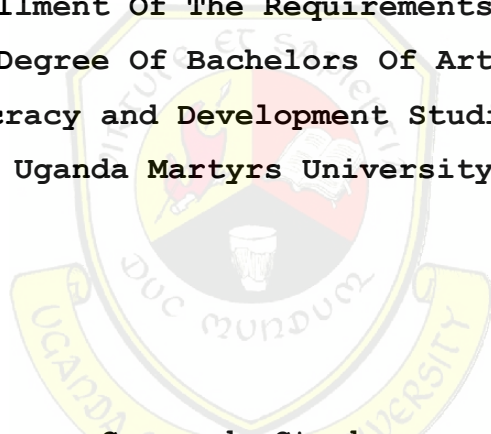


**AN ANALYSIS OF FACTORS CONTRIBUTING TO PERSISTENT ILLEGAL FISHING
IN KALANGALA**

**A Case study of Lutoboka and Mwenalanding Sites in Kalangala
District**

**A Dissertation Submitted To The Department of Development Studies
In Partial Fulfillment Of The Requirements For The Award Of
Degree Of Bachelors Of Arts
(Democracy and Development Studies) Of
Uganda Martyrs University**



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LIST OF ABBREVIATIONS

BMUS:	Beach Management Units
CSOs:	Civil Society Organizations
CFP:	Common Fisheries Policy
DFR:	Department of Fisheries Resources
EU:	European Union
EFCA:	European Fisheries and Control Agency
EC:	European Commission
GOU:	Government of Uganda
GDP:	Gross Domestic Product
IUU:	Illegal Unreported and Unregulated
JDP:	Joint Deployment Plans
LVFO:	Lake Victoria Fisheries Organisation
MCS:	Monitoring Control and Surveillance
MAAIF:	Ministry of Agriculture Animal Industry and Fisheries
NEMA:	National Environment Management Authority
UBOS:	Uganda Bureau of Statistics
UNECIA:	University of England Consortium of International Activities
UNODC:	United Nations Office on Drugs and Crime

ABSTRACT

The study analyzed the factors contributing to persistent illegal fishing in Kalangala. The primary data was collected using interview questionnaires. A case study design was conducted and a sample of 90 respondents were interviewed including the fisher folk, fisheries law enforcement personnel, fish traders, councilors and members of Beach Management Units (BMUs). Primary data was entered in excel and analysis was performed using SPSS Version 16.0. This enabled the generation of frequency tables which were used for further analysis. Qualitative data from key informants' interview guide was stated as captured from the key informants. Results indicated that there are social economic factors that influence the fisher into illegal fishing. Factors like; readily available market for immature fish, fishers' easy access to illegal fishing gears, Drug abuse, youth unemployment and low household incomes are among the factors in this study that lead Fishers into illegal fishing. In order to curb down on illegal fishing, it's Recommended that; the Ministry of Agriculture Animal Industries and Fisheries should consider creating alternative employment opportunities for youth engaged in fishing, discouraging importation of illegal fishing gears, Initiating programs to boost household incomes for fishers, Initiate a program to fight against drug abuse, disrupting Markets for illegal fishing reducing taxes on legal fishing gears and Sensitization.

CHAPTER ONE

GENERAL INTRODUCTION

1.1 Introduction

The purpose of conducting this research was to analyze the factors contributing to persistent illegal fishing in Kalangala. Chapter one entails the background of the study, statement of the problem, General Objective, Specific objectives, Research questions, Scope of the study, Significance of the study, Justification of the study, conceptual framework, Definitions of key terms and concepts, summary of key issues covered in the chapter.

1.2 Definition of key terms and concepts

Illegal fishing: This referred to the use of unlawful fishing methods, Use of unlawful fishing gear (Boats and fish nets) and fishing in breeding grounds

Beach Management Units: these are management committees at landing sites that have been elected by fisher folk to lead the development process at the landing site. They are in charge of fighting against illegal fishing at the landing sites among other roles.

Fishing: The sport or business of catching fish

1.3 Background to the Study

Fish plays an important role in life sustenance. Apart from being a primary source of proteins for about 1 billion people worldwide, it is an important source of employment for nearly 300 million others' (Agnew & Watson 2009). However, a major concern to the world today, is the decline in the world's fish stock resulting in high prices of fish that affect protein intake, job losses in the fisheries industry and worsening poverty especially in the fisheries communities (Agnew & Watson 2009). Practices such as pelagic drift net fishing, which involves the use of large fishing nets tugged between two fishing vessels to catch fish that drift along their path and the persistent use of other illegal fishing gears, have been a major factor to the depletion of the fish stock. Illegal fishing is therefore a global problem contributing to over exploitation of fish stocks and thus a hindrance to the recovery of fish populations and ecosystems (Agnew & Watson 2009).

It is estimated that the total value of the current illegal and unreported fishing losses worldwide range between \$10bn and \$23.5bn annually representing between 11 and 26 million tons (Sumaila & Keith, 2006). Developing countries are the most at risk from illegal fishing with total estimated catch in West Africa being 40% higher than the reported catches in Europe. Such levels of exploitation, severely hamper the sustainable management of ecosystems and although there have been some successes in reducing the level of illegal fishing in some areas in Africa, these developments are relatively recent and follow growing international focus on the problem (Sumaila & Keith, 2006).

Ideally illegal fishing refers to fishing actions that do not conform to national, regional or international fisheries conservation, management legislation or measures (Agnew & Barnes, 2004). Illegal fishing is therefore a global problem contributing to over exploitation of fish stocks and thus a hindrance to the recovery of fish populations and ecosystems (Agnew&Watson, 2009).

In east Africa, the fisheries sector generates millions of dollars annually. In Tanzania alone, the fisheries sector generates an estimated \$400m while in Uganda, they contribute at least 6% (of some estimates of 30%) of the GDP(Anderson, 2012) . Some of the lacustrine and coastal communities are to a varying extent reliant on the continued provision of income from fisheries, employment (direct and indirect), from associated business and trades and the nutritional value of the fish. However, these communities as a whole cannot afford the continued degradation of fisheries resources caused by illegal fishing (Anderson, 2012)

The Ugandan fisheries industry is currently based on inland capture fisheries mainly from five major lakes: Victoria, Albert, Edward, George and Kyoga. Lake Victoria, which supplies about 50% of the catch, is the most important source, both in terms of commercial value and absolute quantity (Ogutu-ohwayo, 2000). Although the fisheries industry is largely artisanal, with the majority of the participants operating on a small-scale at all stages of production - catching, processing and marketing, the sector is one of the most important sectors in Uganda's economy; contributing to a number of socio-economic areas including industry employment, livelihoods, food security and foreign exchange earnings (UBOS, 2005).

Namisi(2005) indicated that Lake Victoria alone accounts for more than 60% of all the fish produced in Uganda every year. The Lake also accounts for almost all of the country's fish exports which earns the government \$ 60-80million annually and contributes to income, nutrition and employment for about 1 million people (Namisi, 2005). However, the country experienced a decline in its fish exports from 20,562 tons in 2012 to 18,558.07tons in 2013 alone and this was largely attributed to poor fishing methods like the use of illegal nets(Namisi, 2005). Uganda as country losses close to sh300bn annually in illegal fishing activities on Lake Victoria despite government's continued input in preventing the outstanding loss in a product that represents 60% of government revenue and provides 50% of animal protein for Ugandan households(Namisi, 2005).

More than 85% of Kalangala's population depends directly or indirectly on the fisheries resources for their livelihood(Namisi, 2005). Likewise, the district development processes and opportunities mainly depend on the Fisheries resources. Kalangala District is characterized by persistent illegal fishing. This has been in form of use of illegal fishing methods like fishing in breeding sites, uses of beach seines and undersized fishnets to catch immature fish(Namisi, 2005). Illegal Fishing has hence contributed to low productivity in the fisheries sector characterized by low government revenue; low household incomes, poor quality of life and living standards among fisher folk. Therefore, Management of the fisheries resources of Kalangala District is considered essential in order to ensure optimum levels of production from the resource base, through effective regulations. Through management, some of the

key resource problems threatening the sustainability of the fisheries can be addressed (State of environment report for Kalangala District, 2015).

Therefore, the management of the fisheries resources of Kalangala District is considered essential in order to ensure optimum levels of production from the resource base, through effective regulations. Through management, some of the key resource problems threatening the sustainability of the fisheries can be addressed. A historical perspective of the management regime of the fisheries in the district reveals that a centralized management strategy was applied in the district over several decades. The strategies were, however, not successful, resulting in substantial quantities of un-recommended and banned gear remaining in use, as well as catching of significant proportions of immature fish. This situation was attributed to the state-based management regime that was characterized by inadequate logistical support and financial provisions for the Department of Fisheries Resources to carry out fisheries management (State of environment report for Kalangala District, 2015). Understaffing of fisheries staff, corruption by enforcement officers, gaps in the fisheries Act and inadequate funding to the fisheries enforcement officers are some of the factors that contribute to illegal fishing as highlighted by Nadiope (2010).

1.4 Statement of the Problem

85% of Kalangala's population directly or indirectly depends on fish for their survival. A variety of illegal fishing activities have been persistently present in the district for over the last 10 years and above despite the existence of structures, the Fisheries Act and campaigns against the vice. This has been in form of use of illegal fishing methods like fishing in breeding sites, use of beach seines and undersized fishnets to catch immature fish (state of environment report for Kalangala District, 2015).

Understaffing of fisheries staff, corruption by enforcement officers, gaps in the fisheries Act and inadequate funding to the fisheries enforcement officers are some of the factors that contribute to illegal fishing as highlighted by Nadiope (2010). He identified gaps in the Fisheries Act and its enforcement and implementation in the central region. His study elaborated very well the efforts and breaches related to duty bearers in curbing illegal fishing. However, the study did not consider other predisposing factors like the social, economic and demographic factors influencing fishers into illegal fishing. Factors like education levels, substance use, and gender among others were not considered. He also didn't consider the effectiveness of Byelaws against illegal fishing.

So to speak, Nadiope (2010) was generalized and his study lacked detail. The Fishing Industry has three important elements and that is; the law, Duty bearers and the Fishers. I have not also come across extensive studies covering the social and economic aspect. This study attempted to supplement on Nadiope's work by looking at the aspects he left out.

This study therefore was to analyze the factors contributing to persistent illegal fishing in Kalangala.

1.5 Objectives of the study

1.5.1 General Objective

The general objective of the study was to analyze the factors contributing to persistent illegal fishing in Kalangala

1.5.2 Specific Objectives of the study

- i. To determine factors leading fishers into illegal fishing
- ii. To determine fisher's perception on effect of illegal fishing
- iii. To establish strategies needed in curbing down illegal fishing

1.6 Research Questions

- i. What factors lead fishers into illegal fishing?
- ii. What are the perceptions of fishers on the effect of illegal fishing?
- iii. What strategies can be adopted to curb down illegal fishing?

1.7 Scope of the study

1.7.1. Conceptual scope

The study was limited to two variables, the independent and dependent variables. The independent variables are the factors contributing to persistent illegal fishing while the dependent variable is what constitutes illegal fishing. The independent variables were operationalized into demographic, social and economic factors and included; Level of income of the Fisher, Availability of illegal fishing gear, Byelaws, Youth unemployment, License fees charged, Marital status of the Fisher, Fisher perception on effect of illegal fishing, Level of education of the fisher, Influence peddling, Availability of market for immature fish, Drug Addiction, Age, sex, Fishing in breeding grounds and Fish poisoning, Corruption and Residential status of the Fisher. The dependent variables included; Use of illegal fishing gear (Boats and fish nets).

1.7.2. Geographical scope

The study was conducted at Mwena and Lutoboka landing sites in Kalangala district where illegal fishing is rampant. The study chose to concentrate at two landing sites due to limited resources. The study chose these two landing sites because they are closely situated making it easy to conduct the research. The main economic at Mwena and Lutoboka landing site is fishing. 80% of Fishermen are youth. Cases of illegal fishing have been widely reported in the area Drug abuse is very common in the area.

1.7.3. Time scope

The study focused on views and information from recent years. The study relied on data collected from respondents and analyzed between the months of December 2014 and July, 2015.

1.8 Significance of the study

Findings from this study provided important clues on how to curb down persistent illegal fishing in Kalangala. Thus at community level, the individual fishers will benefit in that recommended strategies and intervention focus on reducing illegal fishing and increase fish stocks in the long run and household incomes hence promoting personal and community development. The Fisheries department benefited from this study since the findings provided fisheries officers the opportunity to make informed decisions based on evidence adduced hence guiding them in designing interventions against illegal fishing. The researcher also believes that the findings of this study will also benefit him as the study is a requirement for a partial fulfillment for an award of a Bachelor degree in Democracy and Development Studies. The study is a benchmark for increasing district revenues when illegal fishing reduces after implementing the recommendations.

The study also adds to already existing body of knowledge at the Uganda martyrs university as it is a reference to students intending to make studies in the fisheries sector. It is possible that the findings can lay the basis for further research in the same field. It is also further hoped that the findings and recommendations of this study will contribute to generation of new knowledge which may be useful to academicians.

1.9 Justification for the study

The study was a partial fulfillment of the award for a bachelor's degree in democracy and development studies of Uganda Martyrs University. The student was motivated to choose illegal fishing as the topic of study because a rapid appraisal that he conducted in the district showed that illegal fishing was being conducted on large scale in the district despite the existence of policies, institutions and campaigns set up by government to regulate the fishing activity. Secondly, the student was motivated by the fact that Illegal fishing had a negative impact on people's livelihood and development of the district and country at large.

10.0 Conceptual Framework

Conceptual Framework showing study Variables of the study

Independent Variables

Dependent

Contributing Factors

- Level of income of the Fisher
- Availability of illegal fishing gear
- Byelaws
- Youth unemployment
- License fees charged
- Marital status of the Fisher
- Fisher perception on effect of illegal fishing
- Level of education of the fisher
- Influence peddling
- Availability of market for immature fish
- Drug Addiction
- Age
- Sex
- Corruption
- Residential status of the Fisher

Variables

Illegal fishing practices

- Use of illegal fishing gear (Boats and fish nets)
- Fishing in breeding grounds
- Fish poisoning

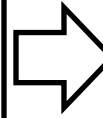


Figure 1: Conceptual framework of the study

CHAPTER TWO

2.0 Literature Review

2.1 Introduction

This chapter is aimed at providing a review of existing literature on the factors causing illegal fishing. The review covers both theoretical and empirical literature. Most of the literature is centered on illegal fishing theories, the genesis of the illegal fishing problem on one hand, and factors leading to illegal fishing on the other hand. This chapter also attempts to look at a number of empirical evidences in some specific countries in general.

2.2 Factors leading fishers into illegal fishing

Nadiope (2010) investigated on the adequacy of implementation and enforcement of the Fish Act Cap 197 in controlling and conservation of the fisheries resources and prevention of illegal fishing. The central question in his study was; "Is the failure to implement or gaps in the law responsible for destruction of the fisheries resources?"

He identified gaps in the Fisheries Act and its enforcement and implementation in the central region. His study elaborated very well the efforts and breaches related to duty bearers in curbing illegal fishing. However, the study did not consider other predisposing factors like the social, economic and demographic factors influencing fishers into illegal fishing. Factors like education levels, substance use, and gender among others were not considered. He also didn't consider the effectiveness of Byelaws against illegal fishing.

So to speak, Nadiope (2010) was generalized and his study lacked detail. The Fishing Industry has three important elements and

that is; the law, Duty bearers and the Fishers. I have not also come across extensive studies covering the social and economic aspect. This study attempted to supplement on Nadiope's work by looking at the aspects he left out.

Sumaila(2006) asserted that there are four factors that lead fishers into illegal fishing as outlined below

- It is possible that fishers obtain large catch from illegal fishing
- The price is higher for illegal catch
- Low costs involved in illegal fishing hence high benefits
- Efforts involved are lower than that of legal fishing

This scholar highlighted some factors that include large catch from illegal fishing, high price for illegal fishing and low cost involved in illegal fishing. This was a good contribution but the scholar did not consider other factors like social economic status of the fisher, education levels and access to fishing gears among others. This study looked at other factors that were ignored by sumaila.

Newman (2015) made a study on illegal fishing and the role of rights-based fisheries management in improving compliance. According to him Rights-based management is found to be a potential tool to deliver better fisheries management. The adoption of rights-based management can lead to better compliance with fisheries requirements due to the interest rights holders have their ability to lease extra quotas, etc. However, the benefits of rights-based management depend entirely on the rights being adequately determined. If fishers consider

their entitlements to be insufficient or unfairly distributed, then non-compliant behavior may occur.

Newman dwelled much on compliance through rights based fisheries Management. He emphasized much on catch share systems and incentives to the fishers as factors that lead to non-compliance. This study attempted to look at other social economic factors that lead fishers into illegal fishing.

Agnew (2009) stated that Common practices of illegal, unreported and unregulated operators include the dumping fish called "high grading", the harvesting of prohibited species, overfishing of permitted species, falsifying catch weights, fishing without a license or out of season and utilizing banned gear. The above practices have been attributed to the notion that fisheries are a common pool resource where fishing is frequently undertaken when alternative employment is unavailable, insufficient scientific knowledge and lack of awareness by fishers and consumers as major obstacles for improving policies and management, and changing the behavior of consumers and producers in addition to poverty by the fishers themselves and lack of enforcement of existing laws.

Agnew (2009) looked at employment opportunities offered in the fishing industry, lack of awareness among fishers, poverty and lack of enforcement as the challenges to fisheries management and leading to illegal fishing. This study endeavored to fill the gaps in his study by looking at other socio economic factors like youth unemployment, Drug abuse among others.

Namisi (2005) expressed that the increased local and export demands for fish have most likely exceeded the sustainable yield of the lake's fish. In addition, the rapid buildup of fish processing capacity along the lake shores, has given rise to the indiscriminate use of small fishing nets that continue to threaten the survival of both small and large fish species. Moreover, information from the fisheries department, research workers and even fishers themselves indicate that undersize fish are being caught threatening the breeding patterns which is being attributed to the lack of a comprehensive law on fishing making it possible for illegal nets and poison to be used . The displacement of fishers and fish traders by large commercial traders and fish processing plants along with over fishing in near shore waters and under fishing in offshore water is probably the worst implications resulting from the changes in the fish patterns of lake Victoria. In his study, Namisi did not clearly bring out those factors leading fishers' into illegal fishing pertinent to Kalangala district which our study targeted.

2.3 Perception of Fishers on effect of illegal fishing

Bennett (2013) mentioned that Success in conserving fisheries resources is often predicted on local support for conservation which is strongly influenced by perceptions of the impacts that are experienced by the local communities and the opinions of management and government. Bennett didnot look at perception in the context of fishers' perceptions on illegal fishing. This study endeavored to fill this gap.

In a study done by Ted (2012) on examining country based organizations within the fisheries co-management institutions on lake Victoria, majority of the fishers believed that existing

laws were meant to enforce sustainability of the fisheries as a big proportion of them knew the legal size of the fish net, knew legal methods of fishing and knew the legal sized fish. This study reflected the perception of fishers in relation to the law and did not look at the fisher perception on the effect of illegal fishing which this study attempted to address.

Nadiope (2010) asserts that the majority of the fishers are aware about the Fish Act Cap 197 and these fishers perceive illegal fishing to the use of illegal fishing gears coupled with other practices in catching illegal fish. However, Fishers claim that high poverty levels are driving the use of illegal gears in order to maintain their catch. Relatedly, the fishers believed that the continued degradation of wetlands resulted into the high pollution levels of the fresh water bodies in which fish breed thus destroying the spawning grounds for the Nile Tilapia. Nadiope's study brought out the fishers perception in relation to the causes of illegal fishing as opposed to the effect of illegal fishing which this study endeavored to bring out.

Njiru (2008) indicated that fishing efforts started to increase in 2000 on the fresh water body of Lake Victoria with the crafts doubling before a slight decline. However, there was a sharp decrease in both fish and the crafts since 2004 to 2006 and the fishers perceived this to be a result of the high fish demand for export and the lack of jobs in other sectors leaving them with no other option a part from fishing.

According to (Njiru 2008), the fishers believe that the increasing incomes per capita increase the demand for higher value, more nutritious and prestigious foods including fish and sea foods. This is of particular concern in Asia where rapid

economic growth over the past 30 years and the preference of the population for fish products has resulted in doubling of the fish consumption. The fishers believe that market trends often determine the nature of the fisheries exploitation. Thus an increasing number of fishers in Asia are using destructive fishing methods to meet the growing and lucrative export market for the fish in China and other parts of Asia.

Njiru(2008) looked at fisher perception in relation to market trends for fish as well as consumption patterns. This study did not look at specifically the fisher perception on effect of illegal fishing but rather perception in terms of causative factors to illegal fishing. This study endeavored to fill the missing gap.

According to (Nadiope, 2010), 91.7% of the Fisher folk reported that they knew about the existence of the Fish Act Cap 197; However he noted that there were still compliance challenges. The available literature highlighted fisher perception on causes of illegal fishing. There was limited literature found on the perception of fishers on effect of illegal fishing. This created a need for further study to find out the perception of Fishers on the effect of Illegal fishing.

2.4 Strategies to Reduce Illegal Fishing

According (Aliro, 2010) the Lake Victoria fisheries management organization establishes the fishers' co management on Lake Victoria as a strategy to combat illegal fishing. The lake boasts of having the largest fisheries co-management system in the world which involves a collaborative partnership of government with civil society, the private sector, local authorities and the riparian states. The cornerstone of this co-

management is built on the empowerment of the fishing communities as primary stakeholders in the management of the fisheries resources which they cannot over exploit

Nadiope (2010) asserts that the Fish Act Cap 197 is outdated and thus there is a need to review it to address the challenges that emerge today. The fisheries Subsidiary Instruments that are inconsistent with the Fish Act like the Beach Management Unit Instrument (2003), The Fish (Immature Fish) Instrument No. 73 of 2002, the Statutory Instrument No. 73 of 2001, should be formalized to enable the effective enforcement and avoidance of legal proceedings against the Department of Fisheries Resources. This should be in addition to having change in fisheries enforcement approach.

There is urgent need for increased staff levels for implementation and enforcement of the fisheries law, and to develop human resources capacity in fisheries management, monitoring, controlling and surveillance, and that of other stakeholders to support government efforts. There is need to increase the capacity of the Department of Fisheries Resources in enforcement and prosecution of illegal, unregulated and unreported fishing and illicit trade in immature fish coupled with acquisition of equipment like patrol vehicles and communication gadgets needed for efficient enforcement of regulations in the Fish Act (Nadiope, 2010)

The above strategies fell short of the social economic aspects which this study aimed to address.

2.5 Summary of reviewed literature and identified gaps

Summary

This review offers insight into the literature on factors contributing to illegal fishing from the social and economic perspective.

Gaps

According to literature reviewed there is no study found to analyze the socio-economic factors leading fishers into illegal fishing. There is also scanty information on the fisher perception on effect of illegal fishing. Some literature reviewed dwelled much on the legal framework like treaties and constitutions to control illegal fishing. Other literature looked at the enforcement. Other literature looked at incentives given to fishers to buy them out of illegal fishing. The literature that attempted to study socio-economic aspects in relation to illegal fishing looked at it in the context of socio-economic effect of illegal fishing on people's livelihoods.

As the world gears towards reducing illegal fishing, it is critical to analyze the social economic factors that lead fishers into illegal fishing considering the fishers' perceptions as well in order to come up with effective strategies.

CHAPTER THREE

3.0 Research Methodology

3.1 Introduction

This chapter focused on the various methods that the researcher intended to use in data collection, research design area, sample size and composition, sampling design, source of data, data collection instruments, variability and validity of tools, study variables, procedure of data collection, data analysis, and limitation of the study.

3.2 Research Design

The researcher used a case study to analyze factors contributing to persistent illegal fishing in Kalangala district despite the existence of various government policies and structures that have been set up to curb the practice in the district. Literature related to the study was reviewed and documented while data generated from the questionnaires was also analyzed and presented in table and graphs. The researcher chose to do a case study because he didn't have the time and resources needed to do otherwise.

3.3 Area of the study

The study was carried out in Kalangala district (Ssesse islands) at Mwena and Lutoboka landing sites. The study chose the two landing sites because of their close proximity which reduced on the cost of doing research. Kalangala is situated in south western Uganda and shares borders with Mpigi and Wakiso in the north, Mukono in the east, the United Republic of Tanzania to the south and Masaka and Rakai Districts in the west. Kalangala District is made up of 84 islands surrounded by the waters of Lake Victoria. The shape of the District is unique - a square shape - covering a total area of 9,066.8 sq.km. The

land area covers 454.8 sq.km representing only 5% of the total area of the District, while area underwater is 8,612 sq.km (95%). The perimeter of the District is 387 kilometers long. The District is situated in the southern part of Uganda. The majority of people are depending on fishing as their main source of livelihood. The researcher came up with conclusive data since the target respondents were located in the area.

3.4. Population of the study

Key respondents in this study were selected from fishing community at the two selected landing sites of Mwena and lutoboka. These included; Fish mongers, boat makers, fishing gear dealers, fish truck drivers and 15 members of Beach Management Units. The fishers are highly mobile as they move from place to place in search for fish. The majority of fishers in this area are engaged in illegal fishing and drug abuse. There are many single parents due to the high prevalence of HIV /AIDS in the area. Youth comprise the majority of fishers while men are more than women in the area the ratio of men to women is 3; 1 respectively.

3.5 Sample Size and Sampling Techniques

3.5.1 Sample Size: The researcher engaged 90 respondents given the fact that the researcher didn't have enough time and resources to engage more. Respondents included; 50 Fish mongers, 5 boat makers, 10 fishing gear dealers, 10 fish track drivers and 15 members of Beach Management Units

3.5.2 Sampling techniques: Simple Random technique was employed by the researcher. The design was preferred because it is convenient, saves time and offers opportunities to all the

population in the target area to participate. We didn't use purposive sampling because I was not well versed with it.

3.6 Data collection methods and instruments

The study used qualitative data collection methods. Both open and closed ended questionnaires were used to extract the relevant information from the respondents. Questionnaires were administered to key respondents and these were the; fish mongers, BMU Officials, Fish transporters, Fishing gear traders. Interview guides were used to engage key informants and these were; Fisheries staff, Sub county officials and Local Civil Society Organizations working in the fisheries sector. The researcher used questionnaires because they are free from interviewer bias. Ninety Questionnaires were distributed meaning that ninety individuals were interviewed.

3.7 Quality Control Methods

Methodological reliability and validity was ensured by pre-testing the data collection tools that were used in the study. The tools were pre-tested on over 10 respondents. The purpose of the pre-test was to ascertain the suitability of the instruments for the purpose for which they were designed. The questionnaires were revised by the researcher before administration in the main research. Leading questions were avoided as much as possible as they could bias the respondents.

3.8 Data Analysis Techniques

Primary data was entered in excel and analysis was performed using SPSS Version 16.0. This enabled the generation of frequency tables which were used for further analysis. Qualitative data from key informants' interview guide was stated as captured from the key informants. Similar responses were

grouped together and quantified. This enriched the quantitative data collected.

3.9 Ethical Considerations

The researcher got clearance from the Institute of Ethics and Development Studies which gave him an introductory letter. The researcher got prior voluntary consent from the respondents before conducting the interview. Confidentiality and respect of the respondents was observed. The researcher was also open to criticism

3.10 Limitation and delimitations of the study

Some Fishers had strong reservation in giving out information related to their business in fear of harsh response from Fisheries enforcement officers. We sensitized the fishers before the interviews and also ensured confidentiality of respondents.

Research fatigue by respondents; many respondents indicated that they were fatigued by researchers who come to collect information and promise to work on their community problems only to realize later that nothing is done. We sensitized them on the benefit of this particular research and gave them reassurance that it will create a positive impact in their lives.

Harsh weather conditions; we conducted the research during rainy season and strong waves on the lake. I encouraged the research assistants to manage their time well while interviewing the respondents. I also bought life jackets for the research assistants to ensure safety on the lake.

Limited finance to conduct the research; generally the cost of living on the island is high. We hired a boda- boda motorcycle for each research assistant to reduce on the transport costs. We also hired a common room for the research assistants which also helped to reduce the lodging fares greatly.

Fear from the fisheries staff; the fisheries staff and enforcement officers were very afraid of my research in that they thought that it would bring out the bad things they do in the course of executing their duties. They even thought that the research could cause some of them to lose their jobs. I held a meeting with the district fisheries officer and informed him that the research is not targeting enforcement but other factors leading fishers into illegal fishing.

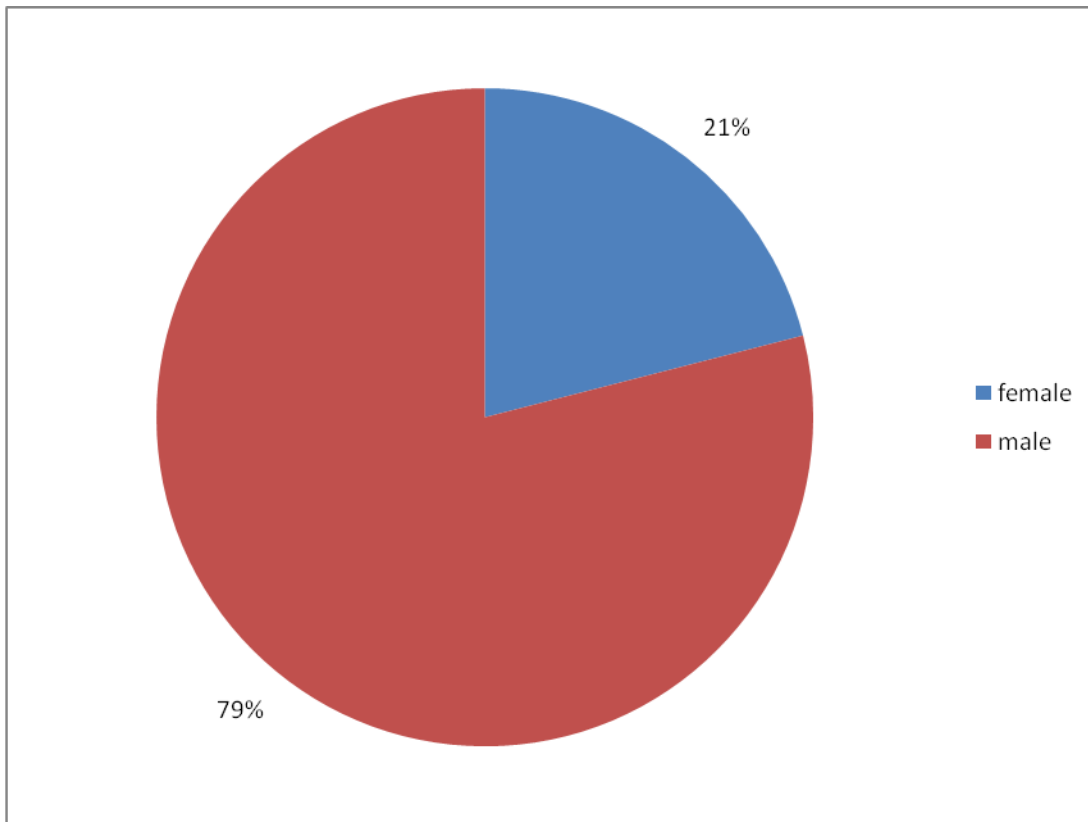
CHAPTER FOUR
DATA PRESENTATION AND DISCUSSION

This chapter presents and discusses the data generated in the study. This chapter is a reflection of; the methodology used to generate data that was analyzed, research questions that were answered. The discussion engaged the literature reviewed.

BACKGROUND CHARACTERISTICS OF RESPONDENTS

Both male and female respondents participated in the study as shown in Figure 2

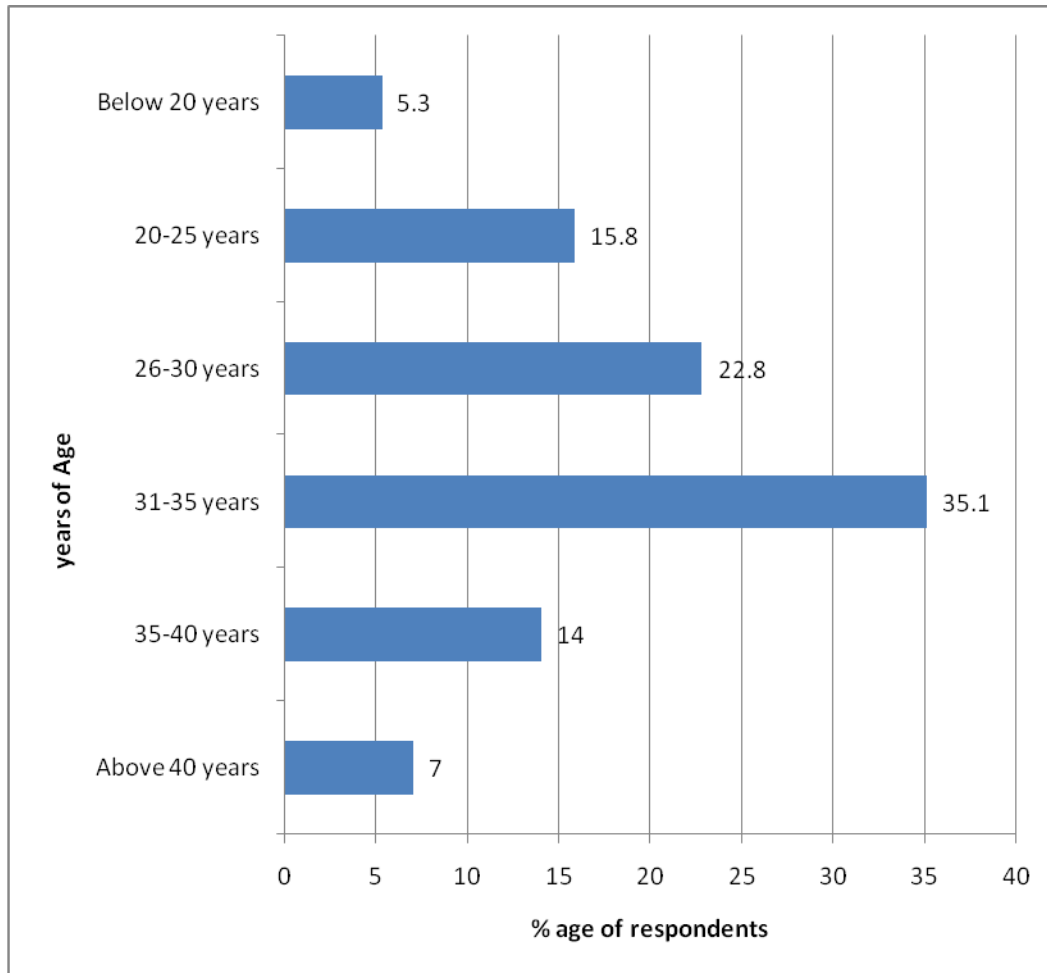
Figure 2: Sex of the respondents



79% of the respondents were male while 21% were females, suggesting that the majority of the people engaged in fishing activities were males. The study population included fish mongers (Figure 2).

Out of the 90 questionnaires that were used for the research, only 60 had valid information and they were used for data analysis in this research. The figure2 above show that the respondent population comprised 79% males and 21% females, thus the gender distribution amongst shows that there are more men than women. This was important in this research because gender is a demographic variable and has a role it played in promoting illegal fishing. The male to female ratio shows that there are more chances of men engaging in illegal fishing than women because of their numbers. Therefore, interventions to fight against illegal fishing should target men in order to realise greater impact.

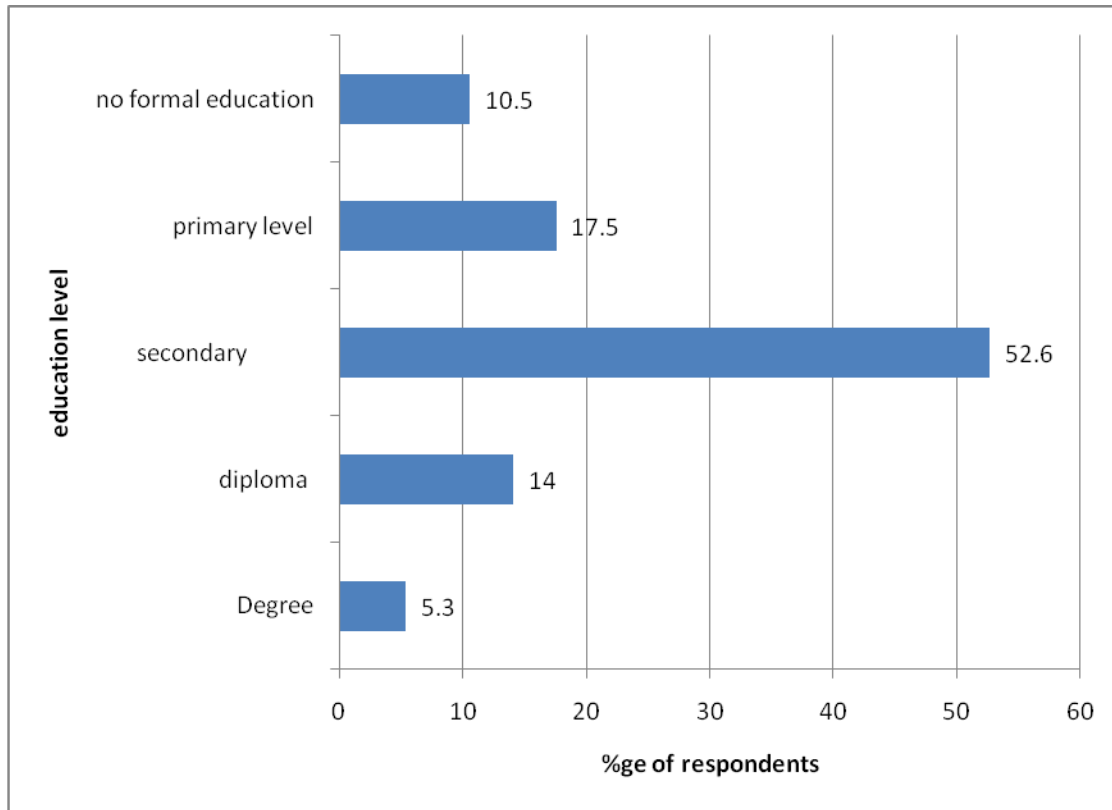
Figure 3: Age-group of respondents



35.1% were aged 31 to 35 years, 22.8% were 26 to 30 years of age while 15.8% of the respondents were 20 -25 years of age and 7% of the respondents were above 40 years of age (Figure 3).

Figure3 above shows that majority of the respondents in the study sample were youth of ages 31-35yrs representing more than 57%. The findings from the study imply that the majority of people engaged in fishing are youth. This also means that interventions aimed at controlling illegal fishing should target young people. The study shows that only 7% of the respondents were above 40 years.

Figure 4: Education levels of respondents

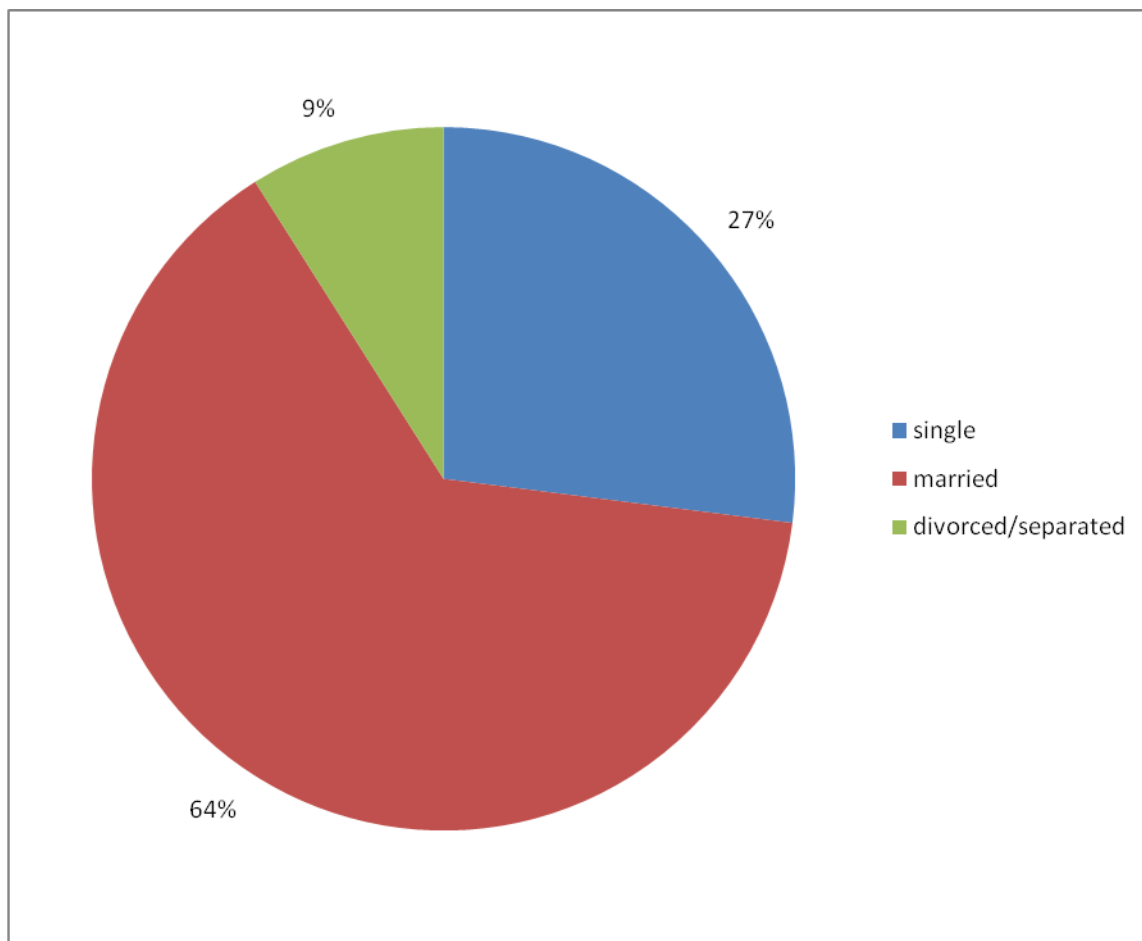


The majority of the respondents (52.6%) had secondary education while 17.5% had primary education and 10.5% no formal education as per Figure 4 above.

Figure4, above shows the education levels of the sampled respondents in Kalangala district. Both Male and female illiterate respondents constituted 10.5% of the population. Up to 17% constituted the population with primary education. Respondents with secondary education had the highest percentage of 52.6% while respondents with tertiary/University education constituted 6.7% altogether of the general population. It was important to involve all categories of people including the

illiterate, semi-literate and the literates because it gives a clear picture of the understanding of the subject of illegal fishing and whether it is understood by all people irrespective of the education background. The findings show that the majority of respondents are educated meaning that they can read and write. This means that it is easy for the fisher folk to read and interpret awareness messages.

Figure 5: Marital status of respondents



The majority of the fisher folk (64%) were married while 27% of the respondents were single and 9% divorced/separated (Figure 5)

The majority of respondents were married people implying that even Illegal fishing is practiced most by married as opposed to singles. This is justified by the fact that most of the respondents interviewed have ever been involved in illegal fishing.

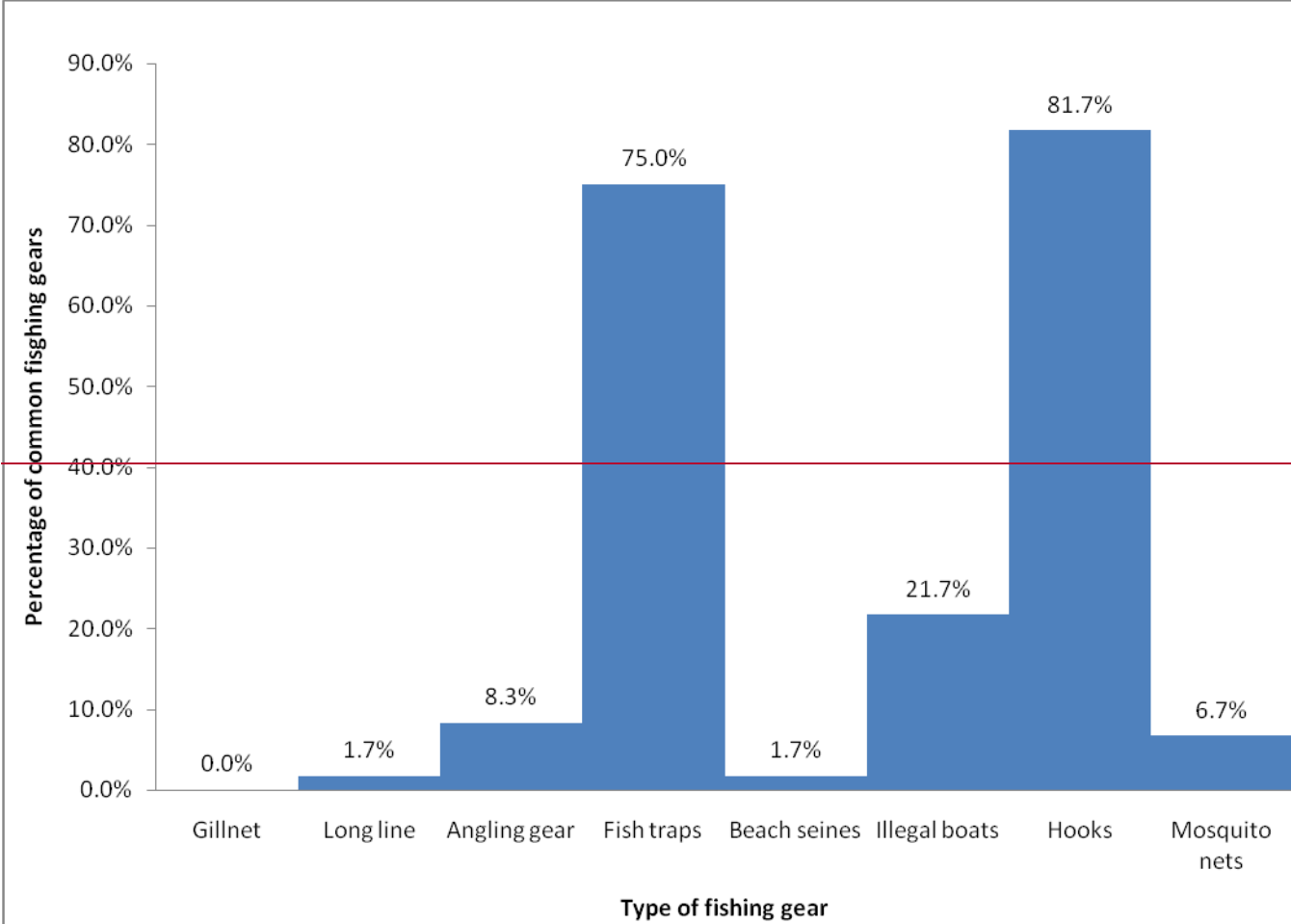
WHAT FACTORS LEAD FISHERS INTO ILLEGAL FISHING

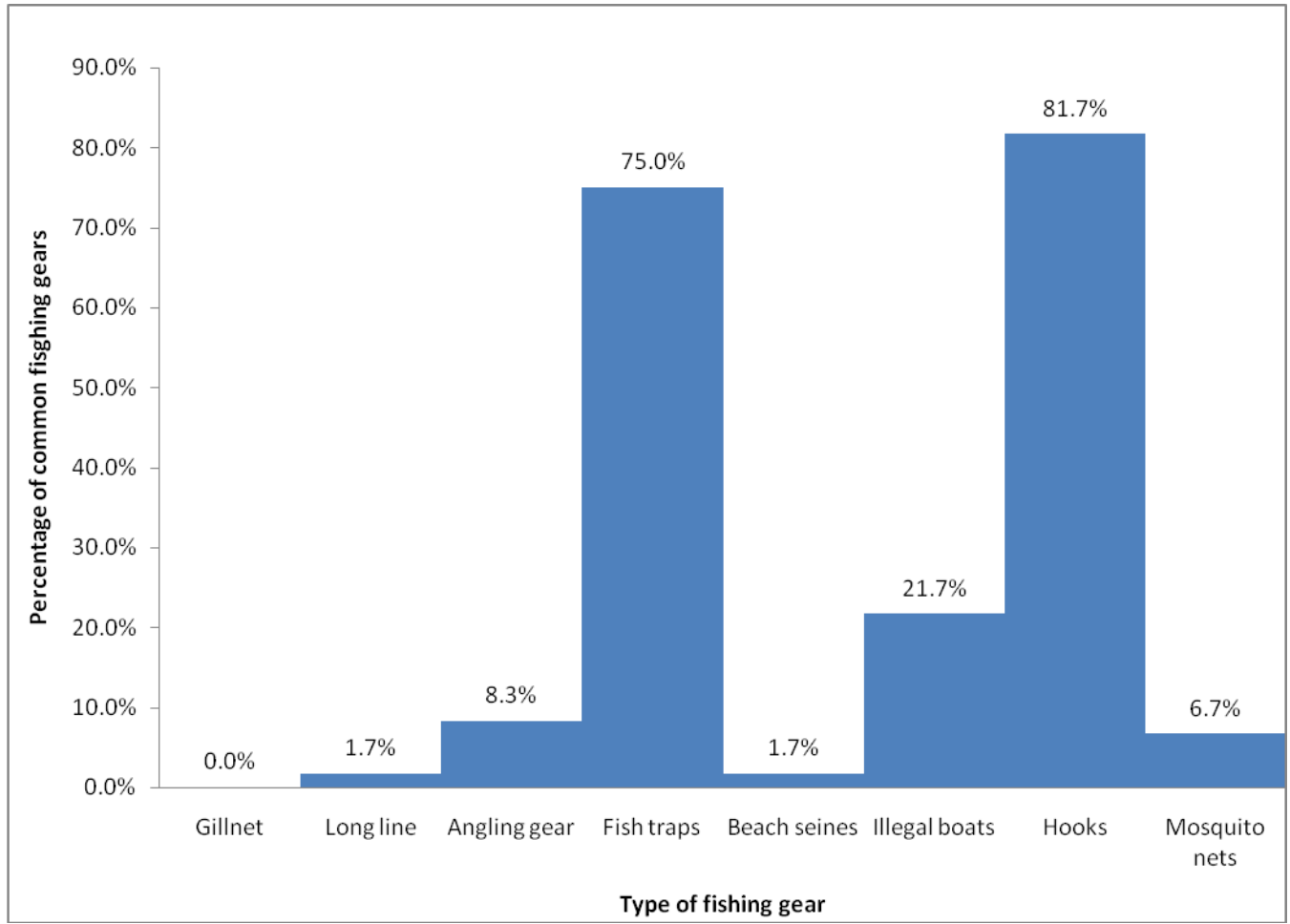
Under this heading, objective one of the study has been covered. Several variables have been presented and discussed using descriptive statistical analysis. This presents reasons and aspects that prompt the fisher folk into fishing practices that amount to illegal fishing. The researcher used frequencies and percentages to present the findings as seen in the tables below.

Access to illegal fishing gears

An illegal fishing gear is any instrument not permitted by law but used in catching fish, for example illegal boats, mosquito net and so on. This research presents the following available fishing gears used in catching fish in Kalangaladistrict.

Figure 6: Distribution of fishing gears in percentage as they are used in Kalangala



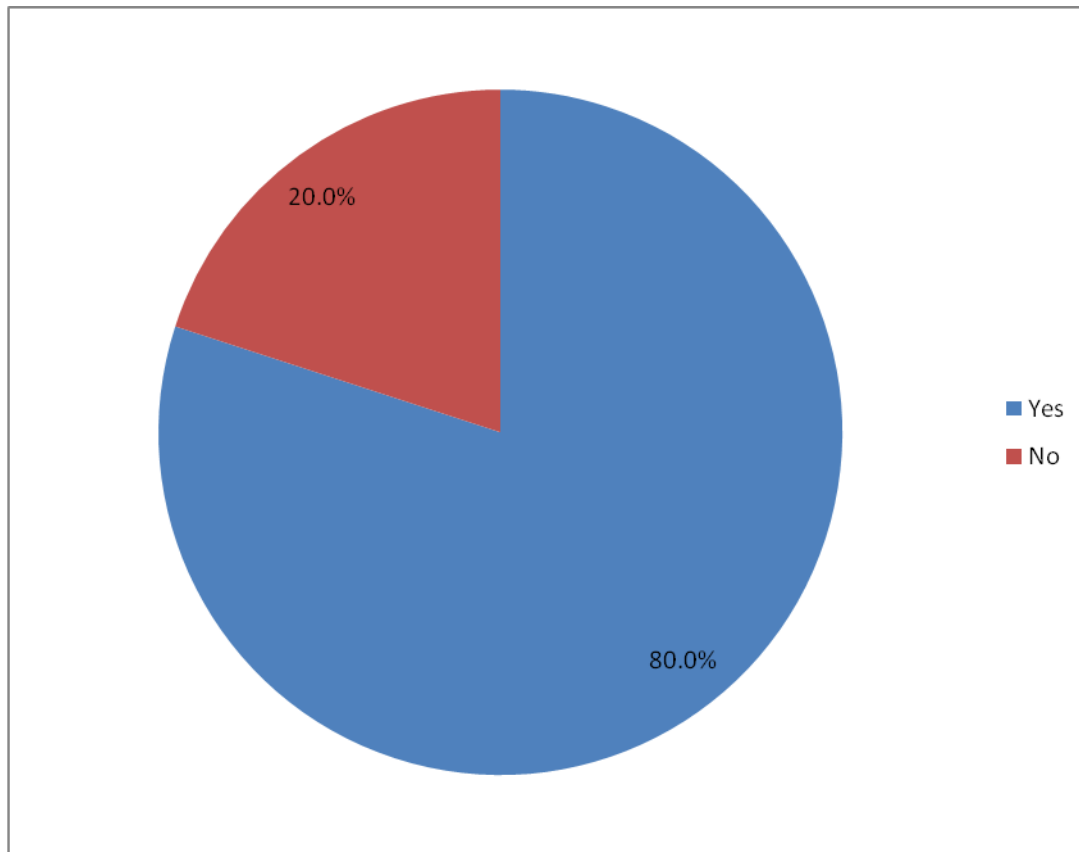


Gillnet is the only fishing gear that is not common in Kalangala district, according to research findings. Long line, Angling gear, Beach seines and mosquito nets are the very least used fishing gears whose availability is proved to be less than 10%, by research finding. Illegal boats are also somehow used although their use is below 50%. Fish traps and Hooks are the most available fishing gears, with over 70% availability. The research findings indicate that, illegal fishing gears are common, that means in simple terms that the presence of these gears has led to persistent illegal fishing in Uganda.

Availability Of market for immature fish

This refers to the availability of the demand and supply of fish that have not attained maturity.

Figure 7: Market availability for immature fish in Kalangala



According to the research and figure 7 above, more than half that is 80% of respondents agreed for the presence of demand of immature fish in Kalangala landing sites while 20% disagreed. The 80% implies that market availability has a big bearing on illegal fishing. The 20% is a representation of those people who don't want to admit the fact that availability of market has a bearing on illegal fishing and in any case are those people engaged in illegal fishing. The availability of market for

immature fish makes it one of the reasons that have led to persistent illegal fishing in Uganda.

The distribution of fish and fish products in Uganda takes place through a series of stages run by a set of intermediaries. Usually the primary stage occurs at landing sites, when fishing vessels return from the fishing grounds and discharge their catches to households at canoe landing points on lakes or rivers, sale to households via head load or bicycle traders that buy fish from fishermen at landing points, wholesalers that collect fish with trucks in fairly large quantities delivering it to retailers, and processors that undertake basic processing such as salting and then sell to traders or consumers directly (Kirema-Mukasa, 1993).

Residence of illegal fishers

This refers to the place of stay of illegal fishers for example, members of this community, from nearby landing sites or of unknown origin.

Table 1: Residence distribution of illegal fishers

Type in percentage	of	residence
Members of this community		55%
From the nearby landing sites		13.3%
Origin Unknown		31.7%

Research shows that most illegal fishers are members of this community with 55 members for every 100 illegal fishers. It is followed by illegal fishers with unknown origin with 32 members for every 100 illegal fishers. Illegal fishers from nearby landing sites have the least percentage (13%). since most illegal fishers are member of this community who know the lake and the authorities very well, such that these illegal fishers can beat the fish laws and know escape juggles, this has led to the persistent illegal fishing Uganda.

Drug Addiction Drug

Drug addiction is a situation where by a person is always under the influence of a given substance or a chemical. Drug addicts are always not sober, very determined and fearing nothing. The tale below shows respondents views in percentage regarding drug addiction as a factor that leads fishers into illegal fishing.

Table 2: Respondents' views on drug addiction as a factor that lead fishers into illegal fishing

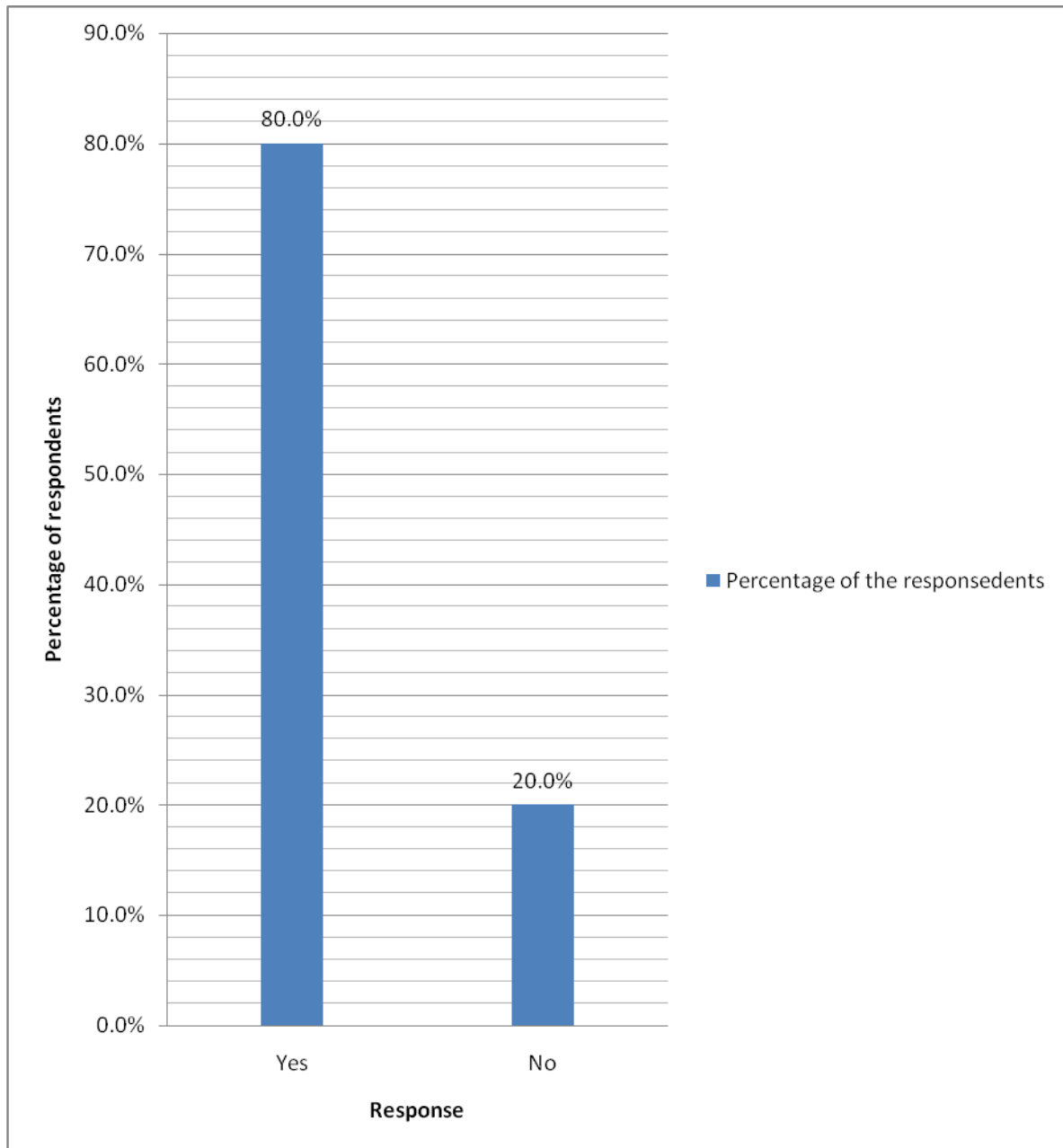
Type of response	Respondents views in percentage
Yes	53.3%
No	46.7%

According to the research findings 53.3% of the respondents agree that most illegal fishers are drug addicts and only 46.7% disagree. Most drug addicts are law breakers, fearless and ale to risk everything including their lives. These findings only emphasize the fact that persistent illegal fishing has a relationship with drug abuse given that most of the respondents interviewed admitted that most illegal fishers are drug addicts.

Corruption

Corruption in this context refers to the act of taking bribes from illegal fishers by duty bearers in situations where Fishers are caught in the act of illegal fishing.

Figure 8: Distribution of respondents in percentage who have heard of or come across any corrupt official

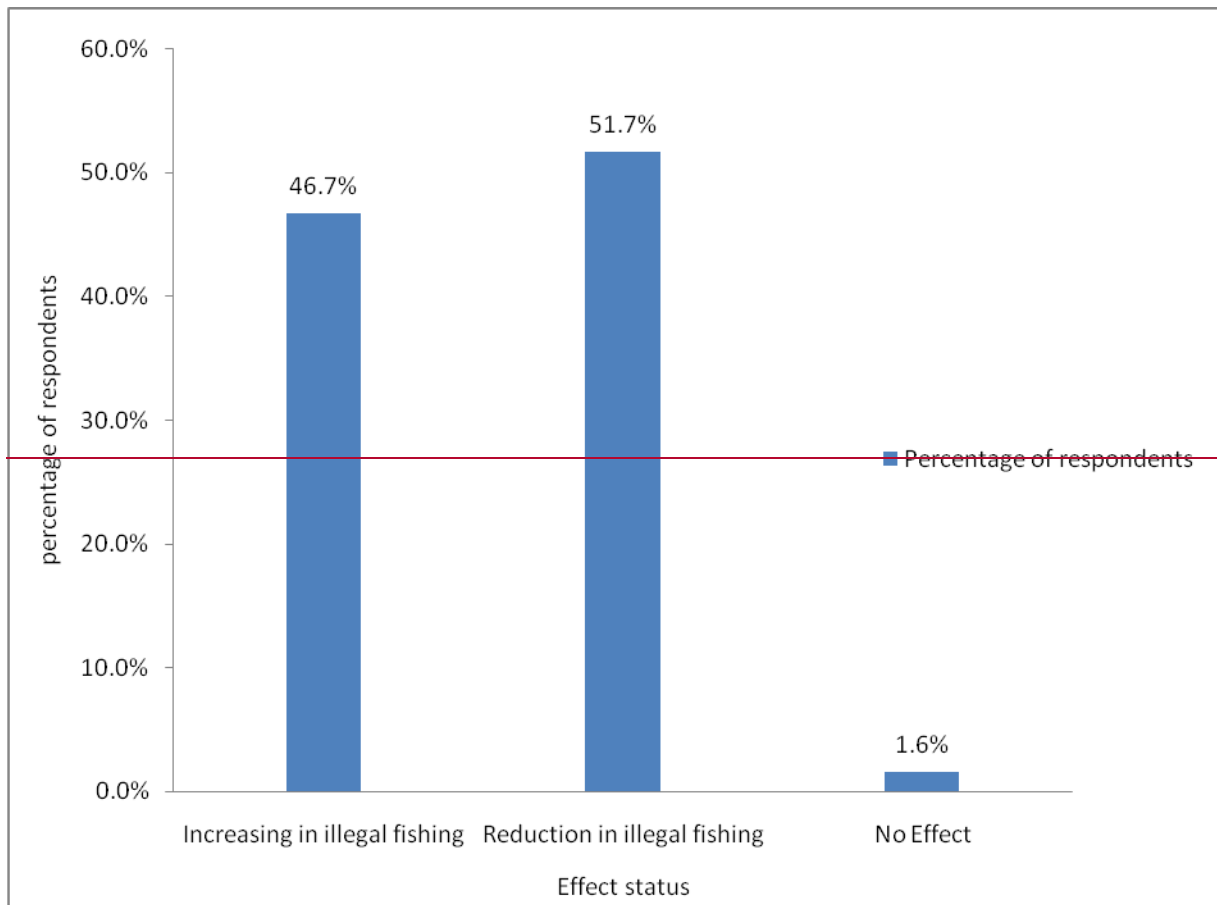


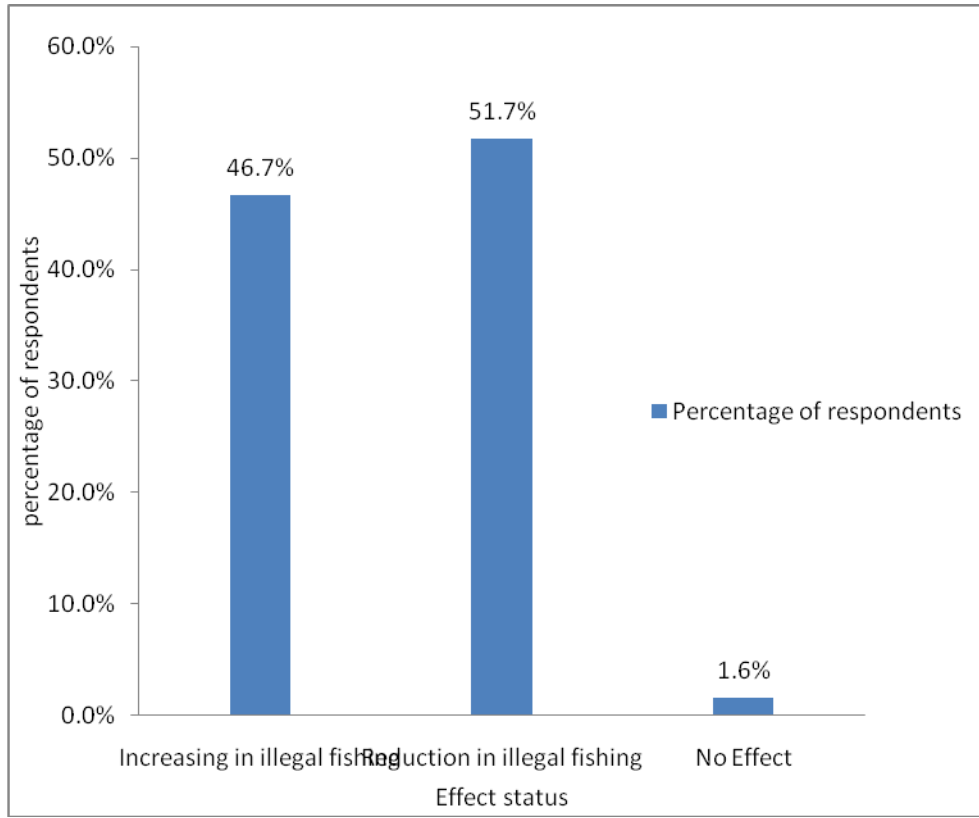
According to the research findings over 80% of the respondents had ever heard or come across any corrupt institution or official. These study findings only emphasize that corruption has a bearing on persistent illegal fishing in Uganda, thus making it one of the factors that are leading fishers into illegal fishing in Uganda.

License fees

These refer to charges levied by the local authority in form of fish movement permits and vessel licenses.

Figure 9: Distribution of effect of introduction of fishing license





For every 90 respondent 46.7% of the respondent agreed that fishing license has led to increased illegal fishing in Kalangala, which is slightly close to 50%. 51.7% of respondents agreed that introduction of fishing license has led to reduction in illegal fishing. Less than 2% of the respondents said that the introduction of fishing license has no effect.

WHAT ARE THE PERCEPTIONS OF FISHERS ON THE EFFECT OF ILLEGAL FISHING?

Under this research question, objective two has been covered. Variables have been presented and discussed using descriptive statistical analysis. The key variable covered is the Fisher perception on illegal fishing. The researcher used percentages to present findings.

Table 3: Fishers perception on the effect of illegal fishing in percentages

Effect of illegal fishing			Strongly
Agree	Undecided	Disagree	disagree
Illegal fishing increase peoples income			
30.0	28.3	0.0	41.7
Illegal fishing helps to develop the community			
33.3	10.0	1.7	55.0
Illegal fishing leads to fish scarcity			
91.7	3.3	5.0	0.0
Illegal Fishing reduces fish stock in the lake			
91.7	3.3	5.0	0.0
Illegal fishing leads to fish depletion			
90	3.3	6.7	0.0

According to research, the most strongly disagreed effects of illegal fishing in fishers perception are ; illegal fishing increases peoples incomes and that illegal fishing leads to development of the community. The least strongly opposed effect of illegal fishing in the fishers perceptions are: illegal fishing leads to fish scarcity; illegal fishing reduces fish stock in the lake and that illegal fishing leads to the fish depletion

However, the most agreed effects of illegal fishing by fishers in their perception are: illegal fishing leads to fish scarcity; illegal fishing reduces fish stock in the lake and that illegal fishing leads to fish depletion

More so, the most disagreed effects of illegal fishing effect are: illegal fishing increases people's income and that illegal fishing leads to the development of the community.

WHAT STRATEGIES CAN BE ADAPTED TO CURB DOWN ILLEGAL FISHING?

Under this research question, objective three has been covered. Variables have been presented and discussed as directly retrieved from the key informant interview sheets.

Mass awareness campaigns should be conducted in Kalangala. Although awareness activities were planned in each Fishing Village visited, those plans were not fully performed. Plans for conducting awareness did not show the frequency and areas where awareness campaigns should cover and key issues on controlling illegal fishing in their awareness.

Creating alternative employment opportunities for youth engaged in fishing; Unemployment among young people was strongly linked to illegal fishing during key informant interviews. This can be in form of vocational skills training to young people and engaging them in the tourism and agriculture sector which have enormous economic opportunities. This will in the long run reduce on illegal fishing as young people will have a fallback position.

Discouraging importation of illegal fishing gears; Key informants mentioned that illegal fishing gears are cheap and

easily accessed. This calls for advocacy programs petitioning government to put a total ban on importation of illegal fishing gears in the Country. Government needs to put in place laws prohibiting importation of illegal fishing gears.

Initiating programs to boost household incomes for fishers: Fisher's level of income has been associated much with illegal fishing as low income earners can only afford illegal fishing gears because they are cheap. There is a need to initiate Business Development Services like; facilitating formation of Village Savings and Loan Associations, training in Fish Value addition and book keeping. New fishing breeding technologies like cage fishing could also be introduced to the fishers for sustainable utilization of the fisheries resources. These efforts will help to boost fishers' house hold incomes.

Setting up of Fisheries Research Institute in Kalangalawith the following functions:

- To promote the development, improvement and protection of the fishing industry;
- To carry out, and promote the carrying out of enquiries, experiments and research in fisheries and in aquaculture generally;
- To carry out research in various aspects of fisheries for the purpose of establishing, improving or developing better methods or techniques of fishing, farming fish or manufacturing or using fish or fish products;
- To establish and operate a system of documentation and dissemination of the findings of inquiries, experiments and research in fisheries, for use by the Government, public institutions and other persons engaged in the fishing industry in the United Republic;

- To advise the Government, public institutions and other persons or bodies of persons engaged in the fishing industry in Uganda on the practical application of the findings of inquiries, experiments and research carried out by or on behalf of the Institute;

Initiate a program to fight against drug abuse; wide spread use of drugs by Fishers has been strongly linked to illegal fishing. Kalangala District needs to put in place programs to sensitize the public against the dangers of drug abuse. The fisheries department to collaborate with Police to help clamp down on drug abusers. They may have to subject the fishers to drug tests as a prerequisite for fishing.

Disrupting Markets for illegal fishing; the markets for immature fish are known to the authorities. Interventions against illegal fishing have been targeting the production sites. There is a high demand of immature fish in local communities because they are cheap and an increase of market forces for small size Nile perch in the neighboring countries of Congo, Rwanda, South Sudan and Burundi. The main market for illegal fish is Bwera and Bunagana at the border of Uganda and Zaire.

Control of fishing activities; it was noted in the study that, fish stock is below the recommended amount. Fishers operate without being registered as it was observed that 50% of fishers and vessels working in Kalangalawere not registered. The study found that inadequate measures were taken to regulate the amount of Nile Perch caught since there was no limit set for the amount of fish/Nile perch to be caught per year. Also, there was no recorded strong monitoring and measures to control the fishing pressure of Nile perch. There is hence a need to put in place a

mechanism to register all fishers and Vessels in the district and also to put limits on amount of Nile perch caught.

Monitoring and enforcement of byelaws; It was noted that there was inadequate close monitoring and enforcement of Bye-laws on the side of BMUs. BMUs had little capacity to do this job due to lack of development and operations plans, lack of support from LGAs, inadequate evaluation, Presence of informal landing sites, poor cooperation between village executive officers and BMU leaders and also, lack of basic training in Bye-law enforcement. Most cases are not taken to court because the BMU officials lack some basic knowledge of filling cases and processions. Also for those cases sent to court took longtime and were costly. This is attributed by prolonged time for investigations and examination by prosecutors. This calls for efforts on the side of the local government to strengthen the BMUs' capacity to enforce byelaws.

AlonKataayi, a former councilor recommended that factories manufacturing illegal fishing nets should be abolished.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter contains a summary, conclusion and recommendations in line with the research objectives.

Summary of Findings

WHAT FACTORS LEAD FISHERS INTO ILLEGAL FISHING.

The research findings under this question indicate that there is abundant access of fishers to illegal fishing gears. Illegal boats account for 21.7%, Fish traps 75% and Hooks 81.7%. The research findings also indicate that there is a readily available market for fish as 80% of the respondents agreed for the presence of market for illegal fish. There is also evidence from the research that illegal fishers are of members of the local community that is 55 members for every 100 illegal fishers. According to the research also, 53.3% of the respondents agree that illegal fishers are drug addicts. The research also indicates that 80% of the respondents had ever come across corrupt officials. 46.7% of respondents agreed that fish licensing has led to increased illegal fishing in Kalangala while 51.7% of respondents agreed that introduction of fish license has led to reduction in illegal fishing. Key informant interviews also indicated that youth unemployment; Fisher income levels have also increased illegal fishing.

WHAT ARE THE PERCEPTIONS OF FISHERS ON THE EFFECT OF ILLEGAL FISHING

According to research, the most strongly disagreed effects of illegal fishing in fishers perception are ; illegal fishing increases peoples incomes with 41.7% respondents and that illegal fishing leads to development of the community with 55% respondents. There are also a good percentage of respondents who were undecided on the effect of illegal fishing.

WHAT STRATEGIES CAN BE ADAPTED TO CURB DOWN ILLEGAL FISHING?

According to the research the following strategies where recommended;

Discouraging importation of illegal fishing gears; Key informants mentioned that illegal fishing gears are cheap and easily accessed. This calls for advocacy programs petitioning government to put a total ban on importation of illegal fishing gears in the Country.

Initiating programs to boost household incomes for fishers: Fisher's level of income has been associated much with illegal fishing as low income earners can only afford illegal fishing gears because they are cheap. There is a need to initiate Business Development Services like; facilitating formation of Village Savings and Loan Associations, training in Fish Value addition and book keeping. New fishing breeding technologies like cage fishing could also be introduced to the fishers for sustainable utilization of the fisheries resources. These efforts will help to boost fishers' house hold incomes.

Creating alternative employment opportunities for youth engaged in fishing; Unemployment among young people was strongly linked to illegal fishing during key informant interviews. This can be in form of vocational skills training to young people and engaging them in the tourism and agriculture sector which have enormous economic opportunities. This will in the long run reduce on illegal fishing as young people will have a fallback position.

Initiate a program to fight against drug abuse; wide spread use of drugs by Fishers has been strongly linked to illegal fishing. Kalangala District needs to put in place programs to sensitize the public against the dangers of drug abuse. The fisheries department to collaborate with Police to help clamp down on drug abusers. They may have to subject the fishers to drug tests.

Disrupting Markets for illegal fishing; the markets for immature fish are known to the authorities. Interventions against illegal fishing have been targeting the production sites. There is a need for strategies targeting the markets. The main market for illegal fish is Bwera and Bunagana at the border of Uganda and Zaire. Government should move to close these major markets.

Sensitization; there is a need for continued sensitization of the community on the dangers of illegal fishing as there is a good section of the community that sees illegal fishing as something that can develop the community. This should involve innovative ways of passing over message that may include; music dance and drama, sporting activities, Film shows, talk shows and community dialogues.

Conclusion

The research clearly shows that the role of social economic factors that influence the fisher into illegal fishing was forgotten by previous researchers. Factors like; readily available market for immature fish, fishers' easy access to illegal fishing gears, Drug abuse, youth unemployment and low household incomes are among the factors in this study that lead Fishers into illegal fishing.

Recommendations

From the finding of the study , it is evident that among other factors illegal fishing is driven by Level of income of the Fisher, Availability of illegal fishing gear, Byelaws, Youth unemployment, License fees charged ,Marital status of the Fisher ,Fisher perception on effect of illegal fishing, Residential status of the Fisher

Discouraging importation and selling of illegal fishing gears; Key informants mentioned that illegal fishing gears are cheap and easily accessed. This calls for advocacy programs petitioning government to put a total ban on importation of illegal fishing gears in the Country. There is a need for the BMUs to make surprise checks in shops to ensure that any Shop found selling illegal fishing gear is closed and the gears confiscated.

Initiating programs to boost household incomes for fishers: Fisher's level of income has been associated much with illegal fishing as low income earners can only afford illegal fishing gears because they are cheap. There is a need to initiate Business Development Services like; facilitating formation of Village Savings and Loan Associations, training in Fish Value addition and book keeping. New fishing breeding technologies like cage fishing could also be introduced to the fishers for sustainable utilization of the fisheries resources. These efforts will help to boost fishers' house hold incomes.

Introduction of a buyout system; In order to reduce fishing pressure on Lake Victoria, there is need for getting fishermen out of the waters through a buyout system and there after sensitizing and retraining them to engage in downstream fishing activities such as processing and trading, and provision of supplies for fishing.

Initiate a program to fight against drug abuse; wide spread use of drugs by Fishers has been strongly linked to illegal fishing. Kalangala District needs to put in place programs to sensitize the public against the dangers of drug abuse. The fisheries department to collaborate with Police to help clamp down on drug abusers. They may have to subject the fishers to drug tests.

Disrupting Markets for illegal fishing; the markets for immature fish are known to the authorities. Interventions against illegal fishing have been targeting the production sites. There is a need for strategies targeting the markets. The main market for illegal fish according to respondents is Bweraand Bunaganaat the border of Uganda and Zaire. Government should move to close these major markets.

Sensitization; there is a need for continued sensitization of the community on the dangers of illegal fishing as there is a good section of the community that sees illegal fishing as something that can develop the community. This should involve innovative ways of passing over message that may include; music dance and drama, sporting activities, Film shows, talk shows and community dialogues.

Involvement of the local Media; the Beach Management Units need to involve local media in campaigns against illegal fishing as

the media has high outreach capacity. People in Kalangala listen to Radio so much which presents an opportunity for the BMUs to use this platform to pass on messages against illegal fishing.

Establishing incentives/rewards against illegal fishing; this may apply to landing sites with the best fishing practices; the Local government should put in place prizes to be worn by a landing site with the best fishing practices. A reward may be put in place for a person who reports another found engaging in illegal fishing. This should involve creating of bench marks and check list against with performance will be measured.

Establishing a hotline for reporting illegal fishing; there is a need for the district Authorities to establish a hotline for the community to report people engaged in illegal fishing. This will facilitate quick flow of information to the duty bearers.

Organizing Fishing symposiums in the District; this will involve people showcasing best practices in fishing, skills in value addition, and awareness messages on the dangers of illegal fishing. This will encourage people not to take part in illegal fishing

Involvement of CSOs; Kalangala District doesn't have CSOs engaged in advocacy against illegal fishing. There is a need to encourage CSOs to establish activities aimed at fighting against illegal Fishing. This can be done by the District council instituting policies where NGOs intending to work in the District are encouraged to incorporate campaigns against illegal fishing.

Integrating of illegal fishing messages in other District Activities; there is a need for the District to use an integrated approach in fighting against illegal fishing. There is a need to involve other district departments like education and Health to effectively address the vice.

Control measures need to be adequately implemented to fight illegal fishing; The District Authority has to make remedial actions to rescue the decline in the Nile perch stock. The Division of Fisheries has to establish enforceable plans of switching from open access to limited entry fishing to control the stock. The District Authority needs to ensure that licensing procedures in the districts are effectively followed to ensure that fishers and vessels are registered with the BMUs. Monitoring role by the BMUs needs to be adequately implemented so as to reduce declining of Nile Perch stock. LGA need to establish a funding model for the BMUs activities. Fish catch data needs to be regularly by the BMUs.

Firm action needs to be taken against Illegal, Unreported and Unregulated Fishing; It was noted that, there is weak fisheries Bye- law enforcement in all Landing sites visited and BMUS, illegal fishers were not adequately arrested compared to the illegalities done. BMUs put little effort and low priority in fighting illegal fishing. In the likely event that a vessel was caught engaging in illegal fishing activities, the penalties imposed on the crew and vessel owners were often too small to act as a deterrent effect to other defaulters and therefore, most of the defaulters were not scared of committing the offence again and again.

The role of BMUs in fighting illegal fishing needs to be strengthened in order to fill the following gaps;

- Participate in fisheries catch assessment surveys and frame surveys
- Engage in selection process for issuance of fishing vessel registration and fishing license.
- Ensure fisheries licensing fees paid by BMU members to the DFOs
- Keep updated register and submits quarterly reports to the fisheries officer in charge to the respective local government authority.

Suggestion for further research

During the course of the study the following areas were identified and need to be taken into consideration for further research.

There is need to analyze the factors leading fishers into drug abuse

There is a need to study about the effectiveness of Beach Management Units in fighting illegal fishing.

There is need to analyze the effectiveness of the awareness strategy used in fighting illegal fishing.

There is a need to study the effectiveness of cage fishing on improving household incomes of fisher folk communities.

There is a need to study about the effectiveness of gazetted landing sites in fighting illegal fishing

There is a need to study specifically about the effect of illegal fishing on food security

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APPENDIX 1: QUESTIONNAIRE

TOPIC: Analysis of the Factors contributing to persistent illegal fishing in Kalangala District.

1.0 SECTION A: BACKGROUND INFORMATION OF RESPONDENTS

(Tick the correct alternative or write your response in the space provided)

Number of respondent-----

Name of respondent (Optional) -----

District name-----

--

BMU name -----

Name of Fish Landing Site/Fishing Village where you operate from-----

Sex of the respondent

1. Male

2. Female

What is your age category? (Please tick in the box below your answer)

Below 20 yrs	20-25yrs	26-30	31-35	36-40	Above 40yrs

Highest education level attained (*Please tick under only one of them*).

No formal education	Primary level	Secondary level	Diploma	Degree
S				

What is your other occupation apart from fishing? (*Please tick in the box below your*).

Civil servant	Farmer	LC official	Trader	Student	Unemployed

Marital status:

Single

Married

Widow/widower

Divorced/separated

Others specify _____

What is your average monthly income?

Less than 150,000

150,000 - 300,000

300,000 -500,000

Above 500,000

2. SECTION B: What factors lead fishers into illegal fishing (objective 1)

2.1 What are the common fishing gears used by communities in Kalangala? You can tick more than one box.

- Gillnet
- Long line
- Angling gear
- Fish traps
- Beach seines
- Illegal boats
- Hooks
- Mosquito nets

Others please specify.....

2.2 The following fish types are caught, bought and sold most on this landing site? (You may tick more than one option)

- Immature fish (nile perch, tilapia e.tc.)
- Mature fish (nile perch, tilapia e.tc.)
- Poisoned Fish

2.3 Is there market for immature fish on this landing site?

Yes

No

2.4 Illegal fishers on this landing site belong to the following categories

Members of this community

From the nearby Landing sites

Origin Unknown

2.5 Most of the illegal fishers are drug addicts.

Yes

No

If No elaborate.....

2.6 Have you heard of or come across any corrupt institutions/ law enforcement officials in your community?

Yes

No

Others specify.....

2.7 This section contains various statements about illegal fishing in Kalangala. Kindly express your opinion by ticking one of the given responses (*Strongly Agree, Agree, Undecided, Disagree and strongly disagree*) in front of each statement.

Statements	Responses				
	Strongly Disagree	Agree	Undecided	Disagree	Strongly Disagree

1. There are bye laws governing illegal fishing in my village					
2. Fishers are aware of the Byelaws					
4. Byelaws are effective in curbing illegal fishing					
3. There are members in our community that catch fish in breeding grounds.					
5. Fishermen on this landing site use the recommended fishing gear.					
6. Fishermen that indulge in illegal fishing reside next to the lake shores.					
7. Fishers indulging in illegal fishing are supported by influential officials					
8. Accessibility of illegal fishing gears like prohibited boats,					

nets and poison have contributed to persistent illegal fishing in Kalangala.					
--	--	--	--	--	--

2.8 Have your fishing gears/fish ever been confiscated by authorities?

Yes

No

2.8.1 If yes, when. Day /months/year

.....

2.8.2 What was the reason?.....

2.8.3 Where you given help?.....

2.8.4 What happened after:.....

2.9 What has been the effect of fishing license on illegal fishing in Kalangala?

Increase in illegal fishing

Reduction in illegal fishing

No effect

2.9.1 What are the additional effects of the fish licenses on illegal fishing in Kalangala?

.....

.....

2.9.2 Have you ever heard of or come across fisher folk that fish without a fishing license in Kalangala district?

Yes

No

2.9.3 Which of the following factors are challenges to Fisher folk in the acquisition of fishing license in Kalangala? (You may tick more than one factor)

High License fees charged

Corruption by authorities

High taxation

None of above

Others specify.....

2.9.4 What strategies do you recommend for improvement in licensing Fisher folk?

3. SECTION C: What are the perceptions of fishers on the effect of illegal fishing (Objective2)

3.1 This section contains various statements about illegal fishing and people's perceptions. Kindly express your opinion by ticking one of the given responses (*Strongly Agree, Agree, Undecided, Disagree and strongly disagree*) in front of each statement.

Statements	Responses				
	Strongly Disagree	Agree	Undecided	Disagree	Strongly Disagree
1. Illegal fishing increases people's					

incomes					
2. Illegal fishing helps to develop the community					
3. Illegal fishing leads to fish scarcity					
4. Illegal fishing reduces fish stock in the lake					
5. Illegal fishing leads to fish depletion					

3.2 What are the effects of fishing in breeding areas?.....

4.0 SECTION D: What strategies can be adopted for curbing down illegal fishing? (Objective 4)

4.1 What strategies do you recommend to curb illegal fishing?

.....

4.2 What approaches would you recommend for improvement of Fishers income levels?

.....

End

Thanks for sharing your thoughts with us.

APPENDIX 2: INTERVIEW GUIDE FOR KEY INFORMANTS

Title of the key informant _____

1. Do you think that unemployment has strongly contributed to illegal fishing in Kalangala?

.....
.....
.....
.....
.....

2. Do you think Fisher's level of income affects illegal fishing in Kalangala? If yes How?

.....
.....
.....
.....
.....

3. How has access to illegal fishing gears contributed to increase in illegal fishing activities Kalangala?

.....
.....
.....

4. What strategies can be laid to reduce illegal fishing in Kalangala?

.....
.....
.....
.....
.....

5. What strategies can be implemented to reduce access & use of illegal fishing gears?

.....
.....
.....
.....
.....

6. Which of the following factors contributes most to illegal fishing in Kalangala? *(Please give ranks ranging from 1,2,3,4 and 5 with 5 being the factor that contributes most to illegal fishing and 1 the least contributing factor)*

- Fisher level of incomes
- Fisher's level of education
- Drug Abuse
- Access to illegal fishing gear
- Availability of market for illegal fishing

7. Do you think that illegal fishing is dependent of the marital status of a fisher?

- Yes
- No

8. Do you think illegal fishing is also dependent on Fishers residential status?

- Yes
- No

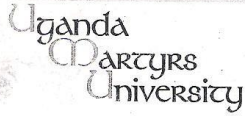
9. Which category of people are most involved in illegal fishing?

A. Multiple boat owners

B. Single Boat owners

Any other.....

APPENDIX 3: DATA COLLECTION LETTER



making a difference

INSTITUTE OF ETHICS AND DEVELOPMENT STUDIES

Email: ieds@umu.ac.ug

Your ref:

Our ref: rec: ba dds field introduction letter 14-15

Nkozi, 14th , 2015

Dear Sir/Madam,

RE: LETTER OF INTRODUCTION

This is to introduce to you **SEMPANDE Stephen** Reg. No. 2011-B103-10137 who is an undergraduate student in the Institute of Ethics and Development Studies at Uganda Martyrs University - Nkozi. He is required to carry out research on a topic:

" Analysis of factors contributing to persistent illegal fishing in Uganda. A case study of two selected landing sites in Kalangala district."

This is as a requirement for the fulfilment for the award of Bachelor of Arts - Democracy and Development Studies.

I would like to request you to render him assistance in collecting the necessary data for writing his Dissertation.

Thank you in advance for your assistance.

Yours Sincerely,

Dr. LUSWATA Albert
DIRECTOR

