwe & Ibe, 2010). The country is a member of the SRFC and it is part of the Guinea Current Large Marine Ecosystem (GCLME). The fisheries sector creates employment for about 300,000 to 400,000 people in the country (Neiland, Cunningham, Arbuckle et al, 2016). There is also a record of the country having an annual marine fish landing of 48,200 metric tons which was estimated at 583.2 million dollars (Chukwuone, Ukwe et al, 2009). Similarly, the country is highly targeted by perpetrators of IUU Fishing that has plagued the sub region (Daniels, Gutierrez, Fanjul et al 2016). Due to low level of MCS measures in Sierra Leone and the increase of the said measures in neighboring Guinea, IUU fishing accounted for over 42,000 tons in 2015 in Sierra Leone (Belhabib et al, 2017).

Fisheries contribute approximately 8 % of the country’s annual GDP output in the economy of Sierra Leone. Also, they play an important role in the food supplements of the people as fish make up 80 % of the total animal protein consumed by Sierra Leoneans (Golub & Varma, 2014 p 47). However, with the spate of IUU Fishing on the increase, the stock of these valuable creatures are under threat. This means Sierra Leone as a Coastal State must first take

² www.itlos.org/en

responsibility against the issue of IUU Fishing as a way of managing and conserving its marine living resources in accordance with United Nations Convention on the Law of the Sea (UNCLOS) and the (Schatz, 2016).

1.1.9 Fisheries Management Body of Sierra Leone

The MFMR is the principal organ that is empowered by the national law to manage, develop and conserve the fisheries resources in Sierra Leone (Sei & Baio, 2015). It Works in close collaboration with other Ministries Departments and Agencies (MDAs) ; its authority is derived from the Fisheries Act of 1994 and the Fishing Regulation of 1995. The Fisheries Sector has the potential to contribute to the economy of the country but this largely depends on the effective management of the sector (Cunningham, Neiland, Arbuckle et al, 2009). Whilst acknowledging the fact that the country should take the appropriate steps in contributing towards the concept of the blue economy, the International Community needs to support the country. Because the issue of IUU Fishing which is a threat to the concept of the blue economy is seriously threatening the blue economy concept. This research work is therefore exploring the issue of IUU Fishing in the country in respect to the research questions raised.

1.2.1 Problem Statement

The Fisheries Industry in Sierra Leone like those in the Sub Region and other parts of the World is plagued with challenges among them is IUU Fishing. Some countries with better economies and more sophisticated fishing vessels are taking advantage of weaker nations. Sierra Leone is not exempt from this global phenomenon. The fishing sector in the country can be a source of livelihood for the people living in the coastal part of the country. The country also benefits from the sector in the areas of fish exports and issuing licenses to fishing vessels.

This sector has however been threatened by IUU Fishing in the last two decades. Highly equipped Chinese fishing vessels are taking advantage over the poorly manned maritime zone of the country. In 2018, Dr. Mohamed Juldeh Jalloh, the country's vice president, stated that the fisheries sector contributes to about 12 % in the country's GDP³. Quoting a report of the FAO, he said that about 1.6M tons of fish amounting to USD 2.5B is reported annually. Stating that the country is losing half of that amount to IUU Fishing annually.

³ <https://fcwc-fish.org/other-news/sierra-leone-fisheries-sector>.

To save the country from such a predicament, it is extremely important to have very strong national legislation that should have the support of the international community. Since the country lacks an effective fisheries management system and can hardly monitor its EEZ. There is also the greater need for the country to be supported to follow international best practices by ratifying and implementing all the conventions that are guard towards protecting the marine living organisms. Most importantly, it should be supported in ensuring that, foreign fishing vessels that have violated their fishing laws should be brought to justice.

Just like the FAO compliance agreement and the 1995 UN Fish Stocks Agreement have devised some measures to curb IUU Fishing, there are provisions related to monitoring, control and surveillance of fishing vessels as well as compliance and enforcement mechanisms applicable to Fisheries regulation. Those regulations attempt to curb the issue of overfishing on the high seas. The regulations require that Flag States should exercise control over all vessels carrying its flag that conduct fishing activities at the high seas. That control measure should be a requirement for a Flag State to be licensed and they should be able to monitor vessels using their flags in terms of where they do their fishing and the amount of fish they catch. This can be an effective measure to help vulnerable nations fight against IUU Fishing. However, there seems to be a lack of proper implementation of the above agreements which is the result of the high rate of IUU fishing especially in developing countries in West Africa.

Furthermore, there is still the need for more research to be done in this direction especially in the area of Law enforcement in relation to the aforementioned predicament in Sierra Leone. Hence the need for this study to fill in the existing gap to be able to address the issue of IUU Fishing in Sierra Leone.

The aim of my research is to evaluate the problems associated with effective law enforcement issues related to IUU Fishing in Sierra Leone and how to make the Fisheries Industry more efficient. This could be achieved through:

1. Identifying the relevance of the Fisheries Industry in Sierra Leone.
2. exploring the negative impacts of IUU Fishing in Sierra Leone.
3. Examining the challenges faced by the current Fisheries Industry in its contribution to the economic development of Sierra Leone.

4. And critically assessing the effective law enforcement issues related to IUU Fishing in Sierra Leone.

The Following Research Questions are therefore key in the process:

1. What is the relevance of the Fishing Industry in the economic recovery of Sierra Leone?
2. What are the challenges faced by the Fishing Industry in relation to IUU Fishing in Sierra Leone?
3. How has IUU Fishing negatively impacted the Fishing Industry in achieving the economic recovery of Sierra Leone?

1.2.2 Significance of the Study

This study will be relevant for the following reasons:

With the aim of assessing effective law enforcement issues related to IUU Fishing in Sierra Leone, this research will serve as evidence for work done in the quest to address IUU Fishing in Sierra Leone.

Successive studies have highlighted the negative impacts of IUU Fishing especially for developing countries. Apart from the income that states get from fishes, the products equally serve as a source of livelihood for the average people living in the coastal parts of the country. It is against this background that it is extremely important to evaluate the nature of IUU Fishing as to how it affects developing countries and the threat it poses to achieving the UN Sustainable Development Goals (SDGs) 2030.

Failing to do such a study will add to the adverse effect that IUU is already having in the country. The study can also be a way of protecting the species of our country's fish stock that has been threatened by IUU Fishing.

The findings of this research will help national policy makers in the formulation and implementation of effective Law enforcement issues regarding the drive towards making the territorial waters of Sierra Leone more secure.

1.2.3 Implications

The research outcome will have a positive impact on the Sierra Leone Maritime Administration to the point that it can inform policy formulation. The Sierra Leone Maritime Administration has national laws and has ratified some International Maritime Organization (IMO) Conventions but the spate of IUU Fishing in Sierra Leone is still alarming. There are other countries venturing into the country's territorial waters who indulge in IUU Fishing with impunity and this is drastically affecting the marine living resources of the country. This act is also having a toll on the lives of the artisanal fishers who depend on this trade for their livelihoods. It is against this backdrop that I am anticipating stiffer measures in the area of effective law enforcement that should make IUU Fishing a very risky venture.

1.2.4 Methodology

As a means of achieving the proposed objectives, the research will be conducted using the methods of case study. Because of the prevailing situation and the nature of the topic, It will be difficult to conduct the interview technique. The study will rather review as much literature as possible that has given an opinion on the subject of IUU Fishing both nationally and internationally. It will analyze the available literature and identify the existing gap in the area of effective law enforcement issues related to IUU Fishing in Sierra Leone.

1.2.5 Ethical Issues and Time Line

This research will limit its investigation to effective law enforcement issues related to IUU Fishing using Sierra Leone as a case study. The interest for this research has been prompted by the fact that I am a serving member of the Republic of Sierra Leone Armed Forces (RSLAF) with a law enforcement background and have over the years experienced how IUU Fishing is notorious in the territorial waters in Sierra Leone. It is presumed that a more robust national law and policy with regards to IUU Fishing will contribute immensely to the economic basket of the country. Therefore, the study will focus on the period ranging from 2010 to 2020 taking note of the numerous national and international studies that have taken place to help in the improvement of contemporary IUU Fishing issues. The timeline for my research will be between the months of June to September 2021.

1.2.6 Key Assumptions and Potential Limitations

It is assumed that there are a lot of legal instruments both nationally and internationally to help curb such a menace. It is further assumed that catches made by unlicensed vessels in the

territorial waters of Sierra Leone are illegal and those made by licensed vessels but in violation of the country's Fisheries Management and Development Act of 1994 are also illegal. It is also assumed that there is extensive literature written on such a topic in a bid to raise awareness on effective law enforcement issues related to IUU Fishing around the world generally. As time factor will always be a concern, because the aspect of Interview technique will not be used, it will not affect this research. Due to the broadness of the topic, the study will be focusing on the area of effective law enforcement in addressing IUU Fishing in Sierra Leone.

1.2.7 Structure of the Study

The study will be divided into five chapters. It will start with the methodological introduction approach to the study which is chapter 1. Here, it will start with the background and cover the topics of problem statement, methodology, significance of the study among others. Chapter 2 will review the literature on the country profile and discuss the national management of the country's fishing industry. Chapter 3 will highlight the role of the international and regional organizations in the fight against IUU fishing in Sierra Leone. Chapter 4 will analyze the effects of IUU Fishing in the Sierra Leone. Chapter 5 will give some conclusions and recommendations and chapter 6 will briefly talk about policy implementation and law enforcement.

CHAPTER 2

2.0 Country Overview

Sierra Leone is a country that is located in West Africa and shares its boundaries with Guinea to the North West, Liberia to the South East and the Northern Atlantic Ocean to the South West. It has a tropical climate and raining season that is experienced between the months of December to April and May to November. There may be differences in the commencement and duration of the seasons⁴. According to the 2015 housing and population census that was conducted, the country's population is around 7 Million people⁵.

The country has a combined coastline that stretches out about 506 km, with a continental shelf of 125 km wide towards the North, shrinks down to the southwards towards the Liberian border and extends on the surface area and the country's coastline is decorated by flora of mangroves (Longhurst, 1983). The country is strategically located at the north of the Gulf of Guinea, the meeting point of the canary current in the north and the Guinea current in the south. Its 27,500 sq km continental shelf and the location of the country gives it an advantage of being among the countries with a productive marine ecosystem (Kouass, Benghale, Kone, Perrot, 2018). It is against this backdrop that this chapter will respond to the following question:

- What is the relevance of the Fishing Industry in the economic recovery of Sierra Leone?

2.1.1 Political Impacts on the Fishing Sector

It had an unstable political climate in the past which was characterized by a 11 years civil war that started in 1991 and officially came to an end in 2002 (Bellows & Miguel, 2009). This factor affected the fisheries industry as it precluded it from having an effective fisheries legal instrument until in 2003 (MFMR 2003)⁶. During the war years, the country was paralyzed economically, infrastructurally and institutionally, and it was difficult for state authorities to

⁴ www.adaptation-undp.org/explore/western-africa/sierra-leone

⁵ www.statistics.sl

⁶ www.spcsrp.org/en

implement legal instruments including fishing management measures to the fullest. There was a ray of hope at the end of the war in terms of political and economic recovery with an average annual rate of 7.8% over the period of 2002 to 2012 and becoming one of the fastest growing economies with 15% GDP in 2012⁷. However, this hope was short lived due to the emergence of the Ebola outbreak in May 2014 which ravaged the country until 7 November 2015 (Osewe, 2017).

2.1.2 Economic Potentials of the Fishing Sector

There is, however, huge potential in the fishery sector that is likely to contribute to the economy and reduce poverty if it is well managed. Approximately, 400,000 people are employed in the fisheries sector (Seto, Belhabib, Mamie et al, 2017). The country's EEZ is endowed with an estimated fish stock of around 124,00 to 600,00 mt and a potential stock of about 150,000 mt (Sei & Baio, 2051). Unfortunately, the biomass of the fish stock in the country has not been fully accounted for and this is undermining the management efforts of the fish stock in the country. In addition, the fishing sector lacks the capacity to fully enforce management regulations that should help curb IUU Fishing in the country. Furthermore, there are weaknesses on the part of the management authorities to adequately collect data and market the fish product of the country (Kelleher, 2002). IUU Fishing is therefore posing a direct threat to food security and socio economic stability to the country. It is stated that the annual value of IUU Fishing in Sierra Leone stands at USD 29 Million (Fillie, 2019).

According to records, the fisheries sector is capable of producing 150,000 tonnes annually and out of that figure, the Artisanal sub sector accounts for 142,000 tonnes while the industrial sub sector accounts for 8,000 tonnes annually (Okeke-Ogbuafor, Gray & Stead, 2020). There are over 200 species spotted in the EEZ of Sierra Leone and the latest stock estimate in the country's continental shelf indicates that 12,729 specimens of *pagrus caeruleo stictus* were gathered from Sierra Leone and their exploitation seem to surpass their potential sustainable rate (Konoyima & Seisat, 2020). This suggests that, with the lack of an effective management system of the fish stock, countries and companies that are engaged in IUU Fishing can have undue advantage in the fishing market sector as they get these products at very low operational costs.

⁷ <https://www.trade.gov/country-commercial-guides/sierra-leone-market-overview>

2.1.3 Laws and Regulations in the Fishing Sector

The country inherited its first fisheries legal instrument known as the Fisheries Control and Preservation Act from the United Kingdom, its colonial master in 1932, it was then adopted into the Laws of Sierra Leone in 1960 (Laws of Sierra Leone 1960) Sierra Leone Constitution 1960⁸. That legal instrument sought to enforce among other things, license fees for motorized vessels, regulation on fishing gears, prohibited fishing areas and law enforcement measures (ibid). It was the regulation that was in place until 1988 when it was replaced with the Fisheries and Management Act 1988 (Act no 4 1988)⁹. That provision was also amended in 1990 Act no 9 but both provisions omitted the aspect of fisheries conservation¹⁰. In 1994 therefore, the military led government replaced the 1990 amended act with the 1994 Fisheries Management and Development Act which took into consideration the issue of conservation and management of the country's fisheries resources in line with the Law of the Convention (Sei, 2011).

The 1994 Fisheries Management and Development Act makes provision for the Ministry of Fisheries and Marine Resources to manage the affairs of fisheries in the country (Ibid). In 2003, the Fisheries policy was enacted and it only complimented the 1994 Fisheries Act¹¹. In 2011, an amendment into the fisheries laws was contemplated and a regulation was drafted to deal with emerging issues such as IUU Fishing and robust capacity in the country's fisheries management which has not been legislated¹².

There is also the Joint Maritime Committee (JMC) which comprises inter-ministerial and inter departmental collaboration in the effort to curb IUU Fishing and piracy in Sierra Leone. It is made up of the MFMR, Ministry of Defence, the Sierra Leone Maritime Administration (SLMA), office of national security and the customs and immigration department. This body is responsible for coordinating security arrangements among members in response to IUU Fishing.¹³

⁸ https://www.ilo.org/dyn/natlex/natlex4.detail?p_lang=en&p_isn=28609&p_classification=19

⁹ <http://extwprlegs1.fao.org/docs/pdf/sie3561.pdf>

¹⁰ <https://www.ecolex.org/details/legislation/fisheries-management-and-development-amendment-act-1990-act-no-9-of-1990-lex-faoc002128/?>

¹¹ <https://www.ecolex.org/details/legislation/fisheries-act-2003-no-22-of-2003-lex-faoc053024/#:~:text=An%20Act%20to%20repeal%20and,products%2C%20and%20for%20related%20matters.>

¹² <https://spcsrcp.org/sites/default/files/Draft%20Fisheries%20and%20Aquaculture%20Bill%20%202011%20-%20Arrangement%20of%20Sections.pdf>

¹³ https://www.comhafat.org/fr/files/actualites/doc_actualite_41524105.pdf



Figure 1: Map of Sierra Leone showing the Coastal Area of the country
Source¹⁴:

2.1.4 Fisheries Potentials

Sierra Leone is a small country situated on the West Coast of sub-Saharan Africa. Although the country is relatively small, it has an EEZ of 104,850 sq km including 27,700 sq km of continental shelf (Seto, Belhabib, Mami et al, 2017). The continental shelf covers a distance of 27,500 sq km and stretches wide up to approximately 140 km towards the north, and narrows down to approximately 32 km in the south (Heymans and Vakily, 2004). It is strategically located between the Canary current in the north of Guinea and the Guinea current in the south. The position of the continental shelf, backed by the fact that the country is located between the two currents, creates room for upwelling that makes the fisheries sector in Sierra Leone one of the most productive in the world (Satia, 2016). The country has been estimated to have USD 735 million annual capitalized economic value in the fishing industry and could positively impact the country's Gross Domestic Product if it is sustained (Neiland, Cunningham et al, 2016)

¹⁴ www.spcsrp.org/en/sierra-leone

The revenue contribution of this sector in 2014 was to the amount of 34 million United States Dollars (Neiland, Cunningham, Arbuckle et al, 2016). The sector also serves as a source of employment for about 400,000 people in the country and it is the major source of animal protein for the community people (Seto, 2011). This potential of the sector was seriously impacted by the 11 years civil war (Thorpe, Whitmarsh, Ndomahina, Baio et al, 2009). It delayed the efforts put into the improvement of the fisheries sector especially in the areas of legislation and date preservation for almost 40 years (Seto, Belhabib, Copeland, 2015).

2.1.5 Conservation of the Fishery Resources

The conservation and management of the sector is vested on the MFMR (Thorpe, Whitmarsh, Ndomahina et al, 2009). Even though the country's fisheries legislation dates back to 1963, due to the war and other factors, it was difficult to fully implement the legal instruments and to ensure effective MCS over the Fisheries Sector (ibid). There was a ray of hope in the fisheries sector after the war in 2002 and in 2003, the fisheries saw a formulation of a new fisheries policy (Baio, 2010). Indeed the country was on the trajectory to economic recovery from 2003 to 2014 when the country was hit again by the Ebola Virus Disease (EVD) (Kum, Olayiwola, Aloysius, 2019). Apart from the economic burden the virus brought to the country, the fisheries sector was specifically impacted as the MFMR was unable to operate effectively in the conservation and management of marine resources (Doumbouya, Camara, Mamie et al, 2017).

2.1.6 The Artisanal and Industrial Fishing Sectors in Sierra Leone

The artisanal fishing sector accounts for about 10% of the country's working population and socio economic livelihood. This puts a huge burden on the fish stock of the country as there is the tendency for overfishing (Sato, Belhabib, Copeland et al, 2015). Also, the industrial fishing sector could be regarded as a necessary evil in the sense that it is supposed to provide revenue for the country through legal fishing activities. While doing that, it is also costing the country a huge financial burden through IUU Fishing (Okeke-ogbuafor, Gray et al, 2020). Out of the 150,000 tons annual legal fish catches in the country the artisanal sector contributes 142,000 tons and the legal industrial sector consisting mainly of foreign vessels contributes the remaining 8,000 tons. About 30 Million United States Dollars annually is lost to IUU Fishing (Sato, Belhabib, Mamie et al, 2017). The two factors have been responsible for the decline in both number and size for the fish stock in the territorial waters of Sierra Leone. Furthermore, the country is still grappling to establish a very effective Monitoring Control and Surveillance mechanism which is responsible for the prevalence of IUU Fishing in the country (Doumbouya,

Camara, Mamie et al, 2017). IUU fishing has not just taken a toll on the country's fish stock in its territorial waters but has equally reduced fish stock in the country's market. This has certainly contributed to making the country one of the poorest in the world (Okeke-Ogbuafor, Gray & Stead, 2020).

2.1.7 The Potential For a High Rate of IUU Fishing in Sierra Leone

It is very important to state at this point that a majority of industrial fishing in the territorial waters of Sierra Leone is done by foreign vessels. Some are doing it legitimately through agreement with the government while others are doing it illegally through IUU Fishing (Seto, Belhabib, Copeland, et al, 2015). As early as 1940, several countries have been recorded to be involved in the fishing activities in the waters of Sierra Leone and due to the fact there is no proper data reporting system, it is very difficult to get an accurate data on the foreign catches in the country (Doubouya, Camara, Mamie et al, 2017). IUU Fishing is therefore a major concern in the country. Also, a survey that was conducted in 2000 and 2001 discovered that 30 to 51% of fishing vessels in the country were not operating legally and another account suggests that around 20% of the total fish catch in the country could fall under the category of IUU Fishing (Fillie, 2019).

In 2011, there were 30 foreign vessels spotted fishing illegally in the territorial waters of Sierra Leone and 10 in 2012 (Finch, 2016). The number of foreign vessels illegally fishing dropped slightly to 7 in 2014 but increased dramatically to 80 in 2015 due to the Ebola Virus Disease (NOAA, 2015). Also, the forgery of documents, names and IMO markings resulted in the sanction and fine of foreign vessels which amounted to 302,000 US Dollars for the offences in 2015 (Doubouya, Camara, Mamie et al, 2017). According to local fishers in the country, the local fish market has been seriously impacted by reduced fish stock and they are pointing fingers to Chinese or European flagged vessels for being engaged in IUU Fishing in Sierra Leone as the cause for that (Zoppi, 2019).

2.1.8 Potential Effects of IUU Fishing in Sierra Leone

There are reports that piracy is now linked to IUU Fishing (Sumaila & Bawumia, 2014). Increase in the rate of IUU Fishing is synonymous to loss of employment and economic activities since this will lead to a decline in the fishing industry (Denton & Harris, 2019). A study of 54 countries and the high seas reveal that IUU Fishing results in worldwide loss of between 10 to 23.5 billion USD annually and this represents 11 to 26 million tonnes in the

fishing industry (Agnew, Pearce, Pramod et al 2009). In Somalia, frequent encounters between foreign vessels and artisanal fishers resulted in the destruction of fishing gears of the local fishers, their injuries and death. This has sparked the issue of piracy in Somalia (Schbley, Rosenau, 2013 p 20). The decline of total world catches at the rate of 1.2 million tonnes per year, will drastically affect the fish population (Pauly & Zeller, 2017). IUU fishing has been seen as one reason for the depletion of the fish stocks and considering the economic importance of the fish stock especially to developing countries and if this trend is to continue, this could be an enabler to an increase in piracy activities (Danton & Harris, 2019). Unchecked IUU Fishing activities can have a devastating impact especially on the lives of people whose livelihood depend so much on the fishing industry. Especially so when about 20 % of such people live under USD 1 a day (Kelleher, Hoshino, Willman et al, 2012).

One major effect of IUU Fishing is that it undermines the artisanal fishing sector which is the basis of major employment for the coastal community people (Okeke-Ogbafor, Gray & Stead, 2020) This sector in turn contribute to the economy of the coastal states even more than the industrial fishing industry by creating intra community trade network that provides about 500,000 part and full time jobs for its community people which can reduce poverty rate and improve livelihood (Neiland, Cunningham, Arbuckle & Baio et al, 2017). 25 % of the male working population in the coastal communities are directly or indirectly working in the fishing sector (COFREPECHE, 2013).

Sierra Leone is part of the Gulf of Guinea Region that is blessed with abundant marine resources and the fisheries are part of those resources that are well sought after by the entire world (Belhabib, Sumaila, Lam et al, 2015). These resources are related to the SDGs as they contribute to the livelihood and can serve as a source of revenue to many people in Sierra Leone. The people that are engaged in small-scale fishing do so to get food which can serve as their source of protein. For such people, they rely on fisheries for about 41 to 75% of their animal protein (Okafor et al, 2019). Therefore, the threat of IUU Fishing is undermining the achievement of food security and the reduction of poverty in Sierra Leone by 2030 (Lynch, Cowx, Fluet-Chouinard, Glasser, Fhang et al, 2017). If Sierra Leone is to attain the key SDGs, it is very important that stringent measures are instituted to protect the marine environment of the country.

2.1.9 Enablers of IUU Fishing in Sierra Leone

IUU fishing is providing economic gains to people who indulge in it and that can be a strong motivation for IUU Fishers (Sumaila et al, 2006). As Sierra Leone is one of the countries endowed with abundant fish, it can be attracted to beneficiaries of IUU Fishing. The fact that the country does not have effective Monitoring Control and Surveillance measures, makes the condition favorable for such illegal activity. The outbreak of Ebola virus in the country in 2014, led to the cancellation of a World Bank project that was instrumental in MCS measures and this led to little or no modern MSC measures after 2014 (Doumbouya, Camara et al, 2017).

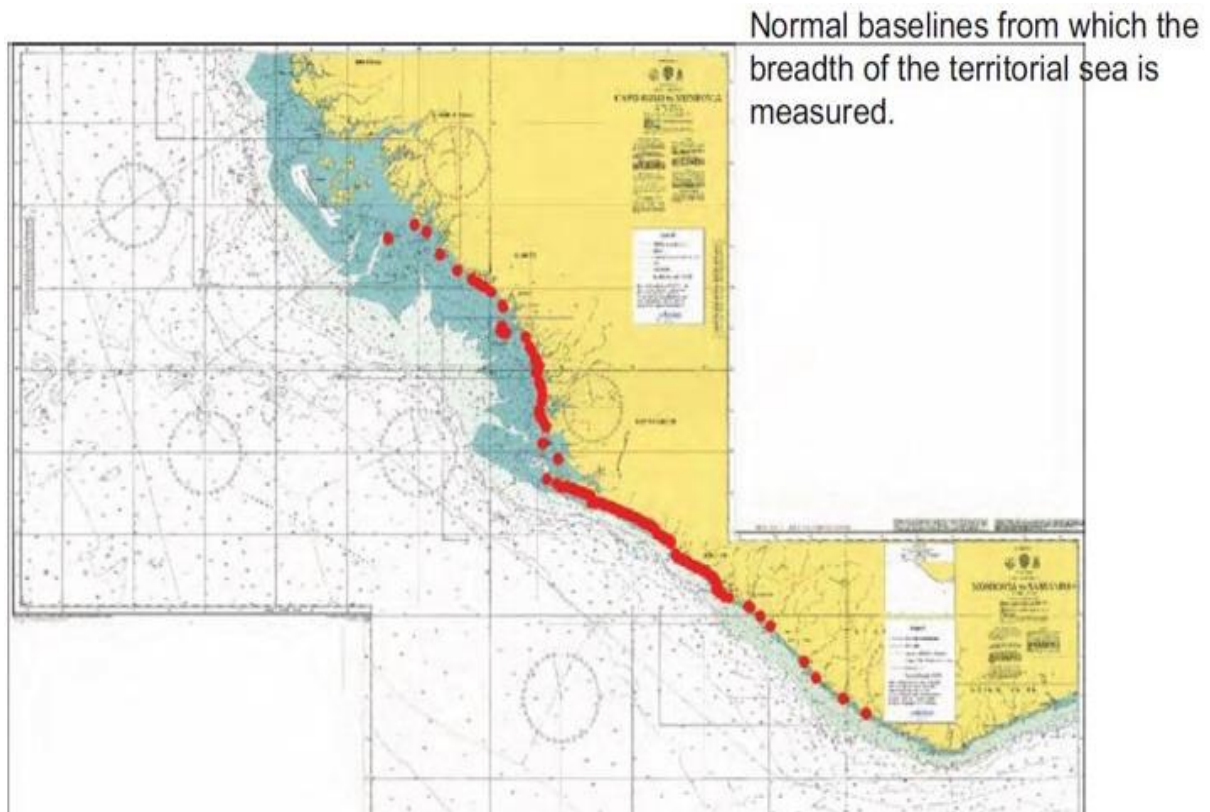
Sierra Leone is having difficulties to adequately exercise full MCS measures over its territorial waters and because of that, IUU Fishing is thriving and this is subsequently affecting the economy of the country. The method the State authority has adapted to do its MCS measure is to have fish observers on licensed foreign vessels and have sampling staff at landing sites. This aspect covers the monitoring aspect of the MCS measures (MRAG, 2010).

The area of Control is carried out by the Institute of Marine Biology and Oceanography (IMBO), a research institute at the University of Sierra Leone. Their work is based on scientific information such as fishing activities, mesh size, catch compositions etc. The Monitoring and Control aspects are effective in the sense that it is done throughout the year. It is however important to state that these two measures are only contributing towards the Unreported and Unregulated(UU) aspect of IUU. So the Illegal aspect is not covered by those measures (MRAG, 2010).

The Surveillance aspect deals with the issue of Illegal Fishing. This is the area the state authority has not been able to adequately tackle. That aspect requires the use of sophisticated equipment to be effective which the authority cannot afford now. Therefore, the MFMR had a Memorandum of Understanding (MoU) with the Ministry of Defence (MoD) for the use of the Navy to handle the surveillance operations. To do this, the Navy has been combining both its traditional role of Maritime Security with the surveillance activities (MRAG, 2010).

2.2.1 The Territorial Waters of Sierra Leone.

As stated in the UNCLOS with regards to the Maritime Zones of States, Sierra Leone's territorial waters extend from the baseline to the belt of the sea adjacent to it, measuring 12 nautical miles in breadth (The Maritime Zones Decree, 1996)¹⁵.

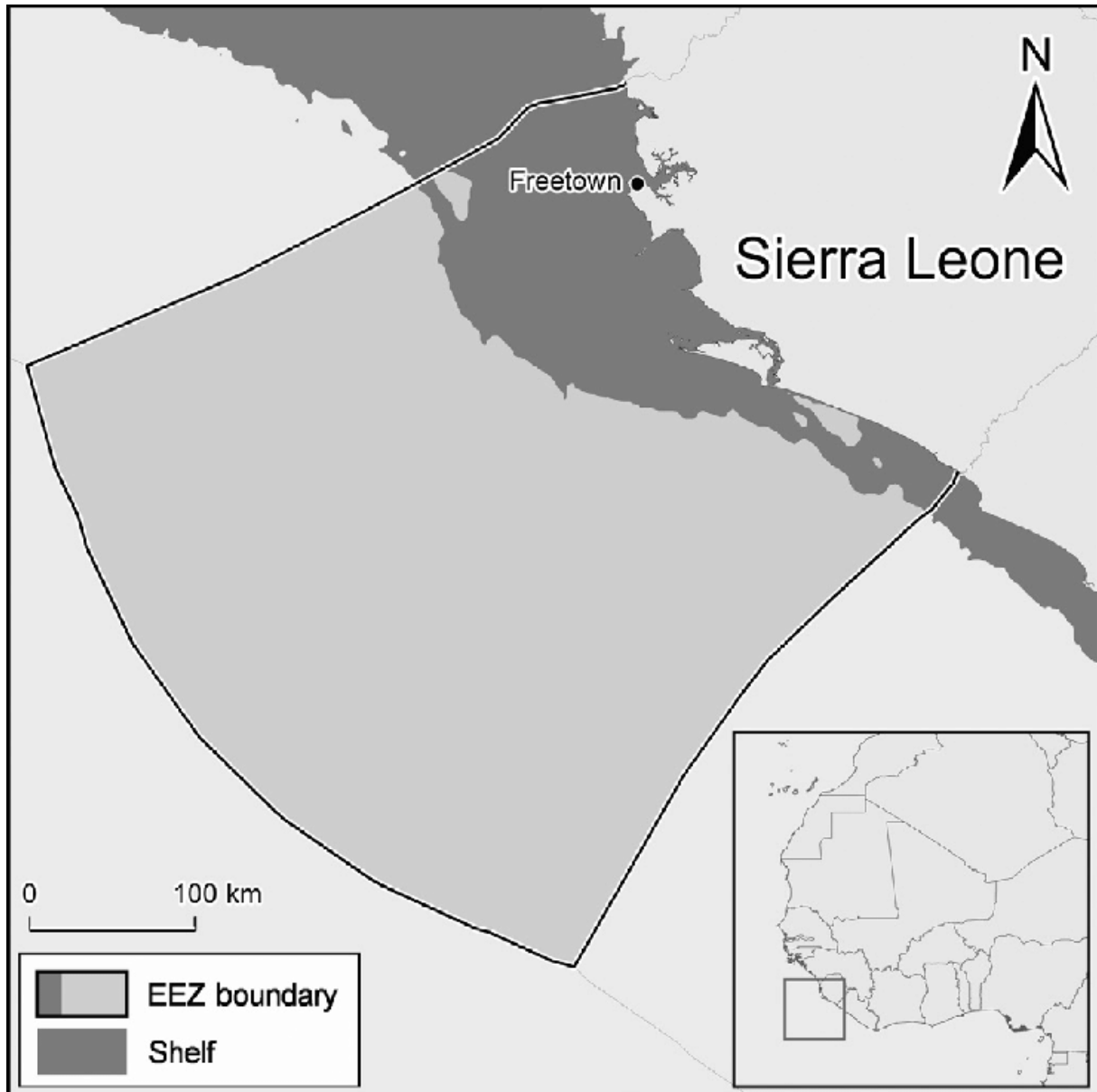


Source: Sei 2011

Figure 3: Baseline of the territorial waters of Sierra Leone

The country has sovereign authority for the air space that covers the territorial sea in addition to its seabed and subsoil. The decree however recognizes the right of innocent passage of other states as long as they do not breach the provisions of Article 19 of UNCLOS Art 19 of UNCLOS. The legal instrument further states the country's sovereign rights to explore and exploit the natural resources of its territorial waters.

¹⁵ <http://www.fao.org/faolex/results/details/en/c/LEX-FAOC030529/#:~:text=Decree%20No.,1982%3B%20and%20for%20connected%20purposes.&text=The%20waters%20on%20the%20landward,internal%20waters%20of%20Sierra%20Leone.>



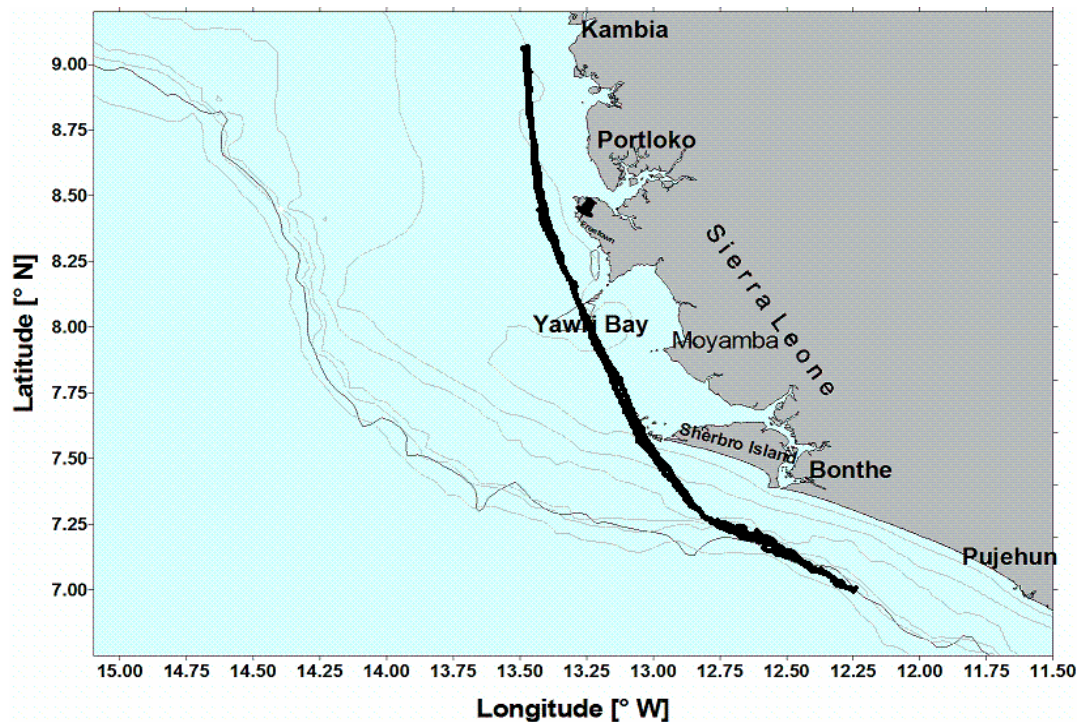
Source : Seto, Belhabib et al 2017

Figure 4 Maritime Boundaries of Sierra Leone

2.2.2 Inshore Exclusion Zone of Sierra Leone (IEZ)

The 1994 Fisheries Act makes provision for effective management and conservation of Sierra Leone’s living marine resources. In that Act, a clear demarcation of the IEZ is made and defined as covering a distance of 5 to 6 nautical miles from the baseline (Sei, 2011). Part VI of The 1994 Management and Development Act is talking about the conservation measures of the marine living resources of Sierra Leone. The provision prohibits Industrial Fishing in the IEZ which is reserved only for Artisanal Fishing Activities. This provision might be absent in

International Law but it is part of the national laws of Sierra Leone apparently one of the measures used to protect Artisanal Fishers from the wrath of the Industrial Fishing Activities¹⁶.



Source: Sei 2011

Figure 5: The Inshore Exclusive Zone of Sierra Leone

2.2.3 The Exclusive Economic Zone (EEZ) of Sierra Leone

Sierra Leone, being a sovereign nation has an Exclusive Economic Zone (EEZ) in accordance with the UNCLOS which has a distance of 200 NM from the nearest point of the baseline of the territorial sea¹⁷. The country has the sovereign rights to explore, exploit, conserve and manage marine living or none living resources in its EEZ. It also has the jurisdiction to create artificial islands and installations, to conduct marine scientific research and to protect and preserve its marine environment¹⁸. In line with International Law and in accordance with national laws, other states can enjoy the right of innocent passage by way of navigation,

¹⁶ <http://extwprlegs1.fao.org/docs/pdf/sie4863.pdf>

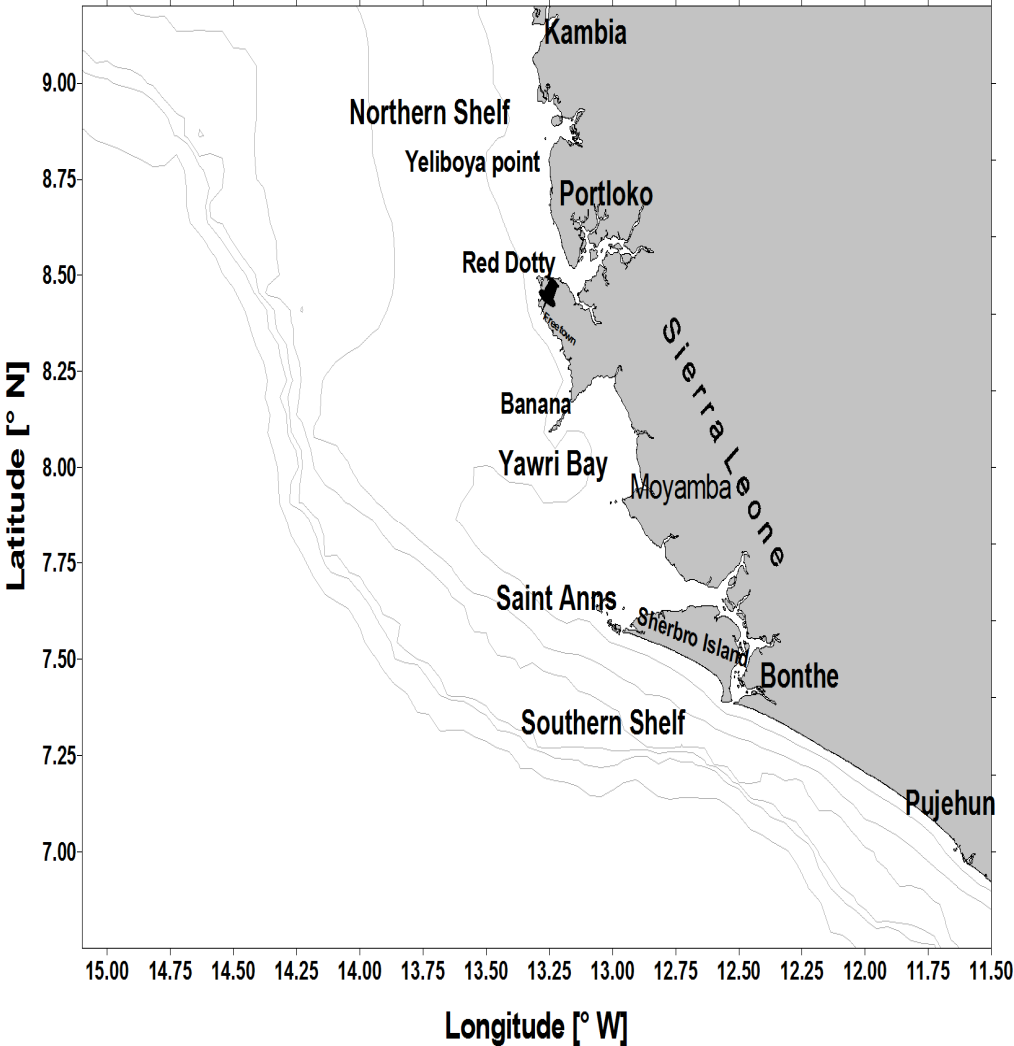
¹⁷ https://www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/SLE_1996_Decree.pdf

¹⁸ <https://www.dfo-mpo.gc.ca/science/hydrography-hydrographie/unclos/index-eng.html>

overflight and for the purpose of laying submarine cables as long as those acts do not contravene international and national laws¹⁹.

2.2.4 Status of the Continental Shelf of Sierra Leone

As stated in chapter 2 of this study, the Continental Shelf of Sierra Leone extends to about 100 km from the north and narrowed down to about 20 km in the south. The country has a relatively small continental shelf which is estimated to be around 30,000 sq km (Sei, 2011).



Source: Sei 2011

Figure 6: The Continental Shelf of Sierra Leone

The UNCLOS makes provision for Coastal States to extend the outer limit of their continental shelf beyond the 200 nautical miles from the baseline of their territorial sea. This is done by

¹⁹ <http://extwprlegs1.fao.org/docs/pdf/sie30529b.pdf>

submitting information through the States Permanent Mission to the UN who will make the submission to the Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs of the United Nations (UN/DOALOS). States are required to make the submission ten years after they ratify the UNCLOS. Sierra Leone Ratified the UNCLOS in 1994 which makes them overdue for the submission.

Sierra Leone has made a preliminary submission to the Commission on the Limit of the Continental Shelf (CLCS) in accordance with article 76 (8) of UNCLOS²⁰. The submission indicates that the continental shelf extends beyond the 200 Nautical Miles which means, the same jurisdiction the country has over the EEZ applies to the Continental Shelf as well. It is important to note that Sierra Leone has not made its final submission to the CLCS. Therefore, the Maritime boundary delimitation between Sierra Leone and its neighboring countries of Liberia and Guinea has not been done.

2.2.5 Conflicts of the Fisheries Legislations with other National Legislations

Good as the Fisheries Legislations may be, it put the MFMR in conflict with other Ministries, Department and Agencies. For instance, the enactment of the 2007 Fishery products Regulation without amendment to the 1994 Fisheries Act creates a kind of conflict between the Director of Fisheries and a Competent Authority in the MoH (Sierra Leone Fishery products Regulation 2007). The 1994 Fisheries Act empowers the Director of Fisheries to certify all fish products meant for export (the 1994 Fisheries Act of Sierra Leone Sec 100 (2). The enactment of the 2007 Fish Products Regulation, gives that authority to a Competent Authority from the (MoH). This situation has however been temporarily minimized by a Memorandum of Understanding MoU between the two ministries which has transferred that power to the MoH until the 1994 Act is amended (Sei, 2011).

There is also a seeming conflict between the MFMR and the SLMA. The 1994 Fisheries Act empowers the MFMR to regulate Pollution within the Fisheries marine environment (The Fisheries Management and Development Act, Section 47). The SLMA Act of 2000 on the other hand gives the authority to the SLMA to regulate the Maritime environment without amending the 1994 Act (SLMA Act of 2000 Section 10). The issue is even compounded with the enactment of the environmental protection Act 2000, which authorizes the Sierra Leone

²⁰ https://www.un.org/depts/los/clcs_new/submissions_files/preliminary/sle2009preliminaryinformation.pdf

Environment Protection Agency (SLEPA) and the Department of Environment to regulate the entire environment of Sierra Leone including the land, sea and air spaces (Environmental Protection Act 2000, supplement to the Sierra Leone Gazette).

There is the need to harmonize those regulations to ensure that the roles and responsibilities of those key MDAs are clearly defined to avoid confusion and enhance performance.

2.2.6 Seeming Defects in the Fisheries Legislations

Law is an important element in ensuring that any institution produces the required result. There are times when some institutions can have the features of a good law but the implementation can be a problem. In that case, it can produce the required result. Also, a law can be very useful for a particular period of time but if it is not reviewed to fit the current situation, it can outlive its usefulness. The 1994 Fisheries Act is facing a similar test at the moment and requires reform.

The Fisheries Law in Sierra Leone has been rated as 2 / 10 and has been said to have some major weaknesses, which necessitated a revised law which the government has not approved (Neiland Cunningham, Arbuckle et al, 2016). The FAO Technical Cooperation Program was instrumental in drafting the Fisheries and Aquaculture Bill of 2011 to replace the Fisheries Act of 1994 with the aim of modernizing the country's Fisheries Laws (Government of Sierra Leone (2011). It is however important to note that the said bill is awaiting approval from the legislative arm of the government (Long, 2013).

Some of the weaknesses of the 1994 Fisheries Act are that it lacks clear definition of its purpose, too much authority concentrated within the MFMR and the Act imposes so many restrictions on the fishers and fishing companies in their fishing ventures (Neiland et al, 2016). Therefore, there was the need to review the said Act to reduce the authority of the MFMR and share with key other MDAs, recognize rights and wealth, co management and stakeholder participation in decision making process (Baio, Coulibaly, Neiland et al, 2012). From the international perspective, the review of this Act seems to resonate with international best practice with a clear definition of purpose, recognition of sovereign rights over the EEZ, process of decision making among others (ibid).

The 1994 Fisheries Act makes provision for the effective management and conservation of the marine living resources. It was further strengthened by the 2003 Fisheries Policy. However, the

legal instruments seem to be old to be able to deal with the challenges of deterring illegal fishing activities, especially those committed by foreign vessels flying the flag of Sierra Leone²¹.

2.2.7 Conclusion

Based on the analysis above, there is evidence to suggest that Sierra Leone is endowed with abundant fish resources that are threatened by IUU Fishing in spite of the coordinated efforts by key stakeholders nationally, regionally and internationally. It means that the country is not fully benefiting from its natural resources. This has resulted in economic hardship on the people especially those living in the coastal communities including women who are key in the production and local trade of the product. The state is also losing a huge amount of revenue as a result of unreported fish catches.

Even though there are efforts to fight against IUU Fishing, more needs to be done especially in the area of national legislation, improved MCS measures that will match modern technologies to adequately protect the territorial waters of the. If not, it is the ordinary people that will be mostly affected in the areas of income, food and nutrition. This will also mean that the UN SDGs especially poverty, hunger, malnutrition, quality education, poor economic growth and the marine environment goals will be grossly undermined if the spate of IUU fishing is to continue in Sierra Leone.

²¹ https://ec.europa.eu/commission/presscorner/detail/en/IP_16_1457

CHAPTER 3

3.0 International and Regional Fisheries Governance in Sierra Leone

3.1.1 Introduction

This study focuses on the issues related to IUU Fishing as a matter of concern to the globe. It is narrowed down to how the problem is affecting Sierra Leone, a developing nation that is characterized by a checkered history of civil war, political instability, epidemic and pandemic. The state of affairs of the country's fisheries sector as a means of providing livelihood and socioeconomic benefit to people living in the coastal area and even economic recovery to the government is under threat of IUU Fishing. This calls for a concerted effort by international organizations especially FAO and some other nations if the country is to benefit fully from its blue economy. The country is part of a sub region that is greatly affected by IUU Fishing and this is exacerbated by the fact that the country cannot fully exercise Monitoring, Control and Surveillance over its maritime boundaries.

The above problem has provoked the necessity of this study to seek clarification on the following question:

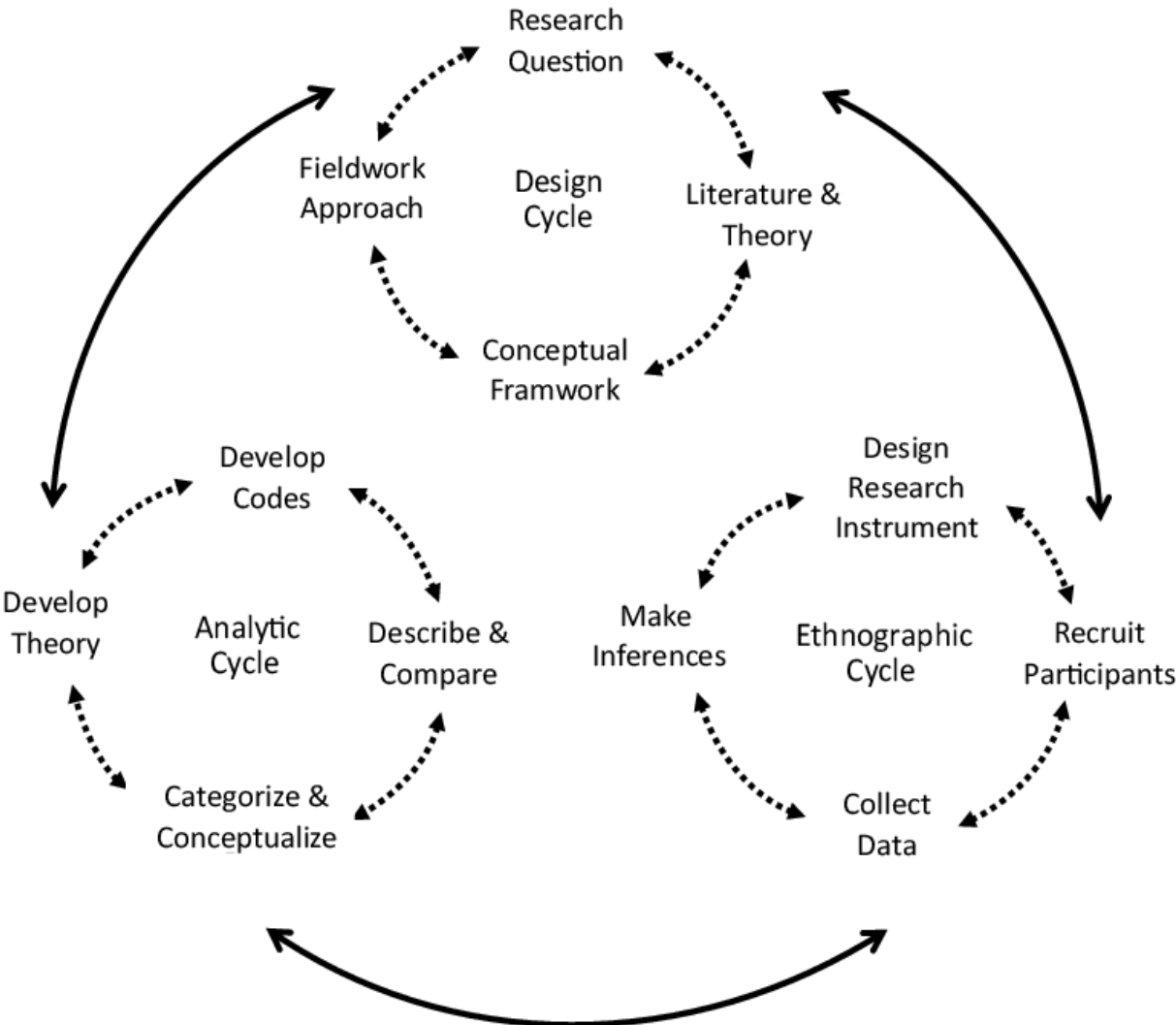
- What are the challenges faced by the country in combating IUU Fishing in Sierra Leone?

The purpose of this chapter is to assess the role of the International and regional fisheries organizations and how has it impacted the national fisheries management body in relation to the fight against IUU Fishing in Sierra Leone.

3.1.2 The Methodological Approach

In this methodology chapter, a document based qualitative approach will be used to develop a theme in an attempt to answer the questions posed by my research. The study will also cover the research design, data collection and the researchers background and ethical considerations.

To achieve the long term goal of qualitative research, the study can adopt a purposive sampling technique to develop theories and concepts for the research topic. This is achieved by choosing the appropriate information that provides the answers to the research questions (Miles & Huberman, 1994, p. 34). The more documents the researcher is able to generate, the better argument he can make to test the hypothesis in the research. Inadequate description of the hypothesis can lead to the criticism of the qualitative approach in the research study. It is in this regard that the researcher is obliged to consider the nature of his topic when developing the research questions in a qualitative study (Ragin, 1994).



Source: Hennink et al., (2011)

Figure 2: The Hutter-Hennink qualitative research cycle.

The research commenced with accessing desktop data on an overview of the country. The country’s website, especially the MFMR and that of the Sierra Leone Maritime Administration and international organizations’ websites were also explored. Those sites were able to provide data on the country revealing the fisheries status and vulnerability to IUU Fishing. Also, some

articles that revealed the fisheries potentials and the risks posed by IUU Fishing were also accessed.

3.1.3 Credibility and Transparency

Credibility is one of the most important requirements in a qualitative study. The researcher should be in a position to explain to the readers or potential researchers on every step of the way he took during the research process. This process is helpful in the sense that it allows other researchers to replicate the ideas of the researcher and also inform the readers as to how the research was conducted, the limitations that were encountered and how the researcher surmounted those difficulties (Shufutinsky, 2020).

Furthermore, transparency implies the knowledge of the researcher about the tendencies for potential positive and negative influence about the findings of the study Sampson, (2012). To manage this situation, the researcher relied on his past work and educational experience to analyze the data retrieved during the study and this was displayed in the methodological chapter of the researcher.

This will give an insight to the readers or future researchers who might want to replicate the work of the researchers to transfer the knowledge to their own context. This process also can enhance dependability of the research method especially for future use (Johnson, Adkins et al, 2020).

There is an account on the trail of activities that were conducted throughout the process that can be used with ease in future research studies. These processes made the qualitative research method very useful for the researcher in ensuring that the research was credible, transparent and transferable. Also, the collection of documents using the desktop approach was very credible.

3.1.4 Qualitative Data Interpretation

The study involves the review of a series of documents pertaining to the issue of IUU Fishing in the world in general and in Sierra Leone in particular using the qualitative approach. The documents covered varied periods depending on the need for the data that were collected. Information regarding the history of the country and the national legal instruments were collected from very old books because it was the most accurate source of data providers when

it comes to such information. Although IUU Fishing has been a global issue, recent evidence is suggesting that the Sub region of the Gulf of Guinea is becoming one of the hottest spots lately. Sierra Leone is part of this sub region and shares the same qualities of having abundant fishes but with weak MCS mechanisms making it vulnerable to countries with well advanced shipping vessels. The nature of this threat will undermine socio economic livelihoods and food security for many people living in the coastal state of Sierra Leone. This is the main reason why the researcher is drawing the attention of key stakeholders both nationally and internationally to collaborate in the fight against IUU Fishing in the country of Sierra Leone.

The researcher collected the data based on the topics of IUU Fishing and its effects on the people of Sierra Leone. After which another series of articles were selected based on the topic of effective law enforcement in the fight against IUU Fishing in Sierra Leone and the other set of articles were based on the Collaborative efforts in the fight against IUU Fishing in the country. The data that were collected were then discussed with the view of answering the questions that were raised during the introduction stage of the study. These articles provided useful information in providing answers in the development of the theoretical framework. The research was done subjectively and transparently wherein the data was assessed to answer the questions by giving meaningful and reliable information in building the conceptual framework (Adu, 2019).

3.1.5 Data Collection

Furthermore, a reasonable number of articles ranging from 2009 to 2020 depending on the nature of the information. There were some difficulties getting recent articles on the history of the country and the provision of the national legal instruments for the establishment of the fishing sector. In such cases, older articles were reviewed as they seem more appropriate. However, when it comes to the issues of IUU Fishing the researcher strived for most recent articles in the ranges of 2015 to 2020 as they provided quite useful information for the researcher. In addition to those, some websites of other international organizations that are key in the fight against IUU Fishing. These organizations are the UN, FAO IMO and the RFMOs and they provided some useful data too, especially on the international legal instruments and conventions that are very useful in the fight against IUU Fishing.

The researcher was able to make use of those articles, websites and international instruments to appropriately respond to the questions posed by the research topic and responded to the question

as a way of building on the framework formulated by the research questions. In doing so, three conceptual frameworks emerged which were IUU Fishing and its effects in Sierra Leone, the nature of law enforcement in the fight against IUU Fishing in Sierra Leone and the national, sub regional, regional and international collaborative efforts in the fight against IUU Fishing in Sierra Leone. Also, the collaboration among ministries Departments and agencies in the country in the fight against IUU Fishing were assessed by getting access to the required websites for data.

3.1.6 Data Analyses

Considering the approach for this study which is a document based qualitative method, the researcher will rely on secondary data which he believes will be appropriate to explore the questions raised in the introduction phase of this research. The said documents would be critically analyzed to build on the conceptual framework to contribute to the body of knowledge in the field of IUU Fishing.

3.2.1 International Organizations' Role in IUU Fishing in Sierra Leone

The Issue of IUU Fishing has been considered to be harmful to fish stock around the world hence International legal instruments regarding its prevention, deterrent and elimination have taken a central stage since it was considered a global threat in 1997 (Christened, 2016). Sierra Leone is a party to the Convention on fishing and Conservation of the marine living resources (Convention on Fishing and Conservation of the living resources of the High Seas 1958). It has also ratified a number of other international Fisheries related treaties which includes UNCLOS. This international legal instrument gives Sierra Leone the sovereign rights and responsibility to protect and conserve its marine living organisms in its EEZ (LOSC art 56 – 61 1958). The convention provides for Marine Scientific Research (MSR) which can be key to decision makers. It also makes provision for Total Allowable Catches (TAC) which also enhances sustainable fisheries in the country. The UNCLOS also has provision for international cooperation in the management and conservation of marine living resources and this includes cooperation with RFMOs (UNCLOS 1958 art 117 and 118).

Even though UNCLOS can be considered to be a timely and useful international legal instrument in the fight against IUU Fishing, it is not that all effective. The major flaw detected with that legal instrument is that there are limitations for Flag States to adequately enforce measures against IUU Fishing flying the flags of other states. In the instance where foreign

vessels are to be arrested, they should be released on the posting of agreed bond (Babu, 2015). In accordance with UNCLOS, Sierra Leone has joined a number of RFMOs such as the Ministerial Conference on Fisheries Cooperation Among African States Bordering the Atlantic Ocean (ATLAFCO) and the Fishery Committee for the Eastern, Central Atlantic (CECAF), International Commission for the Conservation of Atlantic Tunas ICCAT and the Indian Ocean Tuna Commission (IOTC) (Sei, 2011)

3.2.2 United Nations Organization's (UNO)

In spite of all those mechanisms put in place, it has been a difficult venture to fight against IUU Fishing in the world. This is due to the lack of the required resources to undertake such a fight. The issue of lack of resources is greatly affecting developing countries in the world. This is where it is extremely important for collaborative efforts where International Organizations should work closely with developing countries in the fight against IUU Fishing.

Sierra Leone is part of the United Nations and has benefitted from the organization especially during its civil war days (Ciftci, 2019)). The United Nations is the umbrella organization in the world and through the FAO and other specialized agencies are making efforts in the fight against IUU Fishing. One key instrument by the United Nations in that regard is the United Nations Convention of the Law of the Sea (UNCLOS). As the world leading organization, the UN was the first body at the beginning of the century to declare IUU Fishing “one of the most severe problems affecting world fisheries” (Hakapåå, 2013). This call was followed by the FAO under IPOA to prevent, deter and eliminate IUU Fishing in 2001 (Swan, 2004). Later in 2016, the UN expanded its fight against IUU Fishing in the area of Port States Measures Agreement which is aimed at regulating the activities of foreign vessels in their landings and transshipments of fishes (Tonne, 2018). IUU Fishing is also captured under the UN SDG 14 which strongly encourages countries to improve on their Coastal State Controls and national laws in the fight against IUU Fishing (Haas, Haward, McGee, & Fleming, 2019).

3.2.3 International Maritime Organization's (IMO)

Sierra Leone Joined the International Maritime Organization (IMO) in the year 1973²². Ever since, the country It has also endeavored to ratify some of the IMO Conventions especially those that hinge on the fight against IUU Fishing in the country such as Safety of Life at Sea (SOLAS), Maritime Pollution (MARPOL), Standards of Training Certification Watchkeeping

²² www.imo.org

for Fishing STCW F etc, STCW Convention, art 12 (1). The key role of the IMO is to supervise commercial shipping related instruments. The STCW ensures that crews onboard fishing vessels are adequately trained (STCW F, 2012).

Torremolinos International Convention for the Safety of Fishing Vessels was implemented in 1993 to protect fishing vessels specifically as it shares similar features with SOLAS which target the safety of commercial ships generally IMO (Xie, 2020). However, that convention did not come into force twice as it failed to get enough ratifications. These failed attempts suggest that the IMO membership has not given enough attention to regulate fishing vessels as it has done for commercial vessels. This creates the enabling environment for IUU to thrive (Lindley & Techera, 2017). Since there is the need for all stakeholders to play their part in IUU Fishing for a greater success, Flag States, Port States, Coastal States, the Marketing States and the Regional Fisheries management bodies should coordinate to achieve this goal. The Torremolinos Protocol also sets regional standards for State Parties to share information on national safety to IMO. In this regard, Sierra Leone informed the IMO on the enactment of the Sierra Leone Maritime Administration Act of 2000 (Sei, 2011). IMO is also in collaboration with the Food and Agricultural Organization (FAO) on addressing issues of IUU Fishing since the beginning of the century (Martini & Allnutt, 2021).

3.2.4 Food and Agricultural Organization's (FAO) .

The code of conduct for responsible fishing came into existence in 1995 when it was adopted by the FAO of the UN (Hosch, Ferraro & Failler, 2011). This voluntary code of conduct is provided for in UNCLOS which makes it important for the conservation and management of marine living resources (UNCLOS art 1 (1.4)). Knowing that developing countries could face financial difficulties in implementing the code, it is provided for International Organizations to provide support to developing countries for the implementation of the code Code of Conduct (Williams, Balgos, Ramachandran et al, 2012). The Code of Conduct further provides for fisheries data collection, analysis and information sharing among members for appropriate decision making (Boopendranath, 2010).

3.2.5 Regional Fisheries Managements Organizations (RFMOs)

In spite of all the measures implemented by the International Organization to improve the conservation of the Marine living resources, the problem of overfishing still exists (FAO, 2020). Fish stocks that traverse the high seas and EEZs of various regional jurisdictions are even more

difficult to manage. To manage these types of fish stocks falls is therefore provided for in the UNCLOS (Koh, 2012). However, UNCLOS does not exclusively seem to provide an overall solution to conserving the fish at the high seas (Hallowood, 2016). Instead, UNCLOS encourages sovereign states to create Sub Regional and Regional Fisheries Management Organizations for the management of the fish stocks in their high seas (Cullis-Suzuki & Pauly 2010). It is against this background that Sierra Leone is a member of the International Commission for the Conservation of Atlantic Tunas (ICCAT) and Indian Ocean Tuna Commission. The main objectives of these RFMOs is to conserve the marine living resources for sustainable use (Ogawa & Reyes, 2021).

3.2.6 Sub Regional Fisheries Commission (SRFC)

The Sub Regional body has almost the same objectives as the RFMOs. There is also a project for West Africa that Sierra Leone is a part of. It is known as the West Africa Regional Fisheries Program (WARFP). This is a component in that project that aims at reducing Illegal Fishing as a threat to the sustainable use of West Africa's marine living resources (Wight, 2009). Sierra Leone also became a member of the SRFC in 2004 with the sub regional countries of Guinea, Senegal, Mauritania, Guinea Bissau, The Gambia and Cape Verde. The body came into existence after the SRFC convention of 1985 was drafted and submitted to the conference of ministers in charge of ministries that met in Cape Verde²³.

There is a department with the organ of the SRFC known as the Monitoring, Control and Surveillance Department (MCSD), which is situated in The Gambia. Its role is to plan, implement, monitor, and surveillance the activities of the SRFC Regions in the efficient management of their Fisheries. It also ensures that the activities of the SRFC members are well coordinated in the management of its fisheries (Schettini, 2018). It has the role to support the capacity building of the member states of the SRFC on the conduct of surveillance missions. Most importantly, it helps protect the territorial waters of its member states against IUU Fishing. One key tool it uses is a sub-regional register of fishing vessels operating in the maritime waters of the SRFC Member States²⁴.

²³ www.spcsrp.org/en/presentation

²⁴ *ibid*

3.2.7 Conclusion

The researcher adopted the document type qualitative approach to conduct this research due to the prevailing circumstances that prevent the other type of research. The main reason why the document based type of qualitative type of research method was not used is that it was difficult to administer questionnaires at this period of time. It was also very difficult to get key stakeholders to respond to my interviews due to what they called circumstances beyond their control. This was how the qualitative method was selected as there is enough literature on the topic of IUU Fishing that was used to answer the research questions.

CHAPTER 4

4.0 The Fishing Industry and the Effects Of IUU Fishing in Sierra Leone

4.1.0 Introduction

Sierra Leone is part of the sub region that is endowed with the rich fisheries in the world. Therefore, the fishing sector is paramount in providing livelihood and employment opportunities in the Coastal communities of Sierra Leone. It can also contribute immensely to the economy of the country by way of import of the fish and the issuance of licenses of foreign vessels to conduct legal fishing activities. In addition, the product is playing a significant role in the food and nutrition of a country that relies on fish as a major source of animal protein. However, all these potentials of the sector have been threatened by the negative impacts of IUU Fishing in Sierra Leone. Due to the fact that the country has fisheries products that are of value to the world, other countries are gravitating towards the country for their own shares. Without prejudice to those fishing in the country legally, there are other countries that are notorious for IUU Fishing in the country.

The national legal instruments of the country in the area of fighting IUU Fishing is not efficient enough to tackle the issue of IUU Fishing in the country. The country should also be encouraged to ratify international instruments that are necessary for IUU Fishing. Sierra Leone needs a set of laws that should be able to deal with the emerging contemporary issues of IUU Fishing. In this vein, the country also needs the much needed support of the international community in the area of effective collaboration in the fight against IUU Fishing in the country. Also, the country is not effective enough in the area of MCS in providing control over the territorial waters of the country. The inability of the country to effectively police its territorial waters is costing the country huge fish resources to IUU Fishing in the country.

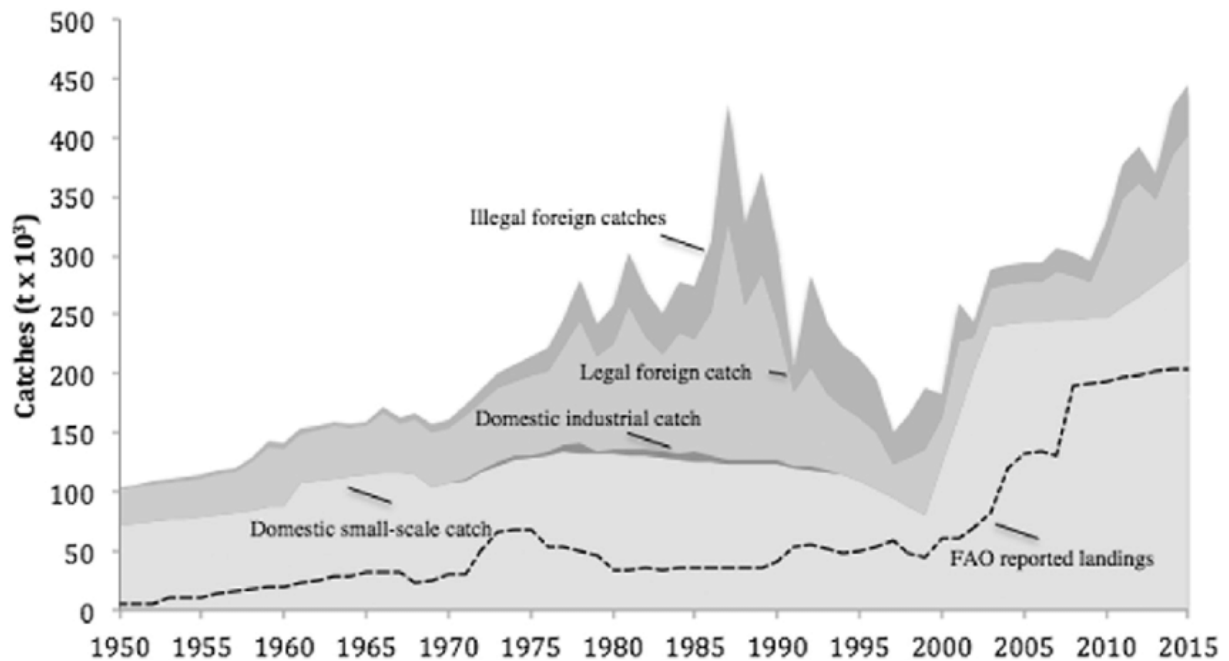
These are the major problems facing Sierra Leone's fishing sector that necessitated the need for the study of effective law enforcement in tackling IUU Fishing in Sierra Leone. In doing so, there is the need to answer to the research questions formulated in chapter one, which are:

- How has IUU fishing negatively impacted the Fishing Industry in achieving the economic recovery of Sierra Leone?

Based on the above mentioned question, the researcher adopted the document based qualitative method to interpret and analyze the effects of IUU Fishing on the Country’s Fishing Industry.

4.1.1 Response to the Research Question

In response to the above question, the researcher evaluates the Fishing Industry and analyzes the general impacts of IUU Fishing on the coastal state of Sierra Leone.



Source FAO: 2015 compared to total FAO Fish Stat catches reported for Sierra Leone (domestic catch only, dotted line).

Fig 7: Total reconstructed catches (both domestic and foreign) in Sierra Leone's EEZ 1950–

4.1.2 Small Scale or Artisanal Fish Catches

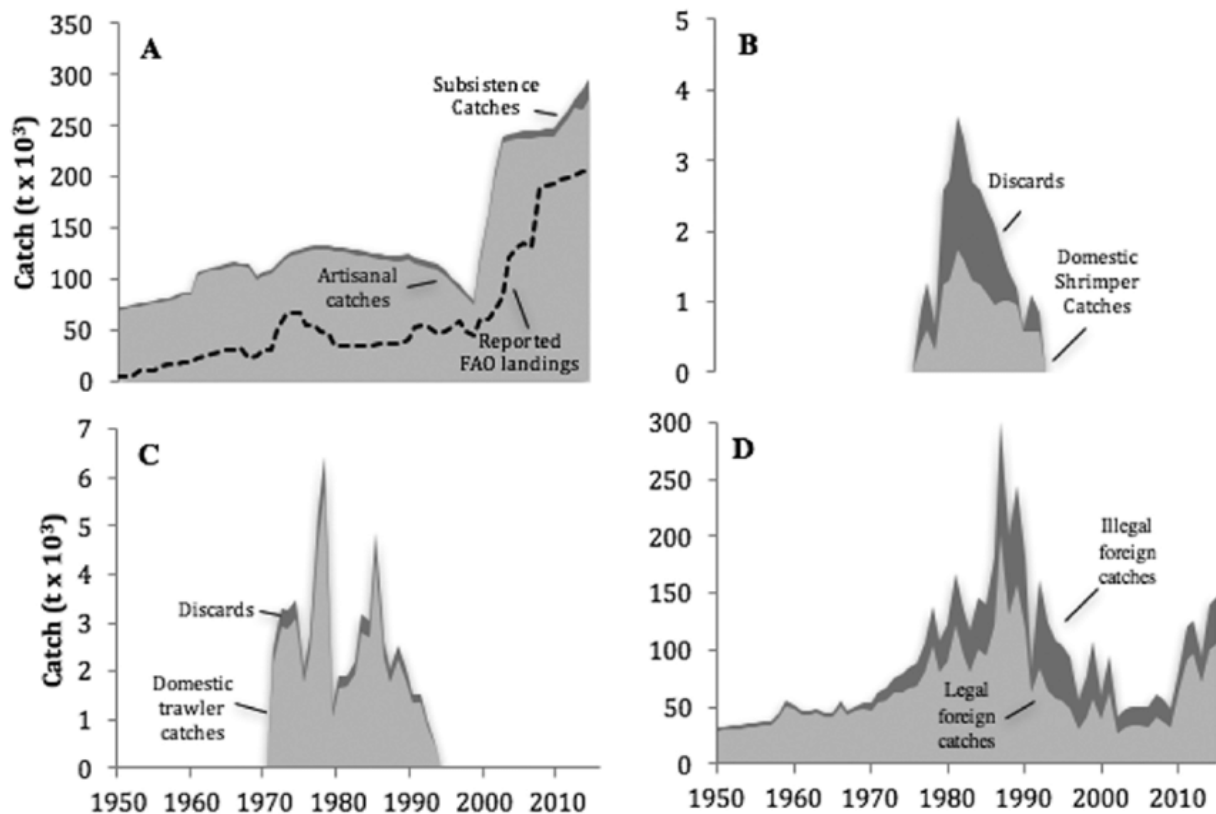
It is important to note that the FAO Fish stat is the widely used data on global fisheries (Pauly & Zeller, 2017). Unfortunately, data of fish collected does not include IUU fishing activities in the Sierra Leone (Sumaila, Alder & Keith, 2006). It is therefore possible that the data available with the Fish stat may be underestimating the total extracted marine resources in Sierra Leone

(Pauly & Zeller, 2016). The statistics of FAO regarding fisheries in Sierra Leone was reconstructed using national data, experts knowledge and literature for the periods of 1950 to 2015 (Seto, Belhabib, Mamie et al, 2017).

Small scale fishery sector in Sierra Leone increased steadily from 1950 to 1960 especially with the involvement of thousands of Ghanaian refugees who contributed to the increase in 1960. Very little information is available on small scale fishing activities in Sierra Leone with regards to catches, fisher population or fleet size (Thorpe, Whitmarsh, Ndomahina et al, 2009). In as much as national catches reported to FAO are higher, local expert experiences suggest that they are still low considering the lack of monitoring and surveillance capabilities of the country (Seto, Belhabib, Mamie et al, 2017). As a result, catches were based on estimated Catch Per Unit Effort (CPUE) rate related to expert knowledge and national data (Golley–Morgan, 2012). Also, there was a substantial reduction in the number of catches in the civil war in Sierra Leone from around 124,000 ton per year in 1990 to slightly under 80,000 tons a year in 1999 as a result of the displacement of the population (Hendrix & Glaser, 2011). However, there was an increase again in the catches made after the civil war from around 123,000 tons a year to over 296,000 tons a year in 2000 and 2015 respectively (Baio, 2009).

4.1.3 Industrial Shrimp Fishery

This sector was established in the 1970s with a catch record of 1740 tons per year in 1982 as a result of a boost in the investment of the domestic companies in vessels and infrastructure (Seto, Belhabib, Mamie et al, 2017). There was however a reduction in the number catches as a result of limited amounts of foreign exchange and increase in license fees and royalty established by the 1990 fisheries regulations (Cole, 2012). The figures in the catches drastically reduced to 573 tons per year in 1993 and later that year sources suggested the total disappearance of catches as indicated in figure B below.



Source FAO:

Figure: 8 2015 compared to total FAO Fish Stat catches reported for Sierra Leone (domestic catch only, dotted line).

4.1.4 Industrial Demersal Trawl Fishing

This type of fishery was established in the 1950s in relation to emerging international interest in that sector (Golley – Morgan, 2012). Catches in that sector was very well with a recorded catch of around 5,700 tons per year in 1978 (Seto, Belhabib, Mamie et al, 2017). It was reported to have reduced catch of under 4,300 tons per year in 1985 and has been reducing in the subsequent years until 1990s (ibid). Between the periods of 1994 to 2015 as shown in figure D above, there were almost no records of the industrial Demersal Trawl Fishery after the civil war (Kelleher, Robbers, Reefers et al, 2002).

4.1.5 Legal Foreign Fishing

Apart from the small-scale fishing activities that take place in the country, there is a reasonable number of foreign flagged vessels that are given licenses to fish in the Sierra Leonean EEZ legally (Seto, Belhabib, Mamie et al, 2017). Even though this practice has been going on since the 1940s, there is an increase in the practice in the late 1960s (ibid). The increase came about

as a result of the UN exploratory surveys of the fishery resources (Golley-Morgan, 2012). The number of registered foreign vessels in the country reached its climax in 1987 with a high catch rate (Ssentongo, Ukpe & Ajayi, 1986). This number started declining as a result of reduced catches, withdrawal of Russian vessels and the country's civil war in 1991 (Thorpe, Whitmarsh, Ndomahina et al, 2009). After the civil war, there has been an increase in the number of licensed foreign vessels again and in 2015, the country registered the highest number of legal foreign flagged vessels (Seto, Belhabib, Mamie et al, 2017).

4.1.6 Illegal Foreign Fishing

From 1950 to 1960, there was a low rate of IUU Fishing and it occurred purely within 12 NM from shore during this time due to the fact that there was no declared EEZ for Sierra Leone (ibid). However, there was a dramatic increase of 5,700 tons per year in 1969 to a record of slightly under 99,000 tons per year in 1987 following the rise in foreign fishing interest in the sub region as shown in figure C above (Cole, 1991).

Excluding the year of 1991 when there was an increase in MCS activities which had a record of 19,000 tons per year of illegal fishing, the record of IUU Fishing rose between 85,000 tons per year to 20,000 tons per year from the 1980s to 2001 at the end of the country's civil war (Seto, Belhabib, Mamie, 2017). In 2017, four illegal fishing activities were recorded in four days, when Chinese and Korean vessels were arrested in Sierra Leonean waters for allegedly flouting fishing legislations of Sierra Leone ranging from using illegal fishing nets and lack of proper registration ²⁵. The increase in the spate of Illegal Fishing started in 2009 after the civil war due to the decrease of MCS measures in the country while the neighboring country of Guinea had increased its own MCS measures. Illegal Fishing was at its peak in 2015 with a record of 42,000 tons per year (Seto, Belhabib, Mamie et al, 2017).

Considering the various economic losses incurred as a result of IUU Fishing in Sierra Leone, the country is losing a huge sum of money that could have been used in the rapid economic recovery of the country (Neiland, Arbuckle, Budiguel et al, 2009). The country has a combination of history including war, military coups, epidemic and pandemic and unchecked IUU Fishing could only make a bad situation worse, especially at a time when it is ravaging the

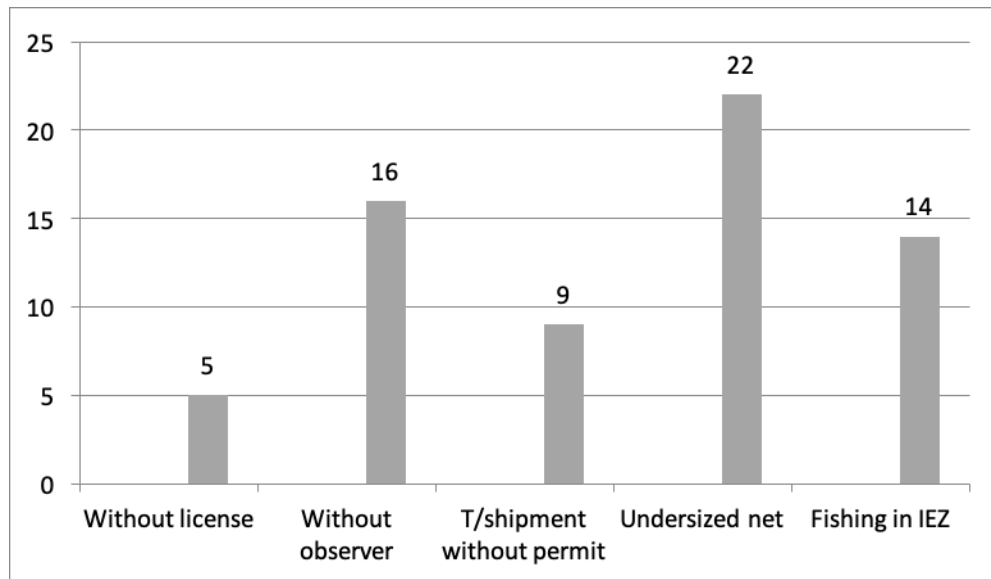
²⁵ [http://www.thesierraleonetelegraph.com/greenpeace-helping-sierra-leone-tackle-illegal-fishing-as-the-government-fails-to-curb-corruption,](http://www.thesierraleonetelegraph.com/greenpeace-helping-sierra-leone-tackle-illegal-fishing-as-the-government-fails-to-curb-corruption)

economies of weaker nations (Neiland, Cunningham, Arbuckle, Baio et al, 2016). The preservation of these resources can contribute immensely to the economic recovery of the country (Seto, Belhabib Mamie et al, 2017). This can also provide job opportunities to people residing in the coastal community of the country (Neiland Cunningham Arbuckle et al, 2016). And most importantly, marine living resources contribute largely towards animal protein in the country²⁶.

4.1.7 Offences Related to Industrial Fishing

There has been arrests of some industrial fishing vessels for offences contrary to the Fishing Act of Sierra Leone (Fillie, 2019). These foreign vessels do not keep to their terms of their license agreements and they indulge in overfishing and fail to stick to their quota restrictions as per the agreements (Sie & Baio, 2019). They also involve in other fishing malpractices such as fishing in the IEZ reserved for artisanal fishers, catching very young fish and exporting their catches without fully reporting the figures to the authorities in contradiction to the Fishing Act (ibid). There is also the need for foreign fishing vessels to have observers onboard their vessels but the observers should be paid by the foreign ship owners and this seem to compromise the job (Daniel et al, 2016). There is also the possibility of corruption in the management of the country's fish resources (Okeke-Ogbuafor et al, 2020). The figure below indicates the rate of arrests for the various offences.

²⁶ <www.fao.org/fishery/countrysector/naso_sierraleone/en>.



Source: (Fillie, 2019)

Figure 9: Industrial Fishing Offence in the last decade.

4.1.8 Monitoring Control and Surveillance (MCS) Measures

One main way that a sovereign nation can protect the marine living resources of its territorial waters is through MCS activities. Therefore, in an attempt to deal with IUU Fishing, the government of Sierra Leone in collaboration with World Bank installed transponders on foreign vessels to monitor their fishing activities in the country (Okeke-Ogbuafor et al, 2021). However, weak governance system and high monitoring cost is limiting the country to maintain a sound MCS measures over its marine living resources (Doumbouya et al, 2017). The result is high number of violation of the fisheries laws which in turn will result to revenue loss (Greenpeace, 2006). As part of the MCS measures and to also provide efficient conservation and management of its fish resources, Sierra Leone is also part of some Regional Fisheries Management Organizations such as the Atlantic Regional Convention for Fisheries Cooperation (ATLAFCO) (Essilife & Gabriel, 2014), Sub Regional Fisheries Commission (SRFC) (Becker, 2013) and the West Africa Economic and Monetary Union (WAEMU) (Fillie, 2019).

4.1.9 Management of the Marine Living Resources.

The country's civil war delayed the full implementation of the Fisheries regulation for about four decades as it was almost impossible to enforce the fisheries regulations (Okeke-Ogbuafor et al, 2020). Also, all the information that was available before the war were destroyed as a result of the civil war (Seto et al, 2015). At the end of the war, it was also difficulty to priorities

the fishing industry because the country lacked finances (Okeke-Ogbuafor, 2020). The MFMR is charged with the responsibility to regulate the affairs of the fishing industry (Doubouya et al, 2017). 10 % of the country's population heavily rely on the Artisanal sub sector for food which puts a kind of burden on the country's fish stocks (Seto et al, 2015). The Industrial fishing activities which is done legally and illegally is also only making a bad situation worse (Okeke-Ogbuafor et al, 2020).

The MFMR got its authority to run the affairs of fisheries and other marine resources of Sierra Leone through the 1994 Fisheries Development and Management Decree (Okeke-Ogbuafor et al, 2021). In 2004, there was the Local Government which makes provision for the transfer of the management of the artisanal fishing sector to the local council under the supervision of the MFMR although it has not been fully implemented (Okeke-Ogbuafor et al, 2020). The drafters of the 1994 Fisheries Management and Development Act were contemplating on the preservation and management of the country's marine resources (ibid). In spite of the numerous measures put in place to adequately manage the marine living resources of Sierra Leone, the problem continues unabated²⁷.

4.2.1 Socioeconomic Impacts of IUU Fishing

Socioeconomically, Sierra Leone is greatly affected by IUU Fishing and this can be gauged under the following categories; employment, income generation, food security and the safety and security of artisanal fishers (Doubouya, Camara, Mamie et al, 2017). In the area of employment, in 2017, World Bank account indicated that the fishing sector employs up to 36,000 people²⁸. As high as that figure may be, there is an estimated number of 250,000 people who are involved in other areas in the industrial fish operations such as retailers and fish processors where women are taking part. Industrial fishing contributes to over 90 % of revenues coming from the fishing sector (Sei & Bio, 2019). The artisanal fishing sub sector is providing employment for about 18,000 fishermen (Kamara, 2011). Men seem to dominate this sector but women play a very important role in the sector especially in financing the sector and being owners of local boats (ibid). The sector accounts for about 80 percent of total fish landing in the country (ibid).

²⁷ <http://slconcordtimes.com/fishermen-reluctant-to-use-rocky-landing-site-at-tombo-wharf>,

²⁸ <https://www.aa.com.tr/en/africa/sierra-leone-chinese-vessel-caught-illegally-fishing/1233771>

What comes to mind is the fact that those figures could have been doubled if not for the prevalence of IUU Fishing in the country. The number of employees for the two sectors could be much more than the current one recorded. The country could also be recording more yields in the reported catches in the country and this will mean more revenues for the country which will boost its economy. This could have also meant more women empowerment in the sector and that could have recorded multiplying effects in the socioeconomic wellbeing of the community people. This could have also contributed more to the food security and nutrition of the country. Furthermore, IUU Fishing is posing some kind of safety and security concern for the artisanal fishers as a result of IUU Fishing reducing their catches and there are evidences of tensions between the artisanal fishers and the industrial fishers (Okeke-Ogbuafor & Gray, 2021).

4.2.2 Industrial Fishing Effects on the Fishing Industry

The management of the fishing industry in Sierra Leone is based on the concept of wealth creation rather than the social welfare concept (Okeke-Ogbuafor et al, 2020). The current management system considers the immediate economic benefit it gains from foreign fishing vessels and ignores the long term consequences (Sei & Baio, 2019). The over 100 registered foreign fishing vessels in Sierra Leone are owned by Europeans, Asians, North Americans and West Africans (Baio & Sei, 2017). The major players in the registered Industrial Fishing activities in Sierra Leone is the Chinese with an estimate of 75% participation (Ogundeji, 2019). These foreign vessels have access to the lion share of the industrial catches in the country's EEZ (Seto et al, 2017). It has been estimated that almost one-third of the industrial fish caught in Sierra Leone falls under the category of IUU Fishing (EJIF, 2009). The MFMR in 2016 recorded the loss of 29 Million United States Dollars to IUU Fishing²⁹. That figure even rose to 40 Million United States Dollars in 2018 (Kamara, 2018). This makes for inaccurate reporting of most of the catches that are made as a result of those acts and economic loss to the country are definitely not quantified. The table below explains the registered fishing vessels in Sierra Leone.

²⁹ <https://slconcordtimes.com/sierra-leone-loses-29-million-per-year-due-to-iuu-fishing/>

Names of Fishing Company	Number of Fishing Vessels Operated
Okeky Fishing Company	24
Annsenkai Fishing Company	47
Africa Yuhai Fishing Company	8
Combra Fishing Company	6
Sierra Fishing Company	19
Tima Fishing Company	11
Peninsular Fishing Company	9
Sabco Fishing Company	8
Sonit Sierra Leone Ltd	3
Total	135

Source: MFMR, 2019.

Table 1: List of Registered Industrial Fishing Companies in Sierra Leone (2017)

4.2.3 Artisanal Fishing Effects on the Fishing Industry

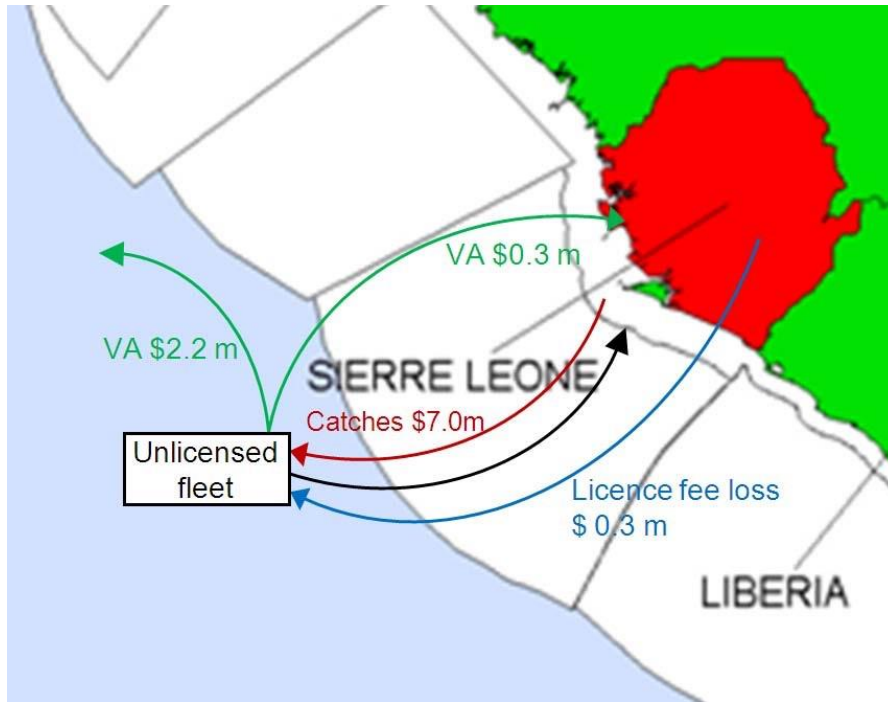
There are more than ten thousand local fishing boats in Sierra Leone, of which one-third is motorized with different types of fishing nets and their targets are mainly small pelagic types of fish (Baio & Sei, 2017). Most Artisanal Fishers use illegal fishing nets including mosquito nets which makes them to catch not only too many fish but also very young fish and some sometimes even fish eggs are not spared (Okeke-Ogbuafor et al, 2020). The cost of license fee for local artisanal fishing vessels is very low and even the fines that are levied on this sector is also low which suggests that the country is losing more revenue in this sub sector (FAO, 2001). The figure below explains the loss.



Source: MRAG, 2010

Figure 10: Flow of loss as a result of IUU Fishing in the Artisanal Fishing Sector of Sierra Leone

The figure below also explains the huge amount of revenue loss to the government of Sierra Leone as a result of industrial IUU Fishing in Sierra Leone. Government revenues would have multiplied greatly but for the tax evasion due to IUU Fishing. The central government seems reluctant to fully implement the fishing on both the Artisanal fishers for fear of losing their votes and the Industrial Fishers for fear of losing revenue (Okeke-Ogbuafor et al, 2020). Due to overfishing activities conducted by industrial fishers and destructive artisanal fishing activities, Sierra Leone is at risk of losing some fish stocks such as the African Bony Fish and the Madeiran Sardine (Diggins, 2019).



Source: MRAG, 2010

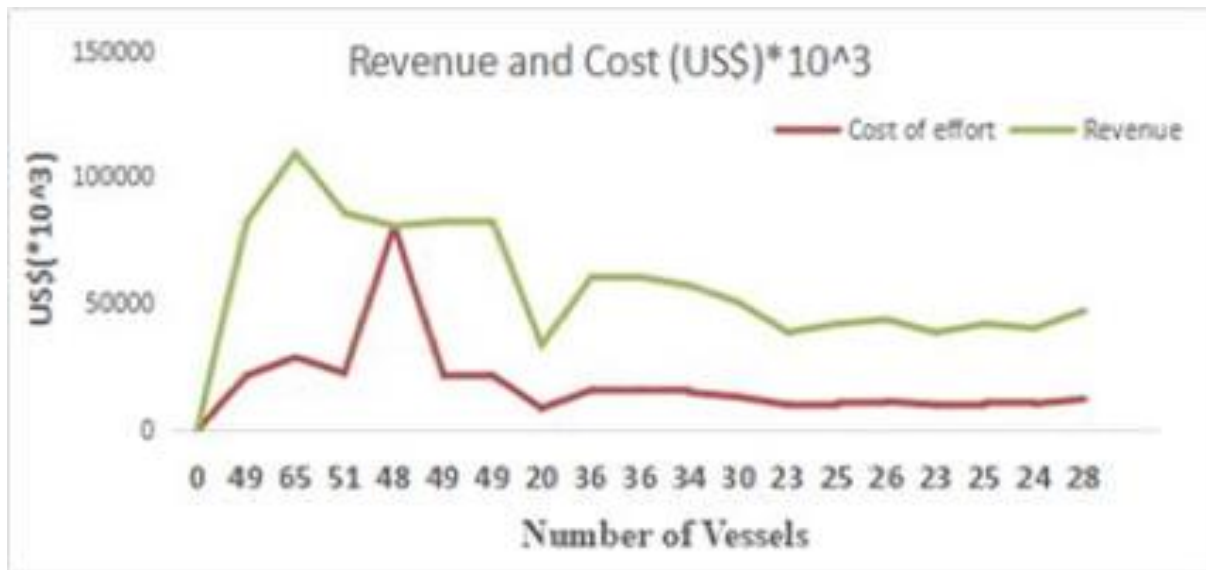
Figure: 11 Flow of loss as a result of IUU Fishing in the Industrial Fishing Sector of Sierra Leone

4.2.4 Effects of Poor Protection of the Marine Living Resources

If proper measures are not taken to enhance the efficiency of the Sierra Leone Fisheries Sector, it could lead to the over fishing of the country’s fish resources (Okeke-Ogbuafor et al, 2020). The Fish stock and other marine living resources are key drivers to economic growth, food security and employment in Sierra Leone³⁰, their preservation is therefore important. Their poor management could therefore lead to a reduction of the fish in even the local markets which can affect nutrition in the diets of the people (Okeke-Ogbuafor et al, 2020).

The figure below indicates some irregularities by the industrial fishing companies as a result of unwillingness by the fishing companies to declare their economic fishing activities. Their main reason for doing so is the fact that it may increase the chances for an increase in license fees and royalties by the Government (Baio et al, 2017).

³⁰ <https://core.ac.uk/download/pdf/141488522.pdf>



Source: Baio, 2017.

Figure 12 Cost and revenue profile for shrimp trawl investment in Sierra Leone

4.2.5 Conclusion

The Data collected above, is clear that the questions raised in this chapter require deep reflection if the fishing industry in Sierra Leone is to realize its full socio economic potential. The fact that the country cannot fully account for its fish resources means decision makers cannot make informed decisions in the interest of the industry and country. This can deter the country from appreciating the import of the fishing industry. If the necessity of that sustainable natural resources is not realized, the country will be losing huge amount of money that will hinder the progress of the country. When the country is starved of its financial resources, it will be limited in strengthening systems and processes around tacking IUU Fishing and the result will be a vicious circle of IUU Fishing.

There is also the need to assess the country's fishing industry in the areas of capacity of the Fisheries Management System, the need for national, regional and international support, policy formulation and coherence if the full potential of the country's fishing industry would be realized.

CHAPTER 5

5.0 Recommendations and Conclusions

5.1.1 Introduction

The government of Sierra Leone is focusing on the issuing of fishing licenses to industrial fishers and encouraging artisanal fishing rather than having the appropriate policy formulation and law enforcement. As much as this can bring short term economic benefit for the country, it will have a long time negative environmental and economic effect on the country. This is why it is necessary for the country to focus on policy formulation and law enforcement if the full potential of the fishing industry is to be realized. There is evidence to suggest that well managed fisheries in any country is a panacea to sustainable economic advancement (Neiland, Cunningham, Arbuckle et al, 2016).

Prudent management of the fisheries sector for the benefit of all citizens including generations yet unborn requires that the fisheries management body should look beyond the short time economic gains and focus on sustainable fisheries management system that is in consonance with the concept of the “Blue economy” (Okeke-Obuafor & Gray, 2021). If the fishing sector is to benefit the general populace of Sierra Leone, the fishing industry should have the vision of sound policy implementation, effective law enforcement mechanism and a well sustainable fisheries management system (World Bank, 2005) Good Management Practice in Sustainable Fisheries.

5.1.2 Status of the Fisheries Sector

Sierra Leone is blessed with different types of valuable fish stock in both its marine and inland water environment that are harvested through fishing and aquaculture means (Baio, 2010). The annual total number of fish production in the country is about 150,000 tonnes. The major fishing sectors in the country are the Marine Artisanal and Industrial fishing. However, there is a relatively small inland fishing and aquaculture production going on in the country (Neiland Cunningham et al, 2016). The Artisanal Fishing sector alone produces about 120,000 tonnes of

reported fish whereas the industrial sector produces about 24,000 tonnes (Ibid). In 2014, the industry contributed about 34 million amounting to 1 percent of the total revenue as shown on the table below.

Area	Amount of Revenue		
	Sierra Leone Leones (Le'M)	USD Millions	%
Road Vehicles	87,616	199	4
Other Departments	64,642	147	3
Fisheries	14,929	34	1
Minerals	209,413	476	9
Goods and Service Tax	459,095	1043	21
Customs and Excise	506,816	1152	23
Income Tax	895,681	2036	40
Total	2,238,192	5087	100

Table 2 Sierra Leone—domestic revenue collection (2014)

Source: Government of Sierra Leone, Accountant Generals Department, Annual Revenue.

The sector was also projected to contribute up to 10.2 percent to the country GDP of the country in 2013 as shown on Table 2.

Area	% GDP	
	2008	2013
1) Agriculture, hunting, forestry and fishing	56.3	52.7
1.1.) Of which fishing	8.9	10.2
2) Mining	3.7	11.6
2.1.) Oil	n.a.	n.a.
3) Manufacturing	2.6	2.1
4) Electricity, gas and water	0.2	0.2
5) Construction	1.7	1.3
6) Wholesale and retail trade, hotels and restaurants	9.2	9.1
6.1.) Of which hotels and restaurants	0.4	0.4
7) Transport, storage and construction	6.7	4.6
8) Finance, real estate and business services	7.9	6.6
9) Public administration, education, health and social work		
Community, social and personal services	3.6	4.9
10) Other services	8	6.9
GDP at basic prices/factor cost, Total	100	100

Table 3: Sierra Leone—gross domestic production (GDP)-% composition.

Source: AfDB, OECD and UNDP (2014).

The MFMR is empowered to regulate the activities of the Fishing Industry by the Fisheries Act of 1994 (Thorpe, Whitmarsh et al, 2009). The MFMR is aided by other MDAs for prompt and effective results³¹. There is an export based industrial sub sector in the fishing industry that is key in generating income for Sierra Leone Thorpe, Whitmarsh et al, 2009). In addition to the Industrial Fishing subsector, there is the Artisanal fishing subsector that caters for the socioeconomic wellbeing of the coastal communities in Sierra Leone (Jalloh & Arnason, 2009) There are two main fishing organizations in the country – The Sierra Leone Artisanal Fishermen Union (SLAFU) and the Sierra Leone Amalgamation Artisanal Fishermen Union (SLAAFU) (Okeke-Ogbuafor, Gray et al, 2020). Asians and Europeans have also been involved in the country’s fishing sector. They are given licenses to fish under a joint business with Sierra Leoneans (Neiland, et al, 2016).

As stated earlier, the country’s Fish resources is prone to Excessive IUU Fishing activities. Both licensed and unlicensed foreign flagged vessels seem to be having the free will to illegally fish in the vast unmanned areas of the EEZ of the Sierra Leonean waters (Neiland, Arbuckle, Bostock et al, 2007). The country has been reported to be losing USD 29 Million annually as result of IUU Fishing (EJIF, 2012).

5.1.3 Sustainability of the Fishing Sector

Even though Sierra Leone has abundant natural resources such as mineral ore, forests and fish stocks, it is still considered to be a struggling economy when compared to other countries (Billion, 2001). This is partly due to a devastating war the country had between the periods of 1991 to 2002 (Neiland, Cunningham, Arbuckle, Baio et al, 2016). At the end of the civil war however, it was poised to explore its fish resources to contribute to its economic development (Kemokai, Jóhannesson, & Hallgrímsson, 2019).

It can be seen that fish stock is an important player in the economy of the Sierra Leone (Okeke-Ogbuafor, Gray et al, 2020). If it is well managed, the fisheries sector can be sustainable in contributing to the country’s GDP (Neiland, Cunningham et al, 2016). It can improve on the livelihood of the people, create employment and even food security³². To achieve the full

³¹ https://www.comhafat.org/fr/files/actualites/doc_actualite_41524105.pdf

³² <https://core.ac.uk/download/pdf/141488522.pdf>

potentials of the sector therefore, it requires some deliberate effort in investing in the sector now and expect long term benefit rather than focusing on immediate revenue generation and risk the future (Neiland et al, 2016).

Fish stocks can be considered to be renewable natural resources which are worth investing in rather than the non-renewable natural resources like gold and other minerals (Thorpe, Whitmarsh et al, 2009). The country is an example of one with a huge amount of natural resources that have not been reflected in its national development (Frankel, 2010). Maybe it is time to focus on the fisheries sector and make it more sustainable to positively impact the country's economic growth and reduce poverty (Neiland et al, 2016). The above mentioned issues have warranted me to explore Sierra Leone's Fisheries Sector in relation to the research questions raised in chapter 1.

5.1.4 Undetermined Economic Value of the Fisheries Sector

There seem to be no official data on the full economic value of Sierra Leone's fish resources. There has only been an initial estimate on the statistics of the country's fish products (Neiland et al, 2016). The country has a potential of economic value of consumable marine fisheries of 735 Million United States Dollars. There was limited information on the fish stocks in the freshwater and the aquaculture sub sector (Neiland, Arbuckle, Bostock et al, 2007). To realize the full potential of that economic value of the country's fish stock, there is the need to have an effective and efficient Fisheries Management system such as the one explained in Type 1 of Table 3 below. However, from data submitted above, it is evidenced that the Fisheries Management of the country is based on the type 2 method that was used in 2014. As explained from the same tables, it is obvious that the type 2 method is focused on short term economic gains while undermining the long term gain.

It has also been tested that the type 2 method which is used in most parts of the world has not been prudent for long term economic benefit for the general good of any country (Cunningham, Neiland, Arbuckle et al, 2009). If this type of management system is to continue, it will result to economic and biological over utilization of the country's fish stock in the not too distant future (Neiland et al, 2016). Which means it is a kind of system that is interested in getting the economic gains now ignoring the consequences of reducing the country's fish stock which can lead to economic implication in the future. What the country needs is a sustainable Fisheries Management system with collective involvement of fisheries stakeholders.

Fishery Sub-Sector	Management Arrangements	
	2014 (Fisheries Management Type II)	Potential (Fisheries Management Type I)
Marine Fishery Sub-Sector		
[a] Artisanal		
Catch (t)	120,000	46,860
Financial value (USD millions)	100	41.5
Fishing enterprise profitability	Low	High
Economic rent (USD millions)	0	16
Employment	High	High
Food security contribution	Important	Important
Fishery status (benefit levels above)	Unsustainable	Sustainable
[b] Industrial		
Catch	24,000	115,600
Financial value	25	154.5
Fishing enterprise profitability	Low	High
Economic rent (USD millions)	0	43
Employment	Low	High
Food security contribution	Medium	High
Fishery status (benefit levels above)	Unsustainable	Sustainable
[c] Total Overall (Marine)		
Catch	144,000	162,460
Financial value (USD millions)	125	196
Fishing Enterprise Profitability	Low	High
Economic rent (USD millions)	0	59
Employment	High	High
Food security contribution	High	High
Fishery status (benefit levels above)	Unsustainable	Sustainable
[d] Domestic revenue collection (USD millions)	34.1	>34.1
[e] GDP Contribution (%)	10.2	>10.2

Table 4: Sierra Leone—comparison of fisheries performance and GDP contribution.

Source: NEPAD's team assessment based on field observations in Sierra Leone.

5.1.5 Strategic Vision of the Fisheries Sector

It is not all that gloomy in the country's fisheries sector. At least Sierra Leone has been reported to have a strategic document or vision that looks forward to have good fishing reforms that is guard towards improving the sector (Baio, Coulibaly, Gitonga et al, 2012). There has been several moves by relevant stakeholders to improve on the country's vision in the fisheries sector. The current vision is based on the MFMR's assessment of 2007 which was guard towards improving the 2003 Fisheries' Policy of Sierra Leone (Baio, 2010). The MFMR and the IMBO in collaboration with the Institutional Support for Fisheries management (ISFM) and

an FAO expert, consulted stakeholders in the fishing sector between 2007 and 2010 and came out with a draft policy document which was submitted to the National Scientific and Technical Committee (NSTC) (Neiland, Cunningham et al, 2016). The document was validated in March 2010.

The document is very much key in seeking to address the numerous issues raised above³³. The vision of the country's fisheries sector is now forward looking in addressing the problems like Biologically sustainable methods of fisheries resources with more robust approach, work towards generating wealth and reduce poverty, good governance for the management of the Fish Stock which will make it economically viable for especially the coastal and riverine community people. The Management system should also include stakeholders in the fishing sector (Neiland et al, 2016).

The 2010 policy document which should have replaced the 2003 policy document is designed to fill in the gap that was not addressed by the 2003 policy document (Sei, 2011). The overall result of this document is for the country to have an Ecologically sustainable and economically efficient fisheries in Sierra Leone (Neiland et al, 2016). It also meant to address specific policy objectives such as the conservation and sustainable use of the fisheries products, Co – Management of the fisheries sector, enhanced international trade of the fish stock among others (Khan & Sei, 2015). Curbing IUU Fishing is addressed under the specific objective of conservation and sustainable use of the fisheries product (Neiland et al, 2016).

5.1.6 The 2010 Fisheries Policy in Conflict with other National Policies

Having projected the good side of the 2010 Fisheries policy in improving the Fisheries Sector, it is important to note that there are some observations with regards to how well it will work with other national policies especially those regarding poverty reduction, fiscal arrangement and governance reform.

Poverty Reduction Strategy (Agenda for Prosperity) is the central idea of the Government of Sierra Leone's (GoSL) National Policy Document (Leone, 2011). The document places the Fisheries Sector under "Pillar 1" which speaks about Economic expansion to stimulate Wide-

³³

<https://psru.gov.sl/sites/default/files/sites/default/files/reports/MFR%20Update%202012%20Fisheries%20%26%20Marine%20Resources.pdf>

ranging Growth in the country³⁴. The overarching objective is to ensure that every Sierra Leonean has access to food and job opportunities. While on the face of it, it appears to resonate with the 2010 Fisheries Policy Document, an in-depth reflection will reveal that the two documents conflict in the areas of their strategic objectives as explained below:

The National Policy Document seems to focus on mass production of the fish stock for immediate benefit which is more in line with the 2003 Fisheries Policy Document that has been replaced by the 2007 Fisheries Document. Whereas the proposed 2010 policy Document seems to focus on the preservation and conservation of the fish stock for future generation. If the relationship between the two documents are not well defined, it will create confusion in the future implementation process of the two Policy Documents.

Furthermore, the National Policy Document is expecting all sectors in Government to increase their revenue generation. The Fisheries Sector contributes 34 Million United States Dollars (1 percent) and this contribution is obtained mainly from the issuing of licenses to foreign flagged vessels involved in industrial Fishing activities and in the country (Neiland et al, 2016). Expectation on the MFMR to increase revenue mobilization in line with the National Policy Document will undermine the long term objective of the 2010 Fisheries Policy Document. A detailed explanation on the comparison of the two policy documents in table 4 below.

34

<https://psru.gov.sl/sites/default/files/sites/default/files/reports/MFR%20Update%202012%20Fisheries%20%26%20Marine%20Resources.pdf>

Agenda for Change Stated Principle	Implications for Fisheries/Ministry reform
Macro-economic stability, with a commitment to domestic revenue collection, broadening the tax base, and improving efficiency and compliance	Well-managed fisheries a significant balance to mineral sector, assisting to economic stability – needs effective licensing and registry Need to adopt management practices that contribute to national economic objectives
Maximising Public Private Partnerships to finance development	Impetus for outsourcing appropriate functions where Ministry has limited capacity or where functions can be best performed by the private sector
Strengthening inter-agency coordination in security	Need to embrace whole of government opportunities and collaboration
Strengthening deterrence and prevention in Anti-Corruption	Need for transparency and accountability in licensing and revenue collection
Sound management of natural resources (Although the Agenda refers only to mining, tourism, and land management, comments on harnessing resources for economic transformation and sharing the benefits of growth are applicable to the fisheries.)	Fisheries must be treated as a renewable resource rather than an extractive one, balancing ecological sustainability with economic benefit and food security, and ensuring stakeholder engagement in fisheries management

Table 5: Key differences in the 2010 policy document and the Policy Reduction Policy

Source: Government of Sierra Leone (2012) Management and Functional Review

5.2.1 Assessing the Fisheries Management System

If the Fisheries Management System in Sierra Leone should tap into the potentials of the fish stock for the general good of the people, it needs to shift from the fisheries management system that aims at the wealth creation concept and focus on the conservation and sustainable use of the fish resource based on the social welfare concept (Okeke-Ogbuafor et al, 2020). The wealth creation concept can create the enabling environment for IUU Fishing which is greatly affecting the economy of the country (Sie & Baio, 2019).

There is evidence to suggest that the rating of the Fisheries Management System of Sierra Leone is 2 / 10 (Neiland et al 2016). This has exposed the Fisheries in both the inshore and offshore

of the country prone to both economic and biological exploitation (Okeke-Ogbuafor & Gray, 2021). Another account has stated that the country does not have the full capability to secure its EEZ which makes it vulnerable to IUU Fishing (Neiland, Cunningham et al, 2016). The Management of the Fisheries Sector is guided by the policies of the MFMR and other departments and agencies (Okeke-Ogbuafor et al, 2020).

The existing structure seems to have expanded on the number of industrial fishing activities in the recent years *ibid*. The apparent reason for the expansion is to attract more short term revenue generation, apparently to support the Agenda for Prosperity Policy (Neiland et al, 2016). The other issue surrounding the expansion of the industrial fishing sub sector is the fact that the current management system cannot fully implement the provisions of the policy (Doubouya, Camara et al, 2017). The failure to implement those policy regulations is the reason for the frequent occurrences of IUU Fishing in the country (Finch, 2018).

It is the researcher's opinion that if the fisheries potential is to be realized for sustainable positive impact on the economy of the country there is the urgent need to fully implement the 2010 Policy operational framework of the fisheries sector. There is also the need for the Fish stock in the country to be secured to avoid its depletion.

5.2.2 Policy Implementation Capability.

In addition to a strong political will in ensuring an effective fisheries management system, the issue of the capability of the management body in the implementation of its policy is also an important element. If the issues around the research questions are to be addressed, then the capacity and capability of the management body is key. It is in this regard that a review on the MFMR was done in 2012 (Baio, Coulibaly, Gitonga et al, 2012). The review among other things concluded that since 2006 to 2012, the MFMR “remains woefully under-capacity in terms of mid-level (grade 7 to 11) and Senior (grade 12 above) professional” level” and that it does not have the capability take the fishing sector into the future (Neiland et al, 2016).

To put the Fisheries Management System on a good footing, the review recommended the creation of new structures in the management system³⁵. The review recommended an addition

³⁵

<https://psru.gov.sl/sites/default/files/sites/default/files/reports/MFR%20Update%202012%20Fisheries%20%26%20Marine%20Resources.pdf>

of four more directorates such as Policy and Strategy, Service and research, fish quality, compliance in addition to the fisheries management directorate (ibid). The compliance directorate will be very much key in the implementation process. Director of compliance works with the coordinated body of the Joint Maritime Committee and is answerable only to the Minister of Fisheries. This will strengthen the law enforcement aspect and ensure the independence of the directorate from the licenses regulation regime which is affecting effective policy implementation in the current system (ibid p 26).

When the proposed structure would have been implemented, the country's management system would have a more robust posture in ensuring effective law enforcement which would be effective in protecting the marine living environment. The long term result of this action would be an efficient and sustainable fisheries management system that would contribute significantly to the economy of the country.

5.2.3 Supports from Regional and International Organizations

As IUU Fishing is a global concern, it could only be contained when regional and international actors are supportive to especially developing countries (Linfley & Techera, 2017). Their roles in technical advice, development of legal framework, planning, finance, information sharing and capacity enhancement is key in the fight against IUU Fishing (Neiland et al, 2016). Therefore, Sierra Leone has not been neglected in regional and international support in the area in the conservation and preservation of its marine living resources.

Sierra Leone has been collaborating with sub regional and other international organizations in its effort to curb IUU Fishing ³⁶. It joins the Fisheries Committee of the West Central Gulf of Guinea (FCWC)³⁷. The Sub Regional Fisheries Commission (SRFC) is a similar regional organization with almost the same purpose and objectives. Details of the SRFC had been discussed earlier. The country is also part of the Mano River Union (MRU) Organization ³⁸. The members include mainly neighboring countries like Liberia, Guinea and Ivory Coast. Although they have little to do with regional fisheries activities, they can discuss security issues

³⁶ <http://www.fao.org/fao-stories/article/en/c/1278709/>

³⁷ <https://fcwc-fish.org/other-news/sierra-leone-fisheries-sector-contributes-12-to-sierra-leones-gdp>

³⁸ <https://stopillegalfishing.com/news-articles/sierra-leone-addressing-iuu-fishing-in-the-mano-river-union-region-4/>

which can be instrumental in information sharing in addressing the issues of IUU Fishing activities³⁹.

From the international angle, New Partnership for Africa’s Development (NEPAD) and FAO are key international organizations that have been very instrumental in their support to Sierra Leone in its effort to curb IUU Fishing activities. They have contributed in giving technical assistance and in the implementation of the World Bank-funded West African Fisheries Program (WARFP) in the country. Apart from those two organizations, the country has benefitted from many other international organizations as explained in table 5 below.

No.	Date	Project Profiles ^a	Institution/Funding	Status
(1)	2003-2010	Artisanal Fisheries Development Project (Focus: Official Quality Control in the Artisanal Fisheries Sector—Infrastructure)	African Development Bank and Government of Sierra Leone. The total amount disbursed at PC was ADF Loan: 8,996,878,000 Unit of Account (UA); GoSL 701209.75 UA	Project completed. Overall evaluation rating: 3 [Good—despite a few shortcomings]; Four fish receiving centres built on coast (landings and post-harvest infrastructure)—not in use at present; capacity building and research; credit facilities;
(2)	2007-2011	Institutional Support and Fisheries Management Project (Focus: Fisheries Resource Assessment)	European Union Euro 3 million	Project completed. Improved knowledge and status of some stocks achieved, although studies of important inshore stocks (shrimp and small pelagics) were deficient;
(3)	2011-2016	West African Regional Fisheries Programme in Sierra Leone (Focus: Resource Governance, Reduction of Illegal Fishing and Official Quality Control & Value Addition)	World Bank US \$28 million (loan)	Project suspended in 2014 in Sierra Leone. Key activities to date: Canoe registration scheme and co-management initiatives; MCS system established and operational; preparations for harbour development;
(4)	2009	Modernising Sierra Leone’s Fisheries Legal Framework (Focus: Legal review)	FAO-TCP US \$600,000	Project completed Analysis and review of legal framework and production of a new draft Fisheries Bill (awaiting approval)

No.	Date	Project Profiles ^a		
		Title	Institution/Funding	Status
(5)	2012-2014	West African Pilot Project (WAPP) in Sierra Leone. (Focus: Legal and Policy Reform)	NEPAD US \$1.4 million	Project completed Analysis of legal framework; advice on new Fisheries Bill; collaboration in developing fisheries management system; design of five year plan for fisheries development.
(6)	2007-2012	The West African Quality Programme. (Focus: Strengthen enterprise competitiveness, compliance with international trade rules and technical regulations)	European Union Euro 8 million (sub-regional)	Project completed: Attempted to ensure product certification, standards and accreditation. However, fish products remain unacceptable to the EU market.
(7)	2012	The Precon experiment (Focus: Effect official controls)	MFMR/GoSL US \$600,000 (initial support)	On-going To develop strategies to enable access to EU fish market
(8)	2011-2015	Technical Capacity Building in Fishing and Seafood Processing Technology Project in Sierra Leone (Focus: Develop national human resource capacity in fishery sector to manage for optimum revenue generation and sustainability)	Russian Federation Implemented by UNIDO and MFMR US \$1.47 million	Completed Training in various specialties at middle-level under the supervision of the University of Sierra Leone

Table 6: Sierra Leone—fisheries sector—developments and interventions since 2006.

Source: World Bank DTIS.

In spite of what looks like huge international support, this does not seem to reflect on the country's fisheries management system. This is due to the weak national capacities to implement most of the projects brought in by the international organizations (Neiland et al 2016).

5.2.4 Conclusion

As much as Sierra Leone's Fisheries Management System may believe that the Fisheries sector is contributing to the country's GDP, the current method is not sustainable and in the long run, it will be counterproductive. It is therefore appropriate for the GoSL to have a strategic vision

that will be in line with the overall objective of the Blue Economy which is geared towards making the fisheries sector sustainable for the long term general good of the country. The 2010 Fisheries policy could be a good starting point as it is a document that will recalibrate the objective of the fisheries sector in line with international best practice. The current fishing management system should be capacitated in the area of human and capacity development to be in position to fully implement the 2010 fisheries policy document. With the help of the international community, if Sierra Leone is to adapt to positive changes, the country could tap into its fisheries resources for the general good of the country. On the other hand, if things should continue with business as usual, there is the risk of biological and economic overfishing and over exploitation in the country.

5.2.5 Recommendations

Based on the study conducted so far, it will be helpful if the following recommendations could be considered:

1. The Artisanal Fishers should be monitored to ensure that they do not use destructive fishing methods in their quest to make up for the fishing activities of the Industrial Fishers.
2. The MFMR should improve on the Monitoring, Control and Surveillance measures that will be appropriate to curtail the emerging issues of IUU Fishing in Sierra Leone.
3. It is also recommended that MFMR should be able to get accurate data on the total number of catches that is made in the country.
4. There is also the urgent need to fully implement the law preventing Industrial Fishers from entering the IEZ that is preserved purely for the Artisanal Fishers.
5. It is also important for the proposed 2010 MFMR policy to be implemented especially with the introduction of the Compliance Directorate to strengthen Law Enforcement in the Fishing Industry.
6. The MFMR should shift towards the Welfare based system in the management of the country's Fish stocks that is guard towards sustainable fishing for the general good rather than the ongoing wealth creation system of management that will lead to overfishing and depletion of the country's fish stocks.

CHAPTER 6

6.0 Policy Implementation and Law Enforcement

6.1 Ocean Governance in Sierra Leone

The need to strengthen ocean governance is key at this particular point in time. It can serve as a major support to the economy of any nation. It is therefore not surprising that the concept of the Blue Economy has attracted global attention (Lee, Noh, & Khim, 2020). To strengthen Ocean Governance to boost the concept of the Blue Economy is related to effective management of the fishing industry (Campbell, Gray, Fairbanks et al, 2016). Fish stock, which is a component of the blue economy, should be considered very important. In West Africa, the major threat to depletion of the fish stock is attributed to Industrial Fishing (Okeke-Ogbufor, Grey & Strad, 2020). The reason why Industrial Fishing can be a threat is that it can be done legally and illegally. They are conducted legally when they can be licensed to do legal fishing activities but due to the lack of supervision, they can indulge in illegal fishing activities and these include in areas designated for Artisanal Fishing activities, thereby depriving small-scale fishers from their much needed catches (Dzantor, Aheto & Adeton, 2020). IUU Fishing is prevalent in developing countries due to the fact that they cannot adequately enforce fisheries policies or the preferences they give to Industrial Fishing activities for the short term economic gains (Hilborn, Amoroso, Anderson et al, 2020). It has been revealed that, Guinea Bissau, Guinea and Sierra Leone; nations from West Africa are losing 2.3 Billion United States Dollars annually on IUU (Fishing Activities Doumbouya, Camara et al, 2017). Also, Sierra Leone and Ghana have been recoded to sustain an estimated annual cost of 50 Million United States dollars from IUU Fishing Activities (Okafor-Yarwood et al, 2020). Such loss can prevent weaker nations from achieving the concept of the Blue Economy (McGuire, 2015).

In desperation, the Artisanal Fishing are also fighting for survival by indulging in fishing activities that are not helping either. They fish with mosquito nets for example and this will be responsible for irresponsible fishing activities and without recourse for the type of catches they make (Sie & Baio, 2019). These activities help to compound the issues and have resulted in 90 percent of the marine fish being over exploited (Kituyi & Thomson, 2018). To be able to tackle this threat to the concept of the Blue Economy, there is the need to improve Ocean Governance

in Sierra Leone. Industrial fishing activities need to be thoroughly regulated. They can be temporarily prevented from entering Inshore Waters of the country (Okeke-Ogbuafor & Gray, 2021). In Indonesia for example, tough measures have limited IUU Fishing activities and the country is experiencing a positive result (Juned, Sambudu et al, 2019). The Concept of the Blue Economy, which resonates with social welfare, seems to conflict with the current wealth creation management system adopted by Sierra Leone's Fisheries Management body. This is creating some form of tension between the Artisanal Fishers and the Industrial Fishers. There is therefore the need for the Ocean governance to be strengthened so that fishing activities could be sustained for the long term economic benefits of employment and food security rather than focus on wealth creation which has short term economic benefit for the government but long term implications that threatens sustainable fishing. The welfare approach also has human right implications as it can result in the loss of the right to food (Song & Soliman, 2019).

6.2 Law Enforcement

This study therefore focuses on the Law Enforcement in relation to IUU Fishing in Sierra Leone and the impact it has on the implementation of the Fisheries Laws and Policies. The work identifies the potentials of the country's fisheries resources. Evidence was added as to how the fishing industry is contributing to the economy of the country and providing livelihood including food security and employment for the Coastal People in Sierra Leone. In spite of the potential of the Fishing Industry, the issue of IUU Fishing was identified as a major threat to the sustainable use of the Fisheries Industry. The research discovered that the country is unable to fully account for the statistics of the total fish catch in the country which has the effect of limiting informed decision making process. Also, the weak nature of the country's fisheries management system in securing its maritime boundaries, which creates favorable conditions for IUU Fishing to thrive for, was also revealed.

The Fisheries legal instruments were also examined in the context of their role in the fight against IUU fishing. It was discovered that the 1994 Fisheries Act which is used currently is somehow effective but needs to be reviewed to catch up with the emerging issues of IUU Fishing. The 2003 Fisheries Regulation was also enacted to reinforce the 1994 Fisheries Act in protecting the Marine Living resources of Sierra Leone. Both two documents are in use at the moment but they are not adequate enough to conserve the marine living resources of the country. There was also the issue of the lack of full implementation of the Fisheries Laws and Regulations. For instance, the Fisheries Act prohibits Industrial Fishers from fishing in the

Inclusive Economic Zone, an area preserved purely for Artisanal Fishers. This act is not just an enabler of IUU Fishing but also creates a kind of tension between the Artisanal and the Industrial Fishers.

The 2006 Fisheries Policy which is currently in use was also examined. It was considered to be inadequate in dealing with the challenges of the modern day fishing management system. There has been a review of the Fisheries Management System with a proposed 2010 fisheries policy that has not been implemented among other things, the proposed policy requested for its immediate implementation for the effective and efficient of the country's fisheries management system. Among other things the proposed policy recommended the inclusion of four more directorates in the fisheries management system. The notable one among them is the compliance directorate which is key in changing the dynamics of the Sierra Leone's Fisheries Management System. The proposed policy suggested that, the compliance directorate should be independent from the other directorate and the director should only be answerable to the Minister of Fisheries and Marine Resources. What this means is that, it will serve as checks and balances for especially the directorate that issues licenses and regulates the activities of the industrial Fishers which is eating deep into the fabric of the fishing industry. As the management system is focused on issuing licenses to industrial fishing to generate revenue, which is based on the concept of wealth creation, if the law enforcement system is weak, it will affect the country's fisheries resources in the long run. It will lead to overfishing and subsequent depletion of the fish stock in the country. Which in turn will affect employment and food security. If this is to continue, it will defeat the purpose of the concept of the Blue Economy.

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