UNIVERSITY OF GHANA

MOBILITY AND HIV RISK AMONG FISHERS IN ELMINA FISHING COMMUNITY IN THE CENTRAL REGION OF GHANA

BY

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DECLARATION

I declare that except for the references to works which have been duly cited, this thesis is the result of my original research conducted under the supervision of Professor Mariama Awumbila, Professor Stephen Owusu Kwankye and Dr.Margaret Delali Badasu and that it has neither in whole nor in part been presented for another degree elsewhere.

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I dedicate this work to my wife Zita Kyei-Gyamfi, and Children; Gloria Odame, Amanda Kyei-Gyamfi, Frank Kyei-Gyamfi and Lisa Kyei-Gyamfi.

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ABSTRACT

Human population mobility has long been strongly linked to high HIV transmission among fishers, and yet little empirical research has been undertaken to establish any inter-connections. This study investigates the relationship between mobility and HIV risks amongst fishers, focusing on fishers in Elmina. The theories used are the Push and Pull Model, Social Control Theory, Health Belief Model, and Theory of Gender and Power. Using a cross-sectional approach which employed mix-methods for data collection and analysis, this study has provided clarification and added to existing documentation on fishers' mobility and its interrelation with HIV risks among them.

The study finds that mobility constitutes an integral and important aspect of fulfilling the occupational goal of fishers, but elevates their risks of contracting HIV through increased casual sexual behaviours, inconsistent use of condom, and limited participation in HIV and AIDS education programmes. Through a binary logistic regression, the study reveals that younger fishers are less likely to use condoms, and having higher education increases the likelihood of non-use of condoms compared to fishers with lower or no education. These findings are important signposts for the planning of related interventions in the future.

Another major finding is that most women in the study area are vulnerable to HIV because of their inability to negotiate decisions that border on sexuality, such as the use of condoms. This stems from prevailing inequalities in the fishing communities that favour men against women. The study also reveals the occurrence of fish-for-sex (FFS) transactional relationships in the study area, and the engagement of fifteen percent of the sample studied. The results show that 6 out of every 10 of the respondents did not use condoms in FFS sexual encounters they had in the last 12 months, their reason being that FFS is a harmless intimate primary relationship but not a casual one that elevates HIV risks hence the use of condoms is not necessary. This signifies a gap in HIV and AIDS knowledge and also exposes the serious threat of the possible infection of the virus among this group.

Future programmes need to explore ways of supplying free condoms and encouraging fishers to be consistent with the use of them. Since the study found that mobility limits participation in HIV programmes, ways must be explored to reach population groups who due to their highly mobility are limited in participating in HIV education interventions, Programme planners must also introduce initiatives that improve self-efficacy amongst women and empower them to insist on their rights on sexual issues. An additional boost of empowering women to insist and negotiate on their sexual rights is to explore ways of granting them capital to buy fish. If women have the means to buy, they will not have to do so on credit and get indebted to their male counterparts which compels them to engage in FFS transactions which elevates their risks to HIV infection.

LIST OF ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
ART	Anti-Retroviral Therapy
CMS	Centre for Migration Studies
CSW	Commercial Sex Workers
DOC	Department of Children
ECOMOG	Economic Community of West African States Ceasefire Monitoring Group
FAO	Food and Agriculture Organisation
FBKC	Foundation for Builders and Kids Clubs
FD	Fisheries Department
FFS	Fish-for-Sex
FGD	Focus group discussions
GAC	Ghana AIDS Commission
GDHS	Ghana Demographic and Health Survey
GDP	Gross Domestic Product
GHS	Ghana Health Service
GNCC	Ghana National Commission on Children
GSMF	Ghana Social Marketing Foundation
GSS	Ghana Statistical Service
HBM	Health Belief Model
HIV	Human Immune Virus
HSTF	Human Service Trust Foundation
HTC	HIV Testing and Counseling
ICSF	International Collective in Support of Fishworkers
IE&C	Information, Education and Communication
IGAs	Income-Generating Activities
IOM	International Organization for Migration
IV	Intra Venous
KEEA	Komenda-Eguafo-Edina-Abirem
KII	Key informant interviews
LI	Legislative Instrument
MHA	Municipal Health Administration
MMDAs	Metropolitan, and Municipal & District Assemblies
MOFAD	Ministry of Fisheries and Aquaculture Development
MoGCSP	Ministry of Gender, Children and Social Protection
NGO	Non-Governmental Organisation
PPM	Push-Pull Model
SCT	Social Control Theory
SPSS	Statistical Package for the Social Sciences
SRHR	Sexual and Reproductive Health Rights
STIs	Sexually transmitted infections
TGP	Theory of Gender and Power
UNAIDS	Joint United Nations Programme on HIV and AIDS
USD	United States Dollar
WHO	World Health Organisation

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GLOSSARY OF TERMS AND DEFINITIONS

Artisanal Fisheries: Artisanal fisheries are small-scale fisheries for subsistence or local, small markets, generally using traditional fishing techniques and small boats; they occur around the world particularly in developing nations and are vital to livelihoods and food security (Schorr, 2005).

Comprehensive HIV knowledge: The percentage of respondents giving correct answers to specific questions on HIV transmission routes

Concurrent sex: Concurrent sexual partnerships describe situations in which an individual has overlapping sexual relationships with more than one person.

Edzidzinam: Share of fish for a crew member after a fishing expedition

Extra-marital sex: Sex by currently married people with casual partners.

Fisher: In the context of this study, a person (male or female) of age 18 and above involved in some fishing-related activities in Elmina fishing community. The activities include actual fish harvest, mending of fish nets, building and repairing of fishing canoe/boats, fish processors, traders of fish, fishing gears, transporting of fish, and pottering of fish and fishing gears.

Fish-for-Sex: A transactional relationship which involves exchange of fish for sex or sex for fish.

Fishing community: A community that is substantially dependent on or substantially engaged in the harvest of fishery resources to meet social and economic needs; the fishing vessel owners, operators, crew and fish processors that are based in such a community.

Gender: The socially constructed roles and behaviours that a society typically associates with males and females.

Higher risk sex: Sex with non-marital, non-cohabiting partner.

Home: The current place of residence of the respondents, which is the study area of Elmina.

Hustlers: Young males at the landing site who engage in all kinds of jobs such as the pulling and mending of nets, carrying and lifting of heavy loads, and running other errands etc.

Kayayee: Young women or teenage girls who carry other people's loads on the head for a fee (Berg, 2007).

Living conditions: Living conditions relate to place of residence, sleeping arrangements, access to water and sanitation amenities etc.

Mobile fisher: Any respondent who had travelled outside of Elmina (point of origin) to engage in any fishing related activity in any other fishing community in the last 12 months preceding the study.

Mobility: Any travels outside the study community of Elmina to engage in any fishing-related activity, which required the respondent to spend at least a night at the destination point in the last 12 months preceding the study.

Multiple sex partnership: Concurrent or serial sex with multiple partners over the last 12 months; and during lifetime.

Non-mobile fisher: Any respondent whose work within the last 12 months was spent only within the home community.

Casual sex partner: Casual sex partner as any sex partner other than spouse (s) in case of currently married respondents, and in respect to respondents who were not married or not in any form of marital union (consensual/cohabiting, separated, divorced, or widowed), it was defined as any partner with whom the respondent does not have sexual intercourse on a regular basis.

Non-spousal sex: Sex outside marriage

Risky behaviours: Risky behaviours relate to lifestyle activities that place a person at increased risk of suffering from a particular condition, illness or injury (Farlex, 2012).

Sero-Status: The state of either having or not having detectable antibodies against a specific antigen, as measured by a blood test (serologic test). For example, HIV seropositive means that a person has detectable antibodies to HIV; seronegative means that a person does not have detectable HIV antibodies.

Susceptibility: Susceptibility is the likelihood of a risky event having an effect on an individual, household or a group (Devereux, 2002 cited in Kher 2008).

Transactional Sex: Transactional sex is the exchange of favors, gifts, or money for sexual activity (Luke & Kurz, 2002)

Vulnerability: Vulnerability refers to the capacity of individuals or a group `to anticipate, cope with and recover from a risk event (Chambers and Conway, 1991 cited in Kher, 2008).

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Human mobility within and across countries is known to have contributed to socio-economic benefits for many individuals and countries around the world including Africa in many ways. Indeed, Awumbila et al., (2016) emphasize that there are economic benefits in all population movements, be they internal, cross-border, regional or international.

In spite of the positive benefits, earlier studies in developing countries observe that, mobility within the fisheries sector is associated with spread of sexually transmitted infections (STIs), including HIV (Anarfi, 1993; Anderson et al., 2003; Li et al., 2004; Kwena; 2013; Tiruneh et al., 2013; UNAIDS, 2001; Wolffers et al., 2002; Yang, 2004;). Kishamawe (2006) also explains that mobility contributes to changing sexual behaviours that increase HIV risk among mobile populations. Earlier studies on fishers in fishing communities in many developing countries in Africa, South and South-East Asia and Central America indicate that fishers and people living in fishing communities have high rates of HIV infection that can be five to ten times higher than those in the general population (Kissling et al., 2004; Korankye and Dwomoh, 2012; Seeley et al., 2009; Zafar et al., 2014).

High rates of HIV prevalence and death rates from AIDS in fishing communities are the reasons for them being included among the high-risk population groups that merit special consideration in the campaign against the disease (Allison and Seeley, 2004; Korankye, 2008). HIV risk in fishing communities stems from many factors, including the high mobility of many fishers, which usually, influences changes in their sexual

behaviour. Fishing is an occupation that is characterized by high mobility and as a result, makes fishers spend long periods of time away from their homes, and being away all the time increases the probability of their engaging in risky sexual behaviours such as having casual partners at their new fishing sites (Duwal et al., 2015; Holvoet, 2011; Olowosegun et al., 2013; Tumwesigye et al., 2012; Zafar et al., 2014). Again, some studies have linked high HIV risk among fishers to the demographic profiles of fishers, suggesting that most fishers are young, never married and sexually active individuals who very often have money to spend on women (in the case of the men) and alcohol, and increasing their engagement in risky sexual behaviours at fishing destination points (Duwal et al., 2015; Olowosegun et al., 2013; Zafar et al., 2014; Tumwesigye et al., 2012). It has also been indicated that fishers have HIV risk denial attitudes, and discount the fear of HIV and AIDS as they perceive fishing to be a more dangerous occupation, that cannot be equated to any other dangerous phenomenon (Allison and Seeley, 2004; Lubega et al., 2015).

Holvoet (2011) and Olowosegun et al. (2013) also cite the fish-for-sex (FFS) transactional sexual practices, which occur among fishers in most fishing destinations as factors that elevate their HIV risks. Mobility is also known to elevate HIV risks amongst fishers due to their poor settlement conditions and situations of isolation that many fishers face at their fishing destinations in the course of their work (Lungu and Husken, 2010). Poor living conditions of fishers during their movements that are associated with fishing-related activities increase their probability of engaging in sex-networking, and increasing their risk to HIV (Yang et al., 2007).

Though fishers and fisher communities are considered a high-risk population group, there exists little documentation on the relations between fishers' mobility and HIV risks

in Ghana. Moreover, scanty literature largely elaborates on male fisher mobility with less attention on female mobility, even though both male and female fishers work in similar fishing environments, interact closely and are equally exposed to HIV risks. Again, the available fisheries-related body of literature is also largely focused on fisheries production and management, with no documentation on the mobility and settlement patterns of fisheries workers.

This study is significant as it sought to build on the limited knowledge on HIV risks associated with both male and female fisher mobility, and their living and settlement conditions. It examined the relationship between mobility and HIV risk exposure among fishers. This was a cross-sectional study that utilized mixed methods to collect data from fishers in Elmina, a large fishing community in the Komenda-Edina-Eguafo-Abirem Municipality in the Central Region of Ghana.

1.2 Statement of the Problem

Globally, HIV and AIDS constitute a major health concern, especially in developing countries. Statistics from the World Health Organization (WHO) show that approximately 36.9 million people were infected by the disease in the year 2017 globally. The African Region is one of the regions most severely affected, with nearly one in every twenty-five adults (4.1 percent) living with HIV and accounting for almost two-thirds of the global number of the people living with HIV. Since the beginning of the epidemic, more than 70 million people have been infected with the HIV virus and about 35 million people have died of HIV (WHO, 2018).

A number of studies have suggested certain human population groups that have higher risk of contracting HIV and AIDS. These groups include commercial sex workers, Intra Venous (IV) drug abusers, military personnel, mine workers, prisoners, truck drivers and

fishermen (Zafar et al., 2014; FAO, 2006). Fishers are considered among the most-at-risk populations because of their high vulnerability to HIV infection, and HIV prevalence among fishermen which is reported to be 4–14 times higher than that of general populations (Korankye and Dwomoh, 2012; FAO, 2006; Olowosegun, 2008). According to Allison and Seeley (2004), in 1992, about 24 percent of fisher-folks on Lake Albert in Uganda were affected by HIV. In East Africa, HIV was reported to be highest amongst populations living in areas near the shores of Lake Victoria, in the Rakai District of Uganda, Mwanza, and Kagera Provinces in Tanzania, and Nyanza Province in Kenya when the epidemic first broke out, and recently, HIV prevalence rates are still high in the fishing communities surrounding Lake Victoria (Mojola, 2011). Anecdotal evidence from the Ghana AIDS Commission (GAC), and a number of academic studies carried out in fishing communities also indicate the high prevalence of HIV in fishing communities in Ghana (Korankye and Dwomoh, 2012; Seeley et al., 2009; Tumwesigye et al., 2012). These examples suggest that fishers and fishing communities tend to be associated with high HIV prevalence rates.

Even though the general in-country prevalence rates are known, there are no data to determine the HIV prevalence rates in specific fishing communities in the country. The HIV epidemic in Ghana is classified as a generalised epidemic with a national adult prevalence rate of 1.67 percent according to the 2017 National and Sub-National HIV and AIDS Estimates and Projections Report prepared by the Ghana AIDS Commission (GAC, 2018). The 2014 Ghana Demographic and Health Survey (GDHS) indicate that the Central Region, which is one of the leading regions in the fisheries sector, is among the regions with relatively high HIV prevalence rate (2.1 percent). The regional HIV prevalence, according to the GDHS, ranged from the highest of 2.8 percent in the Eastern Region to 0.3 percent as the lowest in the Northern Region (GSS, 2015).

Some studies in developing countries have often cited human mobility as a key factor leading to the spread of HIV (Anarfi, 1993; Anderson *et al.,* 2003; Li *et al.,* 2004; Tiruneh *et al.,* 2013; UNAIDS, 2001; Wolffers *et al.,* 2002; Yang, 2004;). According to Yang *et al.,* (2004), Macpherson and Gushalak (2001), from an epidemiological standpoint, the spread of diseases is usually associated with movement of people.

Mobility brings people from different backgrounds together into close contact at a destination point, and sets a stage for disease transmission, especially when the people involved in the movement have any communicable diseases (Yang et al., 2004). In effect, through the movement of infected persons, diseases are transported to places where they were previously unknown (Yang et al., 2004).

Human mobility is also seen as a primary driver of behaviour change among mobile populations at the destination points (Brockerhoff et al., 1999). Research has shown that when people are away from their spouses and families and for extended periods, they find themselves in situations of isolation and anxiety which exacerbates the window of HIV risks (Hirschi, 1970; Hawthorne, 2008; Weine et al., 2012; Zhuang, 2012). Earlier studies have found that many fishers move without taking their families or partners along when they move to engage in fishing activities, and as a result have weakened familial and social support networks to regulate their sexual behaviours (Hirschi, 1970; Tiruneh et al., 2013). The separation from their families, friends and other close relations does not only affect their family and social networking but also regular sexual relationships (Yang et al., 2004). According to Whyte and Parish (1984), when individuals are detached from social and normative control structure, they easily contemplate deviance without much fear of being detected and seen. Hirschi (1969) also explains in the Social Control Theory that individuals are likely to engage in delinquent behaviour when their

social bond to society is weakened. This seems to be the case of mobile fishers who move from one fishing community to another to engage in fishing related activities, without their families accompanying them. These views bring to the fore and add further explanations on the high prevalence of HIV risky behaviours amongst fishers in fishing communities.

The literature on mobility of fishers suggests settlement challenges faced by fishers, especially females, elevate their vulnerability and exposure to HIV risks. For example, anecdotal evidence from the Ministry of Gender, Children and Social Protection (2014) shows that female mobile fishers have challenges in finding lodging when they move to other fishing communities to engage in fishing activities. In a study in Zambia, Lungu and Husken (2010) report of some women having to exchange sex to enable them have comfortable places to lodge during their mobility to other fishing communities. Though these situations place female fishers in vulnerable circumstances, that expose them to HIV and other STIs, the literature on the challenges faced by internal female mobile fishers is very limited in Ghana. Studies on internal female mobile workers in Ghana have suggested female potters who travel from the north to the south of Ghana face accommodation challenges getting places to lodge and as a result sleep in appalling conditions at destination points (Ahlvin, 2012; Awumbila et al., 2014; DOC, 2015; Kwankye et al., 2009). Anecdotal evidence suggests the likelihood that female fishers also face similar circumstances during their trips to other fishing destinations (DOC, 2015). There are questions that need to be answered to provide important details for explaining the relationship between mobility, settlement patterns and HIV risk among female fishers. Hence, this study seeks to contribute to knowledge by examining and analyzing the extent to which settlement challenges caused by mobility elevates HIV risks among female fishers especially.

Fish-for-sex (FFS) transactional sexual practices are also noted to increase HIV risks among female fishmongers and fish processors, who often trade sex in order to secure supply of fish from fishermen (Awounda, 2003; FAO, 2006; Kissling et al., 2005; Camlin et al., 2013). Earlier research in a number of fishing communities in developing countries in Africa have indicated the occurrence of FFS transactional sex practices (Awounda, 2003; Béné & Merten, 2008; Camlin et al., 2013; Kissling et al., 2005). The studies also found that most women engaged in FFS relations are women who move to fishing communities to buy fish, process them for market, and broker sales of fish to other fish traders (Camlin, 2013; LVFO, 2007). However, very little is documented on FFS relations in the fisheries literature in Ghana, even though evidence from studies carried out in many fishing communities in developing countries show that FFS occurs in most fishing communities and is associated with mobility (Allison and Seeley, 2004; Kissling et al., 2005). The literature on FFS in other fishing communities in countries studied gives strong indication that FFS could also be a common practice in fishing communities in Ghana and this requires further investigation into the phenomenon.

Some studies have established that mobility of fishers also has profound implications on their poor knowledge on HIV and AIDS, and lack of knowledge also constitutes HIV risk factor (McPherson, 2008; Duwal et al., 2015). A Knowledge, Attitude and Practices (KAP) survey in India shows that only five percent of the fishermen interacted with had adequate knowledge on HIV and AIDS (George, 2008). A number of studies on fisher mobility have also found many fishers have no idea about how HIV is transmitted or prevented and this contributes to the spread of the disease in fishing communities (Duwal et al., 2015; Kwena et al., 2013; McPherson, 2008). Whilst some studies adduce the lower knowledge of fishers to the mobile nature of their work (Korankye and Dwumoh, 2012; Rongyao et al., 2000; WHO, 2005; Xiao et al., 2006), others explain that fishers

hardly stay at one fishing destination and thus making it difficult to reach them with Sexual and Reproductive Health Rights (SRHR) programmes (Cohen et al., 2010; Duwal et al., 2015; Kwena et al., 2013). Some other earlier research in fishing communities in Africa also indicates that some fishers with appreciable HIV knowledge engage in non-regular sexual intercourse, multiple partner relationships and other sex networking (Wang et al., 2013). Other research has also established inconsistent condoms utilization amongst fishers (Opio et al., 2011). Furthermore, fishers tend to be very conservative and have a strong denial attitude towards the dangers posed by AIDS as many see fishing as more dangerous than the disease (Seeley et al., 2009; Kissling et al., 2005). Earlier research in Elmina also indicate that most fishers in that community do not apply the knowledge by taking HIV protective measures in sexual encounters (Korankye 2008). These factors elevate HIV risks and have been linked to low knowledge and attitudes of fishers towards HIV and AIDS. Given that a 75 percent of population (KEEA, 2015) of Elmina derive their livelihood directly from fishing and other fisheries related activities, assessment of fishers' knowledge, attitudes and practices is important to explain the relationship dynamics between the knowledge of fishers on HIV and the application of the knowledge, which remains scanty in the current literature on human mobility and HIV risks. The study fills this gap by examining the knowledge, attitudes and practices of fishers, and their implications for managing HIV risks among fisher folks in the study area.

Although links between human population mobility and high HIV rates have long been established, the exact relationship between mobility and HIV risk among fishers is yet to be comprehensively established. The question of interest of this study therefore is; what constitutes the relationship between fisheries-related mobility and high HIV risks among fishers of Elmina in the KEEA Municipality in the Central Region of Ghana.

1.3 Research Questions

The study sought to answer the following questions:

i. How are the patterns of mobility and living conditions of mobile fishers associated with HIV infection risk?
ii. Are there any specific differences in HIV risk exposure among males and females due to mobility?
iii. What are the comprehensive knowledge, attitudes and perceptions of fishers regarding HIV and AIDS?
iv. What sexual behaviours of fishers place them at HIV risk exposure?
v. To what extent are HIV education programmes in the study area designed to help fishers acquire essential knowledge to prevent HIV infection or spread, and what are the achievements and challenges in the implementation of programmes?

1.4 Objectives

1.4.1 General Objective

The general objective of the study was to examine the relationship between mobility and HIV risk among fishers in Elmina.

1.4.2 Specific Objectives

The specific objectives of the study are to:

i. Examine the mobility and living conditions of fishers and discuss their association with HIV infection risk
ii. Assess the comprehensive knowledge and attitudes of fishers in relation to HIV infection risks

iii. Examine risky sexual behaviours (if any) among the fishers that elevate risk of acquiring HIV

iv. Describe the strategies used for carrying out HIV education by institutions (if any) improving HIV education in the study area.

1.5 Justification of the Study

The literature on fisheries mobility establishes strong links between human mobility and HIV transmission, and yet little empirical research has been carried out to establish the inter-connections. Empirical studies on fisher mobility and its relations with risky sexual behaviours among fisher folks are largely lacking in Ghana. Thus, this study, which examines the association between mobility and HIV infection risks among fishers, serves as an important basis for providing relevant information to explain gaps in knowledge on HIV infection risks associated with the mobility of fishers.

Compared with male fishers, female fishers have still by and large, not received much attention in fisheries-related mobility research. The literature on fisher populations in Ghana is largely focused on male fisher mobility, with limited attention on females even though both male and female fishers play active roles in the fisheries and are exposed to similar or differing HIV conditions in fishing environments. For example, the engagement of fishers in FFS transactional relationships has not been given much attention in spite of the dangers it constitutes in exposing women to sexual exploitation and HIV infection risks. There is very little documentation on FFS in the literature in Ghana, even though evidence from studies carried out in many fishing communities in other developing countries shows that FFS occurs in most fishing communities and is likely to be so in the fishing communities in Ghana (Allison and Seeley, 2004; Kissling et al., 2005). This study investigates and gains more insights into the FFS transactional

sexual practice, looking at why it occurs, and its implications on HIV risks exposure among male and female fishers in Elmina.

The study also examines the linkage between mobility and the challenges it poses to female fishers in finding suitable living conditions whilst in mobility. Currently in Ghana, a lot of research work has been done to document the challenges internal mobile female workers such as potters (referred to as 'Kayayee') face regarding their sleeping arrangements. For example, earlier works done show that the lack of proper sleeping arrangements of Kayayee exposes them to sexual exploitation and HIV infection risks (Kwankye et al., 2009; DOC, 2015; Ahlvin, 2012; Awumbila et al., 2014). Lungu and Husken (2010) also report that in some fishing communities in Zambia and Tanzania, due to the high mobility of fishers, over a period of just one week, some fishers move from one community to another to do their work. Incidentally, there are no accommodation facilities in most fishing points or communities around the world. As an option, most fishers are compelled to spend their nights in overcrowded spaces and other appalling sleeping places. This brings untold hardships to bear on the fishers, especially female fishers. In Ghana, very little is known about the difficult circumstances fishers face whilst doing their legitimate work in fishing communities. Even though anecdotal evidence shows that female fish workers may be having similar challenges, there is very little empirical research to explain the nature of this challenge and how it leads to vulnerability and HIV risks exposure among female fishers. The results of the study add to limited information available on settlement patterns of fishers at fishing destination points. The results also provide important insights on the difficulties of fishers to enable the Central Government, the Municipal Assembly and management of the fisheries sector to take policy actions and address the dire living and settlement conditions of

fishers in destination points. Thus, it offers the opportunity to address some of the settlement challenges faced by fishers whilst in mobility to carry out their livelihoods.

Earlier studies carried out to assess fishers' knowledge, attitudes and practices on HIV in fishing communities either in Ghana or fishing communities in other African countries, have shown high HIV knowledge but relatively, poor attitudes and high engagement of fishers in risky sexual behaviours (Zafar et al., 2014; Opio et al., 2011, Korankye, 2008). Though these studies have found substantially good knowledge among fishers, the poor attitudes and risky lifestyles of fishers in fishing destinations has drawn the attention of policy makers, academics and development workers to find ways of improving fishers' attitudes and behaviours towards HIV and AIDS. The study findings serve as an important source of information to guide policy decisions regarding fishers and HIV and AIDS issues.

The study further explores the impacts of the approaches used in carrying out HIV-related information in the study community, and finds suitable ways of promoting HIV education in fishing communities. Even though Elmina is the study area, the findings of the current study could serve as an entry point for discussion issues relating to the vulnerability, susceptibility, and the basis for formulating policies to ensure the safety and protection of fishers and fisher-folks in all fishing communities in Ghana.

1.6 Structure of the Thesis

The thesis is organized into eight chapters. The first chapter introduces the research problem, sets the study objectives, research questions and provides justification for the study. The second chapter provides a review of literature covering a range of issues on the relationship between mobility and HIV risks amongst fishers. The chapter also presents the theoretical background and conceptual design for examining the research

questions of the study. The third chapter provides information on the study area and the methodology utilized for the study. It details out the study design, study population, techniques for sampling, data collection and analysis. The chapter also discusses the ethical considerations, limitations, and the demographic characteristics of the study.

The fourth chapter examines the patterns of mobility and living conditions and their association with HIV infection risks among fishers. It provides insights on trips made to other fishing destinations outside the current residence of study participants, and discusses the reasons for the trips, and challenges faced during the trips in relation to HIV infection risks. The fifth chapter analyzes the knowledge, attitudes and perceptions of the study participants regarding HIV and AIDS. Details on comprehensive knowledge, methods of HIV transmission, prevention and sources of information are analysed. The chapter also highlights issues on HIV related attitudes with respect to testing uptake and how fishers perceive HIV to be. The sixth chapter analyses the sexual behaviours that expose fishers to HIV. Issues relating to sexual activity, condom usage, sex with non-regular partners, and the engagement in fish-for-sex relations by the study participants in the last 12 months preceding the study are discussed. The seventh chapter examines the strategies used for carrying out HIV education by institutions in the study area, and proposes measures for improving HIV education in the study area. The eighth chapter presents the summary, conclusions, recommendations and the suggestions on areas for future research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides a review of literature covering a range of issues on the relationship between mobility and HIV risks amongst fishers. In the review, aspects of relevant literature on the study topic area are discussed. The last part of the chapter presents the theoretical background and conceptual framework of the study.

2.2 Human Mobile Populations

The term "human mobile populations" is the most general term for people on the move (IOM, 2005). Mobile populations move from one place to another temporarily, seasonally or permanently for a host of voluntary and/or involuntary reasons. Mobile populations include truck drivers, mine workers, commercial farm workers, construction workers, domestic workers, informal traders, commercial sex workers, military personnel and fishers. Mobile workers are described as being at high risk to HIV transmission (Kissling, 2005; Seeley and Allison, 2005). For example, Singh and Joshi (2012) note that truckers are a highly mobile group due to the high mobility of their work, their engagement in multiple interactions with foreign and local populations, and exchange of sex with itinerant traders and sex workers as they travel to do their work. An IOM/UNAIDS (2005) publication also notes that by the nature of the work of truckers, they spend extended periods of time away from their regular partners, which increases the probability of their engagement in risky sexual behaviours. In the same publication, truckers are described as being very young and most sexually active (IOM/UNAIDS, 2005).

Mine workers are also considered a mobile population group with high HIV prevalence rates. Most mine workers live in single apartments without their families and usually have substantial amounts of money on them, which attract commercial workers. Mine workers visit their families less frequently and are less likely to also be visited by their families frequently. The loneliness, freedom, availability of spending money, and the presence of commercial sex and alcohol-related business in the mine areas create conditions that lead to risky sexual behaviours among mine workers, thereby rendering their families, and other people close to them susceptible to HIV infection as well (IOM/UNAIDS, 2005; UNAIDS, 2002).

Commercial sex workers also constitute a mobile population group that is also documented as having one of the highest HIV infection rates compared to general and other high-risk populations (IOM, 2005). An UNAIDS report (2014) mentions that CSWs in sub-Saharan Africa constitute a high HIV risk group. CSWs are highly mobile because they travel around places where they can get clients and also move away from familiar faces to avoid social stigma from family and community members of being a sex worker. Again, sex workers are also considered to be susceptible to HIV infection due to the unprotected circumstances they are likely to engage in as part of their work. In most instances, sex workers exchange sex for money and so may not have the ability to negotiate for the use of condoms since their interest is the financial gain and not protection against HIV and STIs (Gupta, 2002). Consistent condom use has been reported to be very low among CSWs (UNAIDS, 2003), and as a result may serve as a "bridge population" in HIV transmission as they play a significant role in the transmission path of HIV (Gangakhedkar et al., 1997).

Military and armed forces personnel have formed one of the largest and most mobile population groups of society (Kingma & Yeager, 2005). According to earlier findings by

Kingma & Yeager (2005), the military usually comprises men and women in their 20s and 30s highly mobile and sexually active, making it a professional group most affected by HIV and AIDS. Kingma & Yeager (2005) argue that uniformed services personnel have an attitude of risk taking, which exposes them to higher risk of HIV infection. They also explain that army personnel spend long periods of time away from their families and communities for peace keeping, conflicts, and other emergency assignments. Their detachment from their families and communities removes them from social control mechanisms that would have held them in check from engaging in deviant sexual behaviours. Away from home on duty, the desire and temptation to engage in non-regular sexual encounters tend to increase among military personnel, and adherence to prevention measures also decline. Adefolalu (1999) made an interesting finding in the 1990s when Nigerian ground forces were deployed as the major component of the sub-regional Economic Community of West African States Ceasefire Monitoring Group (ECOMOG) in Liberia and Sierra Leone. His study shows that HIV prevalence among Nigerian Army troops increased from less than 1 percent in 1989/90 to five percent in 1997, and to 10 percent by 1999, during the military assignment.

The literature shows that fishers and fishing communities are among the population groups considered as being at high risk to HIV. The fisher mobility and HIV literature makes frequent references to the term 'risky behaviours', 'vulnerability' and 'susceptibility', and for the purpose of the current study it will be instructive to make clarifications from the onset. Risky behaviours relate to lifestyle activities that place a person at increased risk of suffering from a particular condition, illness or injury (Farlex, 2012). In the context of this study, HIV risky behaviours constitute lifestyles that place a person at increased risk of contracting HIV. Risky behaviours include the engagement in excessive drinking, drug abuse, casual and multiple sex practices, including visiting sex

workers and indulging in fish-for-sex transactional relationships, inconsistent use of condoms, poor uptake of HIV testing and HIV risk denials. Vulnerability refers to the capacity of individuals or a group `to anticipate, cope with and recover from a risk event (Chambers and Conway, 1991 cited in Kher, 2008). Kher (2008) notes that, the inability of fisher folks to cope or manage the negative impacts of HIV infection makes them more vulnerable to its consequences. Susceptibility is the likelihood of a risky event having an effect on an individual, household or a group (Devereux, 2002 cited in Kher, 2008). For example, women are more susceptible to HIV infection due to their human anatomy. HIV transmission from a man to a woman is two to three times greater than transmission from a woman to a man. This is in part because women have a greater mucosal surface area which can be exposed to pathogens and infectious fluid for longer periods during sexual intercourse and are likely to face increased tissue injury (Ramjee et al., 2013).

Fishing communities are considered to be a high risk HIV population on account of various risk factors associated with fishing and related lifestyles of fishers. Zafar et al. (2014) report that since the outbreak of HIV and AIDS fishers have been one of the groups considered as being at high risk of contracting the disease. Seeley et al. (2009) and Kissling et al. (2005) indicate that fishermen and fishing communities are considered among one of the most at risk populations because of their high vulnerability to HIV infection and other sexually transmitted infections. Kissling et al. (2005) explain that fishing communities are considered susceptible to HIV and AIDS, and other STIs because of complex interactions that prevail there and the demographic profile of fishers which makes it more likely to engage in risk lifestyles. Olowosegun et al. (2013) and Gordon (2005) report that many individuals engaged in fishing or associated activities are mobile or migratory and, therefore, less constrained by family influences and social

structures at home. The literature also shows that fishers tend to be younger falling within age 15-35 years, the age group mostly considered to be vulnerable to sexually transmitted diseases (Gordon, 2005; Kissling et al., 2005; Olowosegun et al., 2013). Duwal et al. (2015) also describe most fishers as individuals who have barely completed secondary school and so have very low educational background and low HIV knowledge, and likely to engage in risky behaviours. Again, the risk of HIV exposure increases in fishing communities where a small number of women are reported to have unprotected sex with a larger number of men, or vice versa (Garnett and Anderson, 1996, cited in Loevinsohn and Gillespie, 2003). Finally, Gordon (2005) reports that fishing communities are places where women compete intensely for access to fish catch leading to fish-for-sex transactional practices between female fish traders and fishermen. She explains further that gender inequality, compounded by poverty also exposes women at risk of exploitation, making it difficult for most of them to insist on condom use.

The examples from the various studies explain why fishers and fishing communities are often considered as being at high risk to HIV infection and for that matter fishers are also regarded as being a high risk population group. From the literature, the susceptibility, vulnerability and high HIV risk of fishers are determined not only by personal but a combination of demographic, biological, social, cultural and economic factors which operate around fishing activities within the fishing communities and centres. However, it is important to emphasize that a blanket description of all fishers as a high HIV group may not be accurate as observed by Kher (2008). He expresses that fishing communities may face similar or same risks; fisher folks are likely to experience different risks based on the roles they perform, their sex, whether they are long-term or short-term fishers, and the extent of their livelihood diversification.

Again, deducing from the above narratives, mobile groups are described as being at high risk of HIV because they are highly mobile, young people who are highly sexually active., and more likely to engage in non-regular and non-spousal sexual habits due to the length of stay away from home. From the literature, most mobile groups also usually have access to large or substantial sums of money when they move (travel) to engage in work, which is reportedly spent on drugs, heavy alcohol consumption, women, and leading to engagement in non-regular sexual behaviours. Finally, owing to their high mobility, mobile populations often do not have adequate access to relevant HIV information and other health services.

2.3 Fishers and Fisheries-Related Mobility

The literature shows that fisheries-related mobility is not new but constitutes a phenomenon that has always been an integral part of the inland, coastal or maritime fishing among most West African fisheries and fishing populations (Randall, 2005). Tawari (2002; cited in Fregene, 2007) for instance, describes a fisher as one who leaves his natural community and moves from one habitation to another in fulfillment of his occupation. A fisher moves in search of fish as dictated by the type of fish required, the movement of the tide and season of the year. Ita (1993) also describes fishing as an ancient human traditional activity involving the hunting and gathering of products as food from water which is an indispensable natural resource on earth.

Abobi and Alhassan (2015) describe fisheries-related mobility as a temporary or permanent movement of fishers who do the actual catching, fish processors, fish traders and fisheries workers from one defined location, mainly a coastal state including fishing areas, to another coastal zone or destination. Ashby (2006) also notes that the work of fishers is characterized often by spending short or long periods of time away from their

families and spouses at home, usually making frequent movements from one fishing location to another as part of their work (Ashby, 2006). In effect, from the position of Abobi and Alhassan (2015) and Ashby (2006), mobility of fishers is a broadly encompassing term that defines fishers who may be on the move in the short or long term but with regular returns to their home communities after series of fishing expeditions and other fishing-related activities.

Further insights on the types of fisheries-related mobility can be obtained from Rajan (2002). He observed two dimensions of fisher mobility, arguing from the position of time and direction. He explained that time mobility could be inter-generational and intra-generational, while directional mobility could also be vertical, horizontal and spatial. Spatial mobility involves the movement of fishers from one geographical location to another for fishing and other fishing-related activities. In other words, it involves changes in the geographical location of fishers, fish traders and other individuals who also move to engage in fishing activities. Rajan (2002) further explains commutation, which he explains relates to the expansion of the work space of the fishers from their community of origin or home beach for their catch in another. He also explains the second form, which he refers to as circulation. According to Rajan (2002), circulation involves fishers expanding both the work space and residence for a longer period to go and fish. The third form of mobility relates to migration, which entails permanent shift of both place of work and place of residence, with the fisher settling in the destination village with his or her family.

From the above presentation, almost all the researchers report that the fishing occupation involves a lot of mobility over a body of water. Abobi and Alhassan (2015), Ashby (2006), Njock (2009), Randall (2005) and Rajan (2002) all express that mobility is an

important feature of fishers' work to move from one habitation to another in fulfillment of occupational goal of always looking for fish. The current study explores how mobility affects settlement patterns and living conditions of fishers and the extent to which it leads to HIV risky behaviours.

2.4 Reasons for Fisheries related Mobility

A look at the vast body of literature shows that fisher mobility has always been influenced by a variety of factors. Some studies mention ecological hardships such as lack of declining fisheries yields, poor soils, land shortage as drivers of fisher mobility, especially in instances where fishers anticipate having clean air, safe environmental conditions and better catch elsewhere (Abobi and Alhassan, 2015; Kraan, 2009; Mojola, 2008; Overa, 2001). For example, Glantz (1992) notes that fisheries regimes are not consistent but fluctuate due to climatic changes, and may have important implications on seasonal availability of fish. He explained that since climatic variability affects the availability of fish, it has a bearing on the livelihoods of many fishers, fish processors and traders, as they have to move in tandem. Abobi and Alhassan (2015) offer similar ecological reasons for fisher mobility. They note that upwelling system is an important factor determining seasonal availability of fish in different locations along the coast since it influences a boom or drop in the availability of fish. They indicate that it may explain fairly, the reason fishers, especially in sub-Saharan Africa move about in search of fish in different locations where fish is available. The position of Glantz (1992) is consistent with that of Abobi and Alhassan (2015) as they all relate fisher mobility to ecological effects. An earlier study by Bannerman et al. (2006) in Elmina shows that during lean seasons, fishers from Elmina move to other fish landing sites in Winneba, Sekondi-Takoradi, Tema, etc. where they perceive to make better catch. Mobility is, therefore, determined by the availability of fish in other fishing destinations.

In sum, the environment in which fishes live is not static, and in Cochrane's (2002) view the conditions of the aquatic environment can change substantially over time, from hourly variability to seasonal variability. Incidentally, the changes affect the population dynamics of fish populations such as the growth and the availability of fish resources, and these have indirect effect on the mobility of fishers. Ultimately, deducing from the literature, in the same way as the environment of fishes is not static the living conditions of fishers are also not static. Since the work of the fisher centers around the production of fish, fishers have to ensure they are where the fish is, and that requires movement to where to find fish.

The desire to move for a fish catch or expedition is also an economic issue according to some earlier studies. Crona et al. (2010) observes in a Policy Brief on fisheries management in Kenya that many fishers migrate with the desire to earn more money, save and improve their lives. The paper explains that the search for better fishing conditions such as availability of large fish catch and resources, and less competition from other fishers account for movement among fishers. Overa (2001) suggests that in Ghana, the desire to gain access to financial capital such as canoe, boats, fishing gear, credit, or a place in a canoe in the destination fishing community serves as an important driver of fisher movements. Additionally, Overa (2001) mentioned access to better markets, more and reliable traders and better price for fish, especially amongst female fishers who usually engage in the fish sale business.

The literature also indicates that there are social reasons behind fisher mobility. Crona et al. (2010) report that a significant number of fishers migrate for purposes of new experiences such as travelling to live in a new place outside their home and gaining more respect back home upon return to their communities of origin. Overa (2001) notes fisher

mobility is triggered by the desire of family members and friends to move for reunion with members already settled at other fishing destinations.

Further insights into the reasons show that political conflicts could also trigger fisher mobility. Njock (2009) cites some examples of one hundred Ghanaian fishers moving to Guinea after the fall of Kwamé Nkrumah in 1966, and Liberian and Sierra Leonean fishers who also went to Guinea in 1989 and 1996 respectively, due to the war situations in their countries. Again, in the 1960s, Nigerian fishers also moved to Cameroon and other countries in the region to escape the Biafra War.

A look at the vast body of literature shows that fisher mobility is influenced by a variety of reasons. The reasons are based on ecological, social, economic and political factors (Abobi and Alhassan, 2015; Bannerman et al., 2006; Crona et al., 2010; Kraan, 2009; Mojola, 2008; Njock, 2009; Overa, 2001). Even though varied and concurrent opinions have been expressed to explain the motivations behind fishers' mobility from one fish landing site to another, the literature indicates that most fisher mobility is motivated by rational economic choice of increasing fish production and maximizing profits, the main driving force being the assurance of the availability and presence of fish at the point of destination.

2.5 Settlement Patterns in Fishing Communities

In order to understand and appreciate the extent of vulnerability of fishers to HIV it is important to present what other authors have described fishing settlement in the literature. Opio et al. (2013) defines a fishing community as a social and economic group of persons who live together in a locality and derive their livelihood directly or indirectly from fishing activities. From the studies, the nature of settlement in fishing communities varies from place to place, but with certain commonalities in their features.

For instance, Sciortino (1995) found that most fishers settle around coastal beach areas that are relatively sheltered, near good fishing grounds, and sited around small natural harbours which provide safety for fishing-boats, canoes and fishing accoutrements such as nets. Some fishing communities in West Africa, especially, Nigeria and Ghana, are usually located near water bodies, are less developed, have no access roads, schools, health facilities, and most of them constitute fisher migrants (Fregene, 2007). An FAO (2006) review paper on AIDS and the Fisheries, reports that, compared to fishing communities, farming communities are usually stable because their members live together in the same location for generations. In the fishing communities, fishers come and go and are not stable at one fishing point permanently due to their high mobility.

Duwal et al. (2015) found that fisher communities are characterized by overcrowding, sub-standard living conditions, impoverishment with most of them having no access to social services such as schools, potable water, sanitation facilities, health care, road infrastructure and reliable markets. Similarly, Lungu and Husken (2010) report that the remoteness of some fishing communities makes it extremely difficult for fishers to access healthcare services. They argue that in the Kafue Flats area in Zambia, for instance, fisher folks and fish traders are 2-3 times less likely to receive basic public health care, treatment and prevention services. This stems from the fact that most fishers have to cover long distances (over water or have to walk long distances) to access health services. Access to health services may involve cost of transportation and health services, which most fishers are not able to afford. This meant that fishers who may not be able to pay for transport and health services are denied health services.

Earlier works in fishing communities found that most fishing communities in Africa have poor accommodation facilities or lack places of lodging for fishers. Lungu and

Husken (2010) notes for example, that due to the nature of fishers' work, they spend weeks or months away from home, which often leads to the development of new sexual contacts. They argue that inadequate accommodation facilities in most fishing communities serve as a contributory factor in the spread of HIV and AIDS in fishing communities. They explain that fishers and fish traders usually move from one fishing community to another to engage in fishing activity, and within few days, they may move from one fishing point to another. Incidentally, they report that most fishing destinations have no accommodation facilities where fish traders can spend the night. As a result, most fishers and fish traders experience difficulties in securing or making arrangements for accommodation in the next fishing destination points. Many fishers reportedly, spend their nights in makeshift structures, for failure to secure accommodation.

Lungu and Husken (2010) also notes that inadequate accommodation facilities in fishing communities facilitate fish traders cohabiting with single male fishers, which often leads to sexual relations and risky sexual engagements. For example, they indicate that some fish traders engage in unprotected sex with local fishers in order to secure comfortable accommodation. Incidentally, since most fish traders often do not want to use their fish trading money for accommodation, many of them pay in kind by engaging sex in exchange for place of sleep. Under these circumstances, sex is done under unprotected conditions since many of the women are not able to negotiate for the use of condoms for fear of losing the accommodation offered them (Lungu and Husken, 2010).

The literature indicates that the living conditions in most fishing communities in Africa tend to be cramped with most fishers living in close-knit housing facilities, sharing little living space, cooking and sleeping facilities, many of which are makeshift housing facilities (Holvoet, 2011; Lungu and Husken, 2010). It is inferred from the studies that fishing settlements are in poor states, overcrowded, lack accommodation facilities for

fisher lodgers and basic household amenities such as water and sanitary facilities. Whilst Holvoet (2011) observes that the state of conditions in fishing communities makes them conducive for promiscuous lifestyles, Lungu and Husken (2010) argue that the lack of accommodation for mobile fishers leads to sexual relations and risky sexual engagements. Incidentally, very little is documented on challenges fishers face in relation to settlement conditions in Ghana, and the current study adds on to the limited literature.

Whilst members in other communities engage in various economic activities, in fishing communities the main activity is fishing, with all other activities also linked to it. For example, 75 percent of the population of Elmina derive their livelihood directly from fishing and all other economic engagements in the fishing community are also linked to fisheries related activities (KEEA, 2015). The literature shows that in many fishing settlements, access to alternative employment opportunities is limited (Kher, 2008). Most fishers have no other livelihoods except fishing, which is also not carried out sustainably in a fishing year. The effect is that during lean fishing seasons when fishing goes down many people become idle, spending all the incomes earned from the fishing year, weakening their financial status, which results in impoverishment. The weakened financial status usually has rippling effects on the next fishing season when fishermen have challenge in accessing financial capital and credits to buy fishing gear (Lungu and Hüsken, 2010). Kher (2008) notes that impoverishment weakens fisher folks' vulnerability to shocks, and in turn exacerbates their vulnerability to HIV. Allison and Seeley (2004) observe that the desperation and frustration of being poor and unable to access financial capital foster reckless habits of excessive drinking, having casual and multiple sexual partners among male fishers. For the female fishers, Lungu and Husken (2010) report that many engage in sex work and transactional sex to find capital.

The discussions focus on a global description of the state of facilities, conditions of social amenities, and settlement patterns in fishing communities to give an idea of the states of fishing communities around the world. From the literature reviewed, most fisher communities are overcrowded, characterized by sub-standard living conditions, lack decent accommodation and suffer from impoverishment (Allison and Seeley, 2004; Duwal et al., 2015; Kher, 2008; Lungu and Hüsken, 2010). It is argued that the lack of social services such as schools, potable water, sanitation facilities, health care, road infrastructure and reliable markets results in promiscuous lifestyles and higher rates of HIV infection in fishing settlements in developing countries in Africa, Asia and Central America (Duwal et al., 2015; FAO, 2006; Holvoet, 2011). In sum, the nature of settlement and the conditions under which fishers organize themselves in terms of livelihoods, the lack of accommodation facilities to serve as sleeping places for fishers who spend the night at destination points, the lack of social services and amenities and their sexual behaviours within the fishing destinations all have implications for HIV exposure.

2.6 Mobility and the spread of HIV

A number of studies in developing countries have considered mobility and migration as one of the key factors that lead to the spread of HIV and other STIs (Anarfi, 1993; UNAIDS, 2001; Wolffers et al., 2002; Anderson et al., 2003; Li et al., 2004; Yang et al., 2004; Tiruneh et al., 2013). Other studies in developed countries have also shown vulnerabilities of mobile populations and migrant workers to HIV and the passing on of these diseases through migration (Lansky et al., 2000; Wallman, 2001; Yang et al., 2004). Thus, from the literature, vulnerability to HIV is not only the case in developing countries but also in developed countries. Yang et al., (2004) reported empirical epidemiological evidence which indicates that the spread of STIs has always been

associated with the movement of people from one place to another. In their paper, they explained that this occurs because people migrate and get in close contact with more people at places of destination, providing an environment for disease transmission. They also argue that when mobile people get infected with diseases, they carry the diseases to places and spread them to other people they come into intimate contact with. Anarfi (1993) also explains further that the AIDS epidemic spreads geographically more rapidly along transport connections, trade routes, migration systems and social networks.

The literature, thus, emphasizes the role of mobility and migration in spreading diseases as it brings people together and provides a space and the environment for transmission. This is not to conclude that all mobile people contract diseases or indulge in HIV/STI risk behaviours. Hirschi (1969) (1970) explains that the level of belief in the moral validity of an individual's social values and norms determines whether he or she would engage in any risky behaviours that will expose him or her to HIV. Deducing from Hirschi (1969), the decision to engage in risky behaviours is a choice the individual makes and not merely because the individual is exposed to HIV risk conditions. This assertion is also not to deny that there are external influences that place constraints likely to lead to HIV risk behaviours among fishers. HIV risk is a prevailing danger in fishing environments as has been portrayed so far in the literature. However, HIV risk or protection depends on the individual's actions, behaviours and the decisions taken whilst in mobility.

2.7 Fishers and HIV risky Behaviours

In this section, some risky behaviours which have been identified in the literature to increase HIV risk among fishers have been discussed. These include casual and multiple sex habits, sex with sex workers, fish for sex transactional practices, low HIV knowledge

among fishers, low uptake of HIV testing among fishers, inconsistent use of condoms, and HIV risk denials among them.

2.7.1 Multiple and Casual sexual relationships among Fishers

Studies have found that having multiple sexual partners increases the risk of contracting HIV and other sexually transmitted infections (STIs). Incidentally, multiple and casual sexual practices are reported as a form of HIV risk behaviour among fishers in fishing destinations (Akin et al., 2008: cited in Wang et al., 2013; Wang et al., 2013). Wang et al., (2013) report that most young rural-to-urban fisher migrants after leaving their homes (under no immediate supervision of their parents), and living in small housing units and exposed to difficult working conditions, have changed sexual attitudes (Kabir et al., 2004; FAO, 2006; Satiawan, 2010; Wang et al.,, 2016). Njock (2007) argues that long-term migration facilitates polygamy, cohabitation and frequent change of partners among fishers, and expressed concern considering the propensity of sexually transmitted diseases in fishing communities. Zhuang (2012) and Weine et al. (2012) also argue that engaging in multiple sex practices increases the risk of engaging in risky sexual behaviour, and the longer fishers stay away from home, the more they are exposed to HIV and STIs.

2.7.2 Visits to Commercial Sex Workers by Fishers

Male fishers are noted for visiting Commercial Sex Workers (CSW) at fishing destination points when they return from a fishing expedition. Fishing is one of the most dangerous and stressful occupations which has consequences for human behaviour as FAO (2006) reports. According to the report, fishers perceive their work to be very dangerous and so engage in risky behaviours such as excessive consumption of alcohol, drug abuse and unsafe sexual practices as a way of relieving them from stress of the work when they get to the fishing destination. McPherson (2008) and Kher (2008) found

that fishers are paid on their return from fishing expedition and with lots of money at their disposal they tend to spend on women and alcohol. Again, it has been reported (FAO, 2006) that most fishers are spendthrifts and tend to spend all the money they earn at once because their daily risks on the water discourages future planning (Allison and Seeley, 2004; Kher, 2008). According to Mojola (2011), fishers patronize the services of sex workers because they do not stay at shore for long periods and find sex workers without difficulty and also consider them cheaper. On the other hand, Mazze (2004) reports that fishing communities attract CSWs since they know that fishers always come to shore with money which is always spent on alcohol and sex.

Having sex with sex workers in sub-Saharan Africa, especially, constitutes high HIV risk according to the UNAIDS (2014) GAP Report. The GAP report indicates that in sub-Saharan Africa the average HIV prevalence among CSWs is estimated at 20 percent compared to just 3.9 percent globally. The report further shows that of the top 18 countries where HIV prevalence exceeds 20 percent among sex workers, 17 are in sub-Saharan Africa. Bouanchaud (2011) also found low levels of consistent use of condoms among CSWs in fishing communities and this is considered to increase the risk of contracting HIV and passing on to other intimate partners. These statistics point to the fact that sex with sex workers in the sub-region is risky, especially when condoms are not used or properly used. Sex with sex workers in fishing communities poses a serious risk to contracting HIV.

2.7.3 Fish-for-sex and Sex for Fish Transactional Relationships

Studies have shown that owing to the high mobility of fishers, they often stay away from their families for long periods leading to intimate interaction with other women who trade in fish in the fishing communities (Duwal et al., 2015; Kwena, 2006). This interaction is what has been termed Fish-For-Sex (FFS) transactional sex relationships.

The FFS sexual practice has been reported in many developing countries, with the largest number of cases observed in sub-Saharan African inland fisheries. The phenomenon has been observed in the Nyanza lakeside communities in Kenya (Camlin et al., 2013), and in Zambia among local Ila or Tonga women and immigrant fishermen in the Zambian Kafue Flats (Merten et al., 2007). Anecdotal evidence shows that it may be occurring in some fishing communities in Ghana.

Béné and Merten (2008) report FFS as a transactional sexual relationship, arranged between female fish traders and fishers as part of the local fish trade economy. The arrangement is mutual but coercive at certain times when male fishers demand sex from female traders before selling fish to them. Kwena (2006) explains that generally, fish traders enter into the FFS relationships with fishers to be assured of a steady supply of fish to sustain their trade. Duwal et al. (2015) also note that when this arrangement is concluded, fishers grant preferential access to fish to the female fish traders in exchange for sex. MacPherson et al. (2012) report that after giving sex, the women who exchanged sex for fish are first to get their supply of fish. Other women without familial connections often find it extremely difficult to get fish and this is what often compels female fish traders to look for sex partners among fishers at fishing destination points. Gordon (2005) reports that in some communities, the fish traders have to compete to be part of a FFS transaction in order not to lose supply of fish. The competition is keener during lean fishing seasons when the wholesale fishmongers tend to have at least one sexual partner among boat-owners just to secure the supply of fish (FAO, 2006). This is indicative of the vulnerability of the women compelled to engage in this transaction due to the desire to have preferential access to the supply of fish.

Kissling et al. (2005) and Awounda (2003) argue that FFS increases the HIV vulnerability of the female fish traders in fishing communities who engage in the practice as most of them are poor fishmongers who often become sexual victims of fishers in the communities. Kissling et al. (2005) argue that by offering sex and paying cash for the fish, the women also offer double payment for the fish, and this also amounts to exploitation. Kwena (2006) also contends that not only do the women become victims of exploitation, the FFS occurs in unprotected contexts of very low condom use. Further insights into the practice also show that FFS involves either a small number of female fish-traders having unprotected sex with a large number of male fishers, or a large number of fish traders having sex with a small number of fishers within the fishing destination (Garnett and Anderson, 1996, cited in Duwal et al., 2015).

From the foregoing, FFS is a potentially HIV-risk practice, and exploitative as it increases the vulnerability of not only the fish traders and fishers engaged in it but the general population through sexual contacts. It is an issue of power play in which males have an upper hand in the decisions taken. Kwena (2006) reports low condom use, which usually occurs because the women have very little say in negotiating for protected sex in the transaction.

2.7.4 Low Knowledge of fishers regarding HIV

Protecting and avoiding the spread and multiple re-infections of HIV requires good knowledge. In this respect, this section of the literature review focuses on evidence on the knowledge of fisher mobility and links with HIV risk. The level of knowledge of fishers, efforts put in to enhance HIV knowledge among fishers, factors accounting for the poor knowledge, and the effects of poor knowledge have been discussed in this section.

A review paper on HIV knowledge, attitudes and practices found that globally, efforts at improving preventive knowledge of HIV have been intensified and yet only about 50 percent of people in 15 countries noted to have the highest HIV prevalence have the capacity to answer basic questions regarding HIV and its transmission correctly (Guindo et al., 2014). Oluwosegun et al. (2013) also found in a study conducted in selected fishing communities of Kainji Lake Basin that 98.4 percent of the fishers were actually aware of HIV but lacked knowledge on mode of transmission and prevention.

Guindo et al. (2014) reports in their review paper that access and information about HIV, and methods and approaches used to carry out information vary from country to country. The examples of HIV programmes being implemented globally mentioned in the review include the promotion of condom use and contraception, voluntary counselling and testing, targeted information provision and needle and syringe programmes. In Ghana, the Ghana AIDS Commission and the National AIDS Control Programme under the Ghana Health Service (GHS) have implemented and progressively increased community and public education and awareness, which has contributed to the high knowledge of HIV and other sexually transmitted diseases in the country (Biritwum, 2014). Findings from the Ghana Demographic Health Survey (GSS, 2015) show that knowledge about HIV prevention is higher in men (four in five) than in women (seven in ten), thus suggesting that men are more likely than women to know about the different HIV prevention methods in Ghana.

Kirby, Laris and Rolleri (2005) observe that HIV programmes implemented around the world have yielded significant results in improving HIV knowledge and practices, especially in developing countries. Incidentally, this is not the case with mobile people such as fishers. Literature on fishers has shown poor HIV knowledge, attitudes and

practices of fishers. Incidentally, all these studies have associated the poor knowledge, attitudes and practices to the high mobility of fishers (Duwal et al., 2015; Korankye et al., 2012; Rongyao et al., 2000; WHO, 2005; Xiao et al., 2006). Wang (2013) and Owoaje (2011) have also reported that mobile workers' knowledge of HIV and AIDS is minimal owing to their inability to obtain useful information, consultation, and healthcare services pertaining to HIV and AIDS. Duwal et. al. (2015) explains that due to their high mobility, fishers for instance, hardly stay at one point making it difficult to reach them with SRHR programmes. Additional information provided to explain the poor knowledge was the fact that most fishers have poor educational backgrounds with the majority of them either being illiterates or school dropouts (Duwa et al., 2015).

From the literature, significant efforts have been made to improve HIV knowledge of fishers around the world, yet there is much more work to be done to address the problem as many fishers still have poor knowledge on the disease. Since poor knowledge among fishers has been associated with their mobility, there is the need to have effective strategies well suited to the movements of fishers to enhance their knowledge. It is important to note that the low knowledge of fishers has negative repercussions as many fishers do not observe primary prevention as important. For instance, if they have adequate knowledge on the disease, the likelihood of being selective in their choice of sexual partners and avoiding certain sexual practices that would reduce the risk of infection would be a priority (Teye, 2005). Risk denial attitude amongst fisher folks would also be minimised through enhanced knowledge on the disease.

2.7.5 Poor Uptake of HIV testing among fishers

Testing for HIV is an important component in controlling the spread of HIV (Valdiserri et al., 1999). HIV Testing and Counseling (HTC) services serve as the point of entry into HIV treatment, care and support services. Indeed, earlier research has shown that

knowing one's HIV status is associated with substantial reduction of risky sexual behaviours among HIV-infected individuals (Marks et al., 2015). HIV testing makes people aware of their HIV status and allows them to take steps to prevent transmission and access care and treatment when they test positive (GSS, 2015). On the other hand, when individuals get to know that their HIV status is negative, they are less likely to engage in risky sexual behaviours. In other words, having no knowledge of HIV status can have negative implications for an individual, his or her sexual partners and the wider community in which they live.

In spite of the immense benefits of HIV testing, available statistics suggest that the proportion of individuals who know their HIV status remains significantly low. At the global level, approximately 70 percent of people living with HIV were aware of their HIV status in 2016. The remaining 30 percent (over 11 million people) were not aware of their HIV status and need access to HIV testing services (WHO, 2017). On the whole, testing among mobile workers is low. In a baseline survey on prevention of HIV and AIDS among migrants in 2010 from Myanmar, Cambodia, and Laos in 10 purposely-selected provinces of Thailand among 1,034 participants, only a little above five percent (5.3 percent) reported ever having been tested for HIV (Musumari and Chamchan, 2016). Many studies have also shown that fishing communities are places where uptake of HTC is very low among fisher folks. In a study in selected fishing communities of Lake Victoria Basin in Uganda, Opio et al. (2013) found that 36 percent of women and 31 percent of men reported that they were tested for HIV and received their test results the last time they were tested. The low HIV testing uptake among fishers is adduced to some perceived barriers, which include lack of knowledge of where to get tested, irregular working hours which hinder fishers from testing, cost of test being too expensive, not wanting to know the test results, and people thinking that they have a

low risk of having HIV and saw no need to get tested (CARE, 2001; Seeley and Allison, 2005). From the literature, HIV prevalence in fishing communities is between 20 percent and 28 percent, which is usually higher compared to the general population (Allison and Seeley, 2004; Kwena et al., 2010). Given the risky sexual habits of fishers and the high prevalence rates of HIV in fishing communities, having no knowledge of one's HIV status in fishing communities may constitute a risky behaviuor that elevates risks of contracting HIV.

2.7.6 Inconsistent use of condoms

A condom is a sheath-shaped barrier device, which is usually used during sexual intercourse to reduce the probability of pregnancy or a sexually transmitted infection such as HIV. Most condoms are made of materials (latex) that do not allow sperms or virus to pass through them (Pinkerton & Abramson, 1997). It is documented that individuals who use condoms consistently are 10 to 20 times unlikely to be infected with HIV than non-condom users (Pinkerton & Abramson, 1997). Inconsistent use of condoms in any non-regular sexual activity is regarded as unprotected sex likely to expose an individual to unwanted pregnancy or sexually transmitted diseases such as HIV. Fishers have been reported as not using condoms consistently in casual sexual encounters (Bouanchaud, 2011; Kwena, 2006). Studies done in Kenya, Zambia, and Uganda found that nonuse of condoms among fishers is borne out of ignorance and poor knowledge about HIV prevention methods (Camlin et al., 2013; Kwena, 2006; Lungu & Husken, 2010). For example, Lungu and Husken (2010) note in the Zambian study that most fishermen practise unprotected sex since they believe that using condoms might negatively influence the benefits of giving out fish for free in return to sex. The literature shows prevalence of FFS transactional sex in fishing communities, which involves low or non-use of condoms because many perceive it as an intimate relationship

and not casual. According to Lungu and Husken (2010), since condom use in FFS is low, the practice facilitates the spread of HIV and AIDS in fishing communities. According to Lubega et al. (2015), HIV risk denials also influences condom use among fishers since they are reported not to be afraid of AIDS.

2.7.7 HIV Risk Denial

Research has shown that HIV risk denial is one of the causes of the spread of HIV among fishers (Allison and Seeley, 2004; Lubega et al., 2015). Fishing is considered as a high risk occupation in terms of livelihood insecurity and physical danger (Kher, 2008). The uncertainty and danger surrounding fishing is believed to encourage risk-taking in terms of sexual behaviour, drug abuse and alcohol consumption (Allison and Seeley, 2004). The risk-taking nature of fishers has developed a certain masculine culture among them resulting in their lack of fear for HIV, low risk perception and denial of HIV risk (Allison and Seeley, 2004; Kher, 2008).

Lubega et al. (2015) found in a study in Uganda that lack of HIV-related fear among fishers was a determining factor in the high HIV transmission in the study area. The study also found that the HIV risk denial was due to the perception that fishing is more dangerous than HIV. Respondents in that study reported having seen their colleagues die during lake storms more often than HIV related deaths. Holvoet (2011) also observes that where people face other risks due to poverty, vulnerability or a risky occupation such as fishing or when people live in a generally precarious situation such as working on the seas where one does not know whether he will survive on a fishing expedition, risks of HIV may be discounted. As already discussed earlier, Kraan (2016) describes fishing as a risky occupation, which constantly places the lives of fishers in danger on water bodies. The life-threatening nature of fishing occupation reduces the fear of HIV

among fishers. It is deduced that fishers find more risk in the work they do than the risk of dying from HIV and this works against HIV protection efforts in fishing communities.

2.8 Other potential risk factors

Other factors that lead to the high risk of HIV amongst fishers whilst in mobility include separation from families and partners, and separation from the socio-cultural norms that guide behaviours in more stable communities (IOM, 2006). Gender differences prevailing in communities also account for the high vulnerability of fishers to HIV.

2.8.1 Staying away from families and partners

Mojola (2011) observed that factors such as the deteriorating quality of the water due to pollution, disruption by water hyacinth of fish breeding grounds, and increasing numbers of fishers in search of fish affect the quality and quantity of fish and as a result compels fishers to move elsewhere, spending more time away from home on their boats to find a new location for bigger fish catch. This implies that fishers are kept away from home until they are able to get the catch that they anticipate before reuniting with their families and partners at home.

Shawyer et al. (2003) also contend that fishers are sometimes kept in other fishing destinations owing to the lack of facilities for the storage and conservation of fish. They note in their report that all species of fish will stay fresh for longer periods than those that are not preserved and that fish sent to market in well-preserved conditions always get better pricing and sale, both at wholesale and retail levels. Incidentally, most small-scale fishers who use canoes and other smaller boats do not have adequate storage and conservation facilities on their boats and this affects their catch. Shawyer et al. (2003) explain further that smaller boats and dugout canoes, which are often used for small-scale marine fishing, have limited space to keep storage facilities such as ice, until it is

needed. According to Mojola (2011), once fishers found fish going back to their home beach might take longer marine miles and might affect the quality of the fish. Lack of refrigeration or preservation facilities on a boat meant landing on the nearest fishing destination and selling off their catch before the fish get rotten. Mojola (2011) explained further that landing on the nearest beach also meant the necessity of getting a contact person to sell the fish. It becomes necessary, therefore, to establish a temporary home on the new beach for future transactions. Since most of the contact persons are females, the fishers often find themselves involved in sexual relations even though the initial intention for contact was purely business-oriented. Mojola (2011) indicates that some fishers establish temporary homes on the new beach either for fish sale or for sexual gratification. Incidentally, fishers may engage in sexual relationships with these local female fish traders whose sero-status is often unknown.

Lungu and Husken (2010) also report that some fish traders have had to spend nights away from their current place of residence in order to buy fish at other fishing destination points. This usually occurs when fish traders are not able to procure the amount or quantity of fish that they desire to buy and so have to pass the night (s) away from home in order to get the fish.

In effect, if not for the challenge posed by poor ecology, the lack of refrigeration facilities, and failure to procure the amount of fish desired, most fishers would make regular returns to their home beaches, sell their fish and reunite with their regular sexual partners. The detachment of fishers from regular partners for periods of time weakens social and familial attachments, increasing risk taking behaviours among them as there is no fear of being found out by people they know in the fishing destination (Hawthorne, 2008; Hirschi (1969), 1970; Tiruneh et al., 2013; Weine et al., 2012; Whyte and Parish; 1984; Yang et al., 2004; Zhuang, 2012).

2.8.2 Gender differences in HIV risk exposure among fishers

According to an FAO (2015) publication, normative patterns of social organization, social behaviour, and social and gender roles have great influence on fisheries and social activities in small-scale fishing communities. In the same publication, it is reported that division of labour between men and women exists in the fisheries, where the assignment of different parts of the fishing process is given to each sex in order to improve efficiency. Globally, the roles in fishing activities in fishing communities are sharply divided, with men being primary producers of the fish, predominantly going to fishing on boats while women engage in post-harvest activities such as smoking, drying, and marketing (FAO, 2015; Mbenga, 2000). De Silva (2011) also explained that female participation in the fisheries value chain is limited to the areas such as packaging, handling, processing and conservation, where skilled labour is largely not required. In Hitomi's (2009) view, the concentration on males in the fisheries sector is due to the fact that the areas females are involved are ignored in the literature, resulting in their invisibility.

In the Indian State of Kerala, women play similar and differing roles in maintaining the social and cultural foundations of the fishing communities. In the Hindu Araya and the Christian Mukkuva fishing communities, women's roles relate to fish processing, buying and selling in distant markets, whilst the men go to sea for fish catch. The fishing economy of Kenya in Nyanza also has a gendered structure in which men fish and women sell the fish (Béné and Merten, 2008; Merten and Haller 2007). In fishing communities in Sri Lanka, males fish but once the fish is caught it becomes a household property where fishers hand over the fish to their wives to sell (Stirrat 1989 cited in Mojola, 2011). According to Odotei (1990), in Ghana, women have important roles in keeping with the historical practice, in which traditionally, the men go to catch the fish

and hand over the catch to their wives or female partners to process and market. She explains further that women in artisanal fishing in Ghana are involved in the shore-based fish processing, marketing and net making activities. They also sometimes play an important financial role in providing the earnings that are saved as household income during lean seasons. Incidentally, in Sierra Leone the relationship differs slightly, as wives buy the fish and sell it (Steady 1987 cited in Mojola, 2011).

In spite of the important roles assigned and played by women, there are existing inequalities which seem to set an imbalance of power between males and females. Mbenga (2001) explains that the area of women's engagement is usually limited to post-harvest activities (smoking, drying, and marketing), which often earns a narrower profit margin than that made by fish catchers. In sub-Saharan Africa, generally, women are considered particularly susceptible to HIV due to the gender inequality that exists in many African societies (Zhihong and Larsen, 2008, cited in Kher, 2008). The existing inequality has given rise to more power to men placing women in subordinate positions to men over the years. Since men go to catch the fish and women process and sell, the overall control of the fish rests with the men, as women find themselves at the receiving end of the fish production. The fish-control power dynamics thrive on the gender inequality that exists within the fish production and supply chain, and it is essential for the understanding of the vulnerability of female fishers in the fisheries sector in sub-Saharan Africa particularly. The gendered structure in the fishing communities has implications for the vulnerability and susceptibility of women to HIV infection in different ways. For instance, the FFS transactions are often made under unequal and imbalance power conditions in which women have very little dictates in the terms. As Kher (2008) notes, since male fishers have the fish catch, they are able to exploit the women on the conditions of "no sex – no fish" basis. Béné and Merten (2008) found that

owing to intense competition for securing fish stocks, and to avoid inconveniences of long days to get fish, the female fish traders always find themselves complying with these unequal terms. Kwena (2006) notes further that even when the male fishers refuse to use condoms, some fish traders still go ahead to have unprotected sex for fear of being denied the fish. Allison and Seeley (2004) also argue that the gender inequality structures place not only fish traders in subordinating roles but impoverish other women engaged in other fishing-related activities in the fishing communities. In effect, most women are unable to negotiate for sexual protection because of the fear of losing the fish to another female fish trader within the community.

Two issues emerge from the discussion; first that the vulnerability of women is determined by the differential access to income by males and females. Due to the income differentials, women in most fishing communities become economically dependent on men and are more likely to exchange sex for money (Gupta, 2000). Second, the ramifications of gender power imbalance extends to rights to negotiate for condom use when they engage in sex with male fishers who may have had multiple unprotected sexual encounters with other women, including sex workers. Being economically dependent on male fishers makes it less likely to challenge their sexual risk behaviour and place female fishers at HIV risk.

2.9 Importance of the Fisheries Sector

A number of questions have been raised concerning the importance of the fisheries sector and the nature of fisheries-related mobility. Fishing provides many benefits to society, including food, employment, and business opportunities.

2.9.1 Fisheries and the Economy

Fisheries contribute greatly to the improvement and sustenance of many economies. An FAO (2016) report states that the global intake of fish accounted for about 17 percent of the global population's intake of animal protein and 6.7 percent of all protein consumed in 2013. In many least developed countries of Africa and Asia, fish accounts for more than 50 percent of the total animal protein intake (FAO, 2018). In Ghana, fish constitutes more than sixty percent of animal protein intake by the Ghanaian population according to a MOFAD (2015) report. In sub-Saharan Africa, the exports from fish production generates huge foreign exchange (FAO, 2016), and according to Chaudhuri and Prince (2013), the fishing sector accounts for about 20 percent of the Gross Domestic Product (GDP) of many countries. In Ghana, fisheries account for an estimated 4.5 percent of the GDP, with small-scale fisheries alone contributing 3.5 percent (FAO, 2006; GSS, 2012; Nunoo and Asiedu, 2013; MOFAD, 2015). Exports of fish and fishery products generate huge foreign exchange not only in sub-Saharan Africa but in countries along the Indian Ocean, and indeed the world at large (Chauvin et al., 2012).

2.9.2 Fisheries and Livelihoods

Earlier research has shown that since the beginning of the 20th century, the sector has served as a major source of livelihood for sections of coastal people and also made significant contributions in reducing household poverty in most African countries (Chauveau, 1990; Ferraris et al., 1998; Nunoo and Asiedu, 2013; Opio et al., 2013). In Ghana, the fisheries sector has been a pillar of the national economy, providing employment for an estimated 10 percent of the population, representing about 2.5 million people engaged in direct or indirect jobs within the sector (MOFAD, 2015). Small-scale fishers in Ghana provide the majority of the national fisheries catch with the marine sub-sector delivering more than 80 percent of the total catch, making it the most important

source of local fish production in the country (Marquette et al., 2002). The Government of Ghana has made aquaculture one of its topmost development priorities and channeled substantial resources into supporting fish farmers in various aspects of the industry. The aquaculture sector is also being promoted through restocking programmes in Lake Volta, reservoirs and other water bodies and the rehabilitation of hatcheries and aquaculture demonstration centres (FAO, 2016).

The fisheries sector is recognised as an important area that provides livelihoods for many people in other developing countries. For example, more than 80 percent of Nigeria's total domestic fish production is generated by artisanal small-scale fishers from coastal, inshore, creeks of the Niger Delta, lagoons, inland rivers and lakes with total fish imports amounting to about USD 1.2 billion in 2013. In 2014, 713,036 people in Nigeria were reported as engaged in inland fisheries with 21 percent of this total being women (FAO, 2018). A regional study carried out in the Lake Victoria Basin of Uganda, Kenya and Tanzania showed that the main source of household income of fisher folks comes from fisheries (Opio et al., 2013).

2.10 HIV and Fisheries Development and Management

The 2006 report on the State of World Fisheries and Aquaculture (FAO, 2007) expressed concern that HIV and AIDS in fishing communities is not only a public health concern but one that also affects fisheries development and management. It observes further that the impact of HIV is felt at the individual household level where it affects labour and production. The report argues that the reduction in labour has repercussions on production, and reduced production affects income generation in the fisheries sector, which also reduces input for investment in other income-generating activities (IGAs), and further reduction of access to food (FAO, 2007). An ILO report projects that HIV

and AIDS may cause a drop in economic growth by as much as 25 percent by the year 2020 in sub-Saharan Africa due to death and illness among workers in their most productive years (ILO, 2000). Globally, HIV and AIDS have already weakened the agricultural sector's ability to respond to market and environmental uncertainties (Barnett and Whiteside 2002; De Waal and Whiteside 2003) due to loss of labour. The loss of labour in the fisheries sector has damaging economic impacts (Gillespie, 1989; Lisk, 2002) that can affect the economies of most sub-Saharan African countries if HIV among fisheries workers is not addressed. Other studies point out that the loss of labour in households due to death or the inability of fishers who have contracted HIV to make productive contributions comes as a loss to fishing households. It leads to losses in household income, affects saving capacity of the households, leading to sale of assets and properties, resulting in impoverishment and economic vulnerabilities which elevate HIV risk behaviours of affected household members (FAO, 2006; Kher, 2007).

Currently, fish constitutes more than 60 percent of animal protein intake of Ghanaians. A report of MOFAD (2015) shows that Ghana's marine fish landings have declined over the last decade. This has resulted in Ghana becoming a net importer of about 40 percent of fish requirements. Projections of MOFAD show that this figure may increase in the future due to Ghana's population growth rate combined with the current dwindling trend in fish landings. This will have significant implications for the country's economy if HIV in the sector is to lead to deaths of fisheries workers. Given that a large share of the population relies upon fish and fish products as their main source of protein, there is no reason to doubt the impact of HIV on fisheries development and management due to the negative effects on labour and production.

In spite of the importance of the fisheries sector in national economies of many nations within the West African Region, the literature on fisheries shows that there is either very little information reported on it or reflected in the statistics on trade within West Africa due to poor records (ICSF, 2002).

In sum, fisheries constitute an important aspect of every society contributing to the economic base of countries, serving as source of protein, source of livelihoods, a major foreign exchange earner, and accounting for significant portions of GDPs of many countries. The high HIV prevalence in the area constitutes a challenge that could have negative implications for fisheries management and development if suitable steps are not taken to protect the sector. This underscores the need to sustain fish production and consumption and also ensure that fishers and fishing communities are healthy and free from HIV. Doing this requires relevant information for decision making. A look at the vast body of literature on fisheries appears that there is a large concentration on fish production with little research done on health and welfare of the human resource, leaving gaps in the literature. It is crucial to generate adequate research information on the health-related issues associated with the mobility of the human resource for purposes of fisheries management and development. From the literature, there exist gaps in literature on mobility and health of fishers (FAO, 2006, 2007, 2016). The bulk of the available fisheries information in Ghana for example, is centered on fisheries resource management and development aimed at the maximization of fish production (GSS, 2012; Nunoo and Asiedu, 2013; MOFAD, 2015). As indicated earlier, Ghana's Fisheries Management Plan for 2015-2019 fails to recognize HIV in spite of the threat the disease poses to the sector. Efforts at maximizing fish production stands to be compromised if the needed attention is not given to the human resource element which has been given very little attention.

2.11 Gaps in the Literature Review

This review highlights a number of important issues that need to be considered in understanding the relationship between mobility of fishers and HIV risks. The review has also identified significant gaps in scholarly work, which the current study seeks to fill.

The literature shows that HIV and AIDS are a threat to fisheries development and management. Incidentally, little attention is given to safe sex practices in the sector. There is a strong relationship between mobility and the transmission and acquisition of HIV and AIDS in the fisheries sector. It does appear that this relationship has either not been adequately explored or has not been adequately reported in the literature. There is little documentation on HIV and AIDS and the threats it poses to fish production. The bulk of fisheries research is concentrated on the maximization of fish production, with little attention on the health and welfare of the human resources. From the literature, efforts at maximizing fish production stand to be compromised if the needed attention is not given to the human resource element which according to the literature, has been given very little focus.

The review indicates that high HIV incidence among fisher folks is a reflection of the settlement patterns and the living conditions of fishers in fishing communities. The literature merely mentions the deplorable states of most fisher communities, but fails to relate them to HIV infection risks. For instance, there are insights about the overcrowding, sub-standard living conditions and impoverishment in fishing communities with no connection to how they are related to HIV risks in fishing communities. Generally, available literature on fisher mobility notes that most fishing destination points lack social services such as schools, potable water, sanitation facilities, health care, road infrastructure and reliable markets, etc., but hardly interrelate these

conditions to the promiscuous lifestyles, risky sexual behaviours and higher rates of HIV infection in fishing settlements. Other works by Lungu and Husken (2010) and Holvoet (2011) show that fisher mobility in other places such as Kenya, Uganda, Zambia and Tanzania indicate that many fishing destination points do not have lodging facilities for fishers. The literature shows that, the nature of the work of fishers makes them spend lengths of time outside home, which require them to find places to pass their night in fishing destination points. The lack of proper sleeping facilities put fishers in very difficult circumstances, which have implications for HIV infection risk. In Ghana, very little is known about the difficult circumstances fishers face and the extent to which it relates to HIV exposure among fishers in fishing communities. The results of the study add to limited literature available on settlement patterns of fishers at fishing destination points.

The studies provide an insightful picture of the various roles both males and females play in fishing activities. The examples observed from Asia, Central America and Africa seem to suggest that generally, there seems to be a sharp division with males catching the fish and females processing, marketing, and distributing the fish (FAO, 2001). The literature also indicates power dynamics in the roles assigned men and women, with men having power over women due to control and supply of fish while women in most fishing communities become economically dependent on men (Gupta, 2000). On account of the power in their hands, male fishers seem to have used their power to exploit women for sex. For example, in FFS relations, men seem to always be in control, but from the literature some women also take advantage of the sexual practice to make gains in raising capital for their fish trade, which has largely been neglected in the literature. It is important to explore how women also take advantage of the practice to sustain their trade.

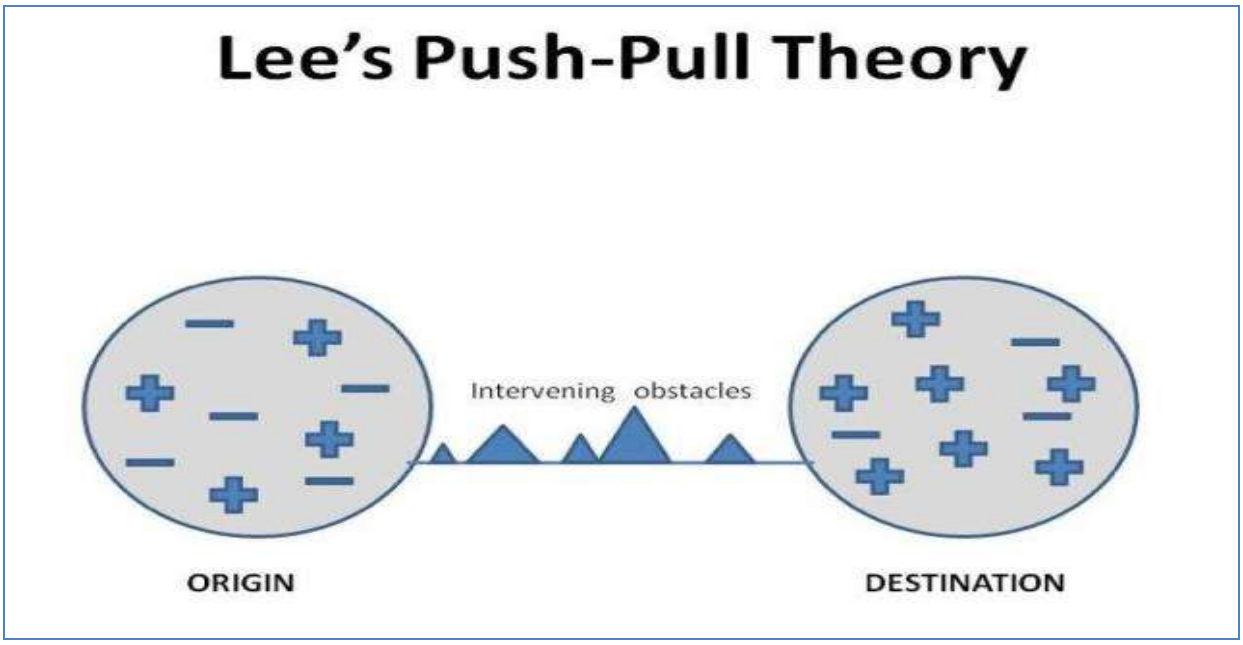
2.12 Theoretical Background

Various theoretical models have been used to examine HIV infection risk among mobile populations. However, four theories which are considered as a suitable framework for the current study were chosen. The four theories were chosen based on their strengths and suitability in relation to being used as frameworks for explaining concepts on mobility, social behaviour, health behaviour, and gender dynamics in the current study. The theories utilized are, the Push-Pull Model, Social Control Theory, the Health Belief Model, and the Theory of Gender and Power.

Lee's (1966) Push-Pull Model (PPM) provides explanations regarding factors that lead to mobility of fishers in the study. Though the Push-Pull Model was developed to explain cause or motive of migration, the theory has been adapted for the current study since it is well suited for explaining patterns in fishing-related mobility. Taylor et al. (2011) note that the PPM is the most commonly used theory in migration studies. They also report that the model has been successfully used in several studies to explain relationships and interactions between mobility and HIV infection risks among mobile populations. The model can be used to predict "push" and "pull" factors which are regarded to control the process of mobility in fishing activities. In effect, the application of the PPM allows the "Push" and "Pull" factors that are thought to govern the mobility of fishers from one fishing destination point to another to be thoroughly analyzed. Issues related to intervening obstacles and personal factors which also affect fisher mobility are clearly explained using the PPM. Thus, the use of PPM allows suitable explanations to be made on fisher movements to engage in fishing-related activities in other fishing destinations outside their current place of residence in the current study.

The PPM was first started by Ravenstein in 1889, when he provided the factors motivating people to migrate. Ravenstein is widely regarded as the earliest migration theorist who used census data from England and Wales to develop his "Laws of Migration". He concluded that migration was governed by a "push-pull" process. Lee (1966) reformulated the factors associated with the decision people take in migration processes into four categories: factors associated with the area of origin; factors associated with the area of destination; intervening obstacles; and personal factors. Lee (1966) argues that all these four categories act to push or pull people from an area, or to hold the people in the area, or to attract the people to it. Figure 2.1 is a schematic chart illustrating push-pull factors in both place of origin and destination and, the intervening obstacles as well as personal factors for the decision making. The + signs in the chart stand for the pull factors of an area, which act to hold people within the area or attract people to it, and − signs stand for the push factors in an area which tend to repel people. Lee (1966) notes that all these factors work with the personal factors together to determine the decision making of migration. He argues that every potential mobile person takes into consideration a balance of the +'s and –'s of origin + destination along with difficulty of intervening obstacles in deciding whether or not to migrate.

Figure 2.1: Lee's migration factors chart (Lee, 1966)



Source: Everett Lee, Push-Pull Model, 1966

To apply the PPM to the current study, it is important to consider some of the relevant factors that fit within the four main constructs of the model. The attraction of better economic conditions has always served as an incentive (pull) for people to migrate (Muniz et al., 2010). In fishing communities, fishers are usually pushed or pulled to move mainly by economic reasons usually backed by the assurance of the availability of fish at a destination point (Abobi et al., 2015). Fishers are induced to move when there are expected economic benefits (positive factors) in other places if their current place of residence does not provide their immediate fisheries needs (negative factors). If the desire of a fisher is to increase his/her income or fish catch and he/she does not have it at the place of origin, he/she is inclined to move to another place (s) where he/she perceives to have increased income. The expectation of making big fish catches in other waters and increasing their incomes may serve as a pull factor in inducing fishers to go to other fishing destination points to engage in fishing activities (pull factors). The availability of fishing facilities in other fishing destinations such as berthing facilities, fish market,

storage facilities, loan facilities etc. which may not be available at the point of origin may pull fishers. For example, Elmina is a strategically located urban community, with a berthing facility which has created fishing industry for fish net mending, boat and canoe mechanical shops. Elmina also has a big fishing market, storage facilities, banking institutions and Savings and Loans Companies, which offer loan facilities to male fishers and fish traders (mongers), making it far more easier getting access to loans than in other fishing destinations. The fish market is very conducive for fish trade and creates jobs for young people. The presence of the fish market is lucrative for fish trade, whilst the berthing facilities also facilitate fishing activities more conveniently than in other destination points without such facilities. For fisher outside of Elmina, these factors may account for their mobility to the Elmina community (KEEA, 2014).

Other factors related to climatic and ecological conditions may also push fishers to move from one fishing community to another. For example, during lean seasons when fishers make poor fish catch, most fishers are compelled to move to engage in fishing-activities (push factors) in other fishing destination points in order to sustain their livelihood for survival. This explains the seasonality in the fishing activity, where fishers are pushed to other fishing destinations to catch, sell, buy or engage in other fishing related services.

The third construct of the PPM relates to intervening obstacles that have to be overcome before mobility takes place. Fishing is an occupation that requires strong physical health to carry out the tasks involved, and those individuals (fishers) with poor health or are aged may be less compelled to be mobile. In other words, the age and physique of an individual may serve as an intervening obstacle if the person is not eligible to undertake the physically demanding job of fishing. Other intervening obstacles relate to the fishers' ability to mobilize funds to embark on a fishing expedition. The fisher has to secure

funds to purchase fuel and lubricants, and also have resources to cater for the feeding of the fishing crew usually hired to assist on the canoes and boats to catch fish. Not having these resources may mean that a fishing expedition is not possible.

Apart from the factors associated with places of origin and destination, and the intervening obstacles, according to the PPM, there are personal factors, which will lead the fisher to either decide to move or stay. To move or to stay depends, to a large extent, on the personal factors such as the age of the person, marital status, educational level, intelligence, skills of the individual in fishing, etc. For example, as mentioned earlier, age is important if a fisher is to undertake any fishing expedition. Marital status is also crucial in determining movements of fishers. For instance, if a fisher has to move with all his family and he considers the cost of the trip to be too expensive to bear he may abandon the trip or move alone. This is because the decision to move may depend on his ability to finance the trip.

The PPM has been criticized to be too simplistic in not taking into account the fact that not all mobile people have the ability to act on migration decisions even when they desire to move. The model is deemed to merely look at people's desire to act according to their assessment or desirability. The ability of people to move differs from people to people no matter how desirable the journey may seem to them. Finally, opinions have also been raised that the theory is a bit outdated and focuses largely only on micro level factors on mobility and migration. Nevertheless the PPM is able to account for push and pull factors and intervening obstacles in the current study to predict mobility patterns in fishing-related movements in fishing communities.

The second theory is Hirschi's (1969) Social Control Theory (SCT), which explains the sociological forces that can prevent people from engaging in deviant behaviours. Social

control theory gained prominence during the 1960s when sociologists sought to give varying concepts to explain deviant and criminal behaviours of individuals. This was the time Travis Hirschi (1969) also came out with his version of the social control theory, which was built upon existing concepts of social control theories. Hirschi (1969) explained that deviant behaviours occur when the bonds in society are weakened.

According to Goffman (1959) human beings engage in what he refers to as 'performance management'. He explained that human beings are like actors on stage; what they perform on stage before their audience is different from their real lifestyle. Human beings act differently by sometimes engaging in deviant behaviours when they are outside social establishment. This is what Hirschi (1969) sought to explain human social behaviour outside social establishments and social bonds in the SCT. Hirschi (1969) defined 'Deviance' as beliefs, values, and/or behaviours which are inconsistent with acceptable social norms and presents harmful consequences for the individual and/or the public (Hirschi (1969). The SCT posits that individuals engage in delinquent behaviour when their "social bond" to society is weakened. According to Hirschi (1969), these social bonds are based on attachment people have with society, commitment to activities in which an individual has invested time and energy, involvement in activities that serve to both further bond an individual to others and leave limited time to become involved in deviant activities; and finally, belief in wider social values. The four aspects of social control, according to Hirschi (1969), control an individual's propensity to engage in deviant actions.

The first construct is 'attachment', which he refers to as the symbiotic linkage a person has with society. According to Hirschi (1969), people with strong and stable attachments to their societies weigh their options and are less likely to take actions that violate their

social norms. When individuals are attached to their families, friends and communities it is very difficult to engage in behaviours which would go against the attachment they have with these groups. The high mobility of fishers in the course of their work, take them away from families, friends, communities and social attachments. So in effect, mobility weakens the symbolic linkage Hirschi (1969) describes as 'attachment' and increases deviant behaviours amongst mobile people such as fishers.

The second construct relates to what he refers to as 'commitment'. Hirschi (1969) explained commitment as the investment individuals have made in social activities and institutions. His position on commitment rests on the premise that there is an association between a person's level of commitment and propensity for deviance. According to the theory, most individuals who have made valuable investments to conform to social norms and expectations are less likely to deviate than those with little or no investments, since they have more to lose. When individuals have strong social bonds, they are inclined to also be committed to these bonds, making it difficult to endanger them. The nature of fishers' occupation makes it highly unlikely to be stable at one destination and this explains why most fishers engage in casual and multiple relationships, which do not demand stable commitments (Lungu and Husken, 2010). Once they are separated from their families, friends and other close relations, not only are their family and social attachments weakened, their commitments to their regular sexual relationships also weaken (Yang et al., 2004). Hirschi (1969) believes that individuals are likely to engage in delinquent behaviour when their social bond to society is weakened.

The third construct on 'involvement' describes people's engagement in their duty or work and obligations to non-deviant behaviours. He theorized that people who are very much committed to their duties spend more time doing what their work expects of them and

have very little or no time for deviant behaviours. Hirschi (1969) indicated that such people lead a life of virtue because they are too much engaged in conventional duties to even find time for deviant acts. Fishers engage in delinquent acts during lean fishing seasons when there is very little to do and when their incomes have also run down or depleted. At this time there is excessive abuse of alcohol and engagement in casual sexual relationship among male fishers, whilst some female fish traders also engage in commercial sex work as a substitute for selling fish since at this time there is no fish to sell. Allison and Seeley (2004) observe that the idle moments and the frustration in the lean fishing seasons foster reckless habits of excessive drinking and engagement in risky sexual behaviours among male fishers. So in sum, involvement prevents delinquency, deviance and promiscuity amongst individuals.

The fourth construct, which is based on 'belief', refers to the personal allegiance and beliefs in the conventional values of the society the individual belongs. It relates to an individual's level of belief in the moral validity of his or her social values and norms. If a person's social norms frown on multiple sexual behaviours and the individual believes strongly in it, he is less likely to engage in sexual relations with multiple partners. This applies to alcohol abuse, risky sexual habits and other deviant behaviours. Belief is also associated with a person's attitudes and behaviours towards a disease such as HIV. If a person believes that HIV is a dangerous disease, there is the likelihood of such a person being protective and avoiding lifestyles that expose him to HIV risk.

As indicated earlier, the SCT is a theory that was propounded to explain offending behaviours of individuals and as a result some scholars have questioned the strengths of the SCT to predict serious criminal behaviours of individuals. Gibbons (1994), for example, questions whether the notions of self-control proposed by Hirschi (1969) can

be used to explain more serious offending behaviour. Most critics of the theory argue that the SCT is only good in explaining minor deviant acts and not necessarily adequate in accounting for serious offending crimes (Gibbons, 1994). Nevertheless, the four constructs of the theory are very appropriate for explaining deviant behaviours that amount to risky sexual behaviours of fishers whilst in mobility in the current study. The SCT is appropriate in explaining the influences leading to the engagement of fishers in non-regular, non-spousal and concurrent sexual behaviours outside their current places of residence.

The Health Belief Model (HBM), which is the third theory underpinning the current study, was developed in the 1950s as part of an effort by social psychologists in the United States Public Health Service to explain the lack of public participation in health screening and prevention programs (University of Twente, 2010). Since then the HBM has been adapted to explore a variety of long-and short-term health behaviours, including sexual risk behaviours and the transmission of HIV and AIDS. The HBM is an important psychological model for explaining and predicting health behaviours by focusing on the attitudes and beliefs of individuals. The model takes 'belief' as the critical variable for protection against a health condition, and has five constructs.

The first construct of the HBM is on perceived susceptibility, which relates to whether an individual perceives personal vulnerability to a particular health risk; whether the individual in question perceives likely to be at risk of contracting HIV. Earlier works on fishers have found that most fishers feel they are not vulnerable to HIV because they perceive themselves as physically strong individuals, who face and survive all kinds of dangers daily as they perform their normal fishing duties (Allison and Seeley, 2004; Lubega et al., 2015). Where people live in constant denial and perceive that they are not

susceptible, it becomes more difficult to make them realise that they have the potential to avoid a condition. The HBM presupposes that it is only when people realize this, that they will be able to take preventative actions.

The second construct of the model relates to personal severity. This is about whether the individual views the risk of HIV as a serious or treatable disease or condition. In an earlier study by Korankye and Dwomoh (2012) at Elmina in Ghana, they found that even though fishers know about HIV and AIDS, most of them did not consider the disease as a threat. For many of them, HIV affects others and not them and does not appear to them to be a serious disease which should be considered a threat. In situations where people do not perceive the severity of a disease, they are more unlikely to take preventive actions to prevent it. This accounts for non-use of condoms amongst people who discount the fear of HIV as a dangerous disease (Holvoet, 2011).

The third construct touches on the individual considering the costs and benefits of reducing risk behaviours, and so often people ask what gains or losses they will make by changing their behaviours. If people do not see the benefits to be derived from a changed behaviour they would not see the need to make changes to old habits. Fishers constitute a population group who are very conservative in their way of life and as a result find it very difficult to change their behaviours (Kher, 2008; Mojola, 2011).

The fourth construct relates to internal and external cues for action which constitute the circumstances that lead to risky or protective behaviour. These are strategies put in place to activate individual or public readiness that urge individuals to initiate action. These may include initiatives put in place to provide information, promote awareness, and reminders on HIV related issues. It may also be influences of national or community media publicity on HIV that motivates people to take certain decisions. In other words, a

risky or protective behaviours of the individual rests to a certain extent on the effectiveness of national or community media publicity in place to educate people on HIV or access to sexual and reproductive health services.

The fifth construct of the HBM relates to the perceived self-efficacy or the personal competence or capability of the individual to carry out protective behaviours. The person taking the health related action must feel confident that he or she has the capacity to take the recommended action, and this would require that the person has the necessary knowledge and skills in a supportive environment to carry out the required action (s). An example is the ability to negotiate for the use of condoms in any sexual encounter in a highly polarized fishing community, where women are marginalised. Kwena (2006) contends that FFS occurs in unprotected contexts of very low use of condoms because fearing that they may be denied fish, many women are not able to negotiate for the use of condoms. In such situations, the capacity to take a recommended action such as negotiating for condoms use becomes unattainable.

The HBM has been criticized for its lack of focus on environmental and economic factors, which tend to influence health behaviours (Bene and Merten, 2008; Traube et al., 2011). It is also criticized for its individualistic nature, as it fails to adequately incorporate the influence of peer influences and social norms and on people's decisions regarding their health behaviours. Certain societal factors may be beyond an individual's control. For example, peer pressure and peer modeling effects have a greater impact on the decisions young people make with regard to sexual behaviours, especially when they are away from home. Further, the theory is described as being 'gender-blind'. According to King (1999), the HBM does not address gender-based power differentials between males and females, which have important influences concerning the degree of power wielded by men and women in the decisions over sexual relations. In spite of the

limitations, the HBM is well suited in predicting risky and protective behaviours of fishers in the current study. For example, the model provides adequate explanations on why some individuals may use and others may not use condoms as an HIV prevention method during sex. Through the construct on the cues for action, the model also explains gains to be made in reducing HIV risk behaviours when efforts are put in improving individual knowledge, attitudes and perceptions towards HIV and AIDS. In the same manner as it predicts individual sexual behaviours, it allows suitable interventions to be developed for enhancing safe sex in fishing communities.

The Theory of Gender and Power (TGP) is an important theory considered when designing behavioural health interventions that address issues that adversely affect women. The TGP is a social structural theory that addresses the wider social and environmental issues surrounding women, specifically in the distribution of power and authority, affective influences, and gender-specific norms within heterosexual relationships. The TGP allows for an understanding of the complex interplay between gender and power beyond the individual perspective. The theory was developed by Robert Connell in 1987 and has three constructs: sexual division of labour, sexual division of power, and the structure of cathexis. Even though the three constructs are distinct, they overlap, and operate together and offer explanations on heterosexual relationship between men and women and the influences on women's health (Connell, 1987).

The TGP has been used in public health research to examine risk factors, also known as acquired risks as they relate to women's health. It has also been used in earlier studies to analyze gender-based inequalities and disparities that affect women's choices and decisions in sexual relationships. For example, Sa and Larsen (2008) applied it in their

study in Moshi, Tanzania, using gender inequality to explain women's risk of HIV infection. In another study in Port Harcourt in Nigeria, it was used as a theoretical framework to explore and clarify the gender dimension in societal beliefs and reactions towards people living with AIDS (Mbonu et al., 2010).

To illustrate how the theory influences women's risk of HIV, the current study considers some of the relevant exposures in relation to some socioeconomic risk factors in fishing communities and fisheries-related working environments. The three constructs of the TGP operates at two levels: the societal level and the institutional level. The theory identifies conditions that expose women to HIV risk at both the societal and institutional levels. At the societal level, in terms of sexual division of labour, males and females are assigned gender specific occupations where females are usually given lower paying positions. At the institutional level, females are often assigned to do work usually described as "women's work", which are unpaid care work such as childrearing, housework, and other caring roles or schedules that do not require skilled labour. Due to the uncompensated nature of such responsibilities, females' incomes are often affected. This is the case within the fishing activity, where the assignment of different parts of the fishing process is given to each sex in order to improve efficiency. Generally, men engage in actual fishing while women engage in post-harvest activities such as smoking, drying, and marketing (FAO, 2015; Mbenga, 2000). De Silva (2011) notes women are engaged more in the lower levels of the fisheries value chain where they have less access to resources and play minor roles in decision making. Mbenga (2000) reports that these assigned roles foster inequalities between men and women as the area of women's engagement is usually limited to post-harvest activities (smoking, drying, and marketing), which often earns a narrower profit margin than that made by fish catchers. The TGP theorizes that sexual division of labour begins at the societal level with the

inequality of power between men and women, and this has become the basis for the sexual division of power between males and females in the fishing activity. Wingood and DiClemente (2000) argue that sexual division of power at the institutional level is maintained by abuse of power, authority, and control in the hands of men. Such is the case in FFS transactional relations, which allow men to have control of the fish and so decide who to sell or who to give the fish to. According to Kwena (2006), some male fishers even demand sex from female traders before selling fish to them. Kwena (2006) and Mojola (2011) also adduce low condom use in fishing communities to division of power, which usually occurs because women have very little say in negotiating for protected sex in FFS transactions. Pitpitan et al. (2012) report that, many fish traders are afraid to discuss condoms with male partners because of the fear of being denied access to fish, placing them at higher risk of HIV infection.

Connell's (1987) third construct refers to the structure of cathexis. Connell (1987) developed this structure to address the affective nature of relationships. Connell (1987) used the term cathexis to describe the constraints in people's emotional attachments to each other. At the institutional level, social norms and affective attachments are maintained by social mechanisms such as social or cultural biases which allow the ascription or references of 'maleness' and 'femaleness' to certain jobs and positions. For example, in the fishing communities, the act of fishing is an area reserved solely for males because that is what society accepts and this tends to prevent or discourage women from engaging in it (De Silva, 2011). Hitomi (2009) found that men consider most women's physical appearance to be inferior for the fishing activity, which demotivates their engagements. Hitomi (2009) also emphasizes that cultural and societal beliefs also limit women's participation in actual fishing. He explains for instance, that most of the South Asian fishing communities believe that women on board a fishing expedition

brings bad luck. Indeed one of the longest standing superstitions amongst Ghanaian fishers, one that could also be classified as a bit of a myth, is that women on board a canoe equal bad luck. The Fante and Ewe fishers in Ghana for instance hold the belief that when women in their menstrual period being on a fishing expedition might produce bad luck and affect fish catch or lead to the capsizing of expedition boat. In most cases, women are not allowed to be part of fishing expeditions. So in short there is a huge 'maleness' wall built around fishing, which makes it difficult for women to climb to the top. These culturally normative roles weaken women's role, and deepen the existing inequalities experienced by women in heterosexual relationships (Wingood, & DiClemente, 2000).

The TGP is very appropriate for the current study because the three constructs in the theory explain gender dynamics in power inequalities, and their effects on interpersonal sexual relationships between male and female fishers within the fishing activity. The TGP is stereotypical in perspective as it fails to recognize recent trends in women's educational attainment and labour force participation rates. It fails to recognize that inequalities between men and women can be reduced through educational attainment and financial empowerment of women. In recent times women are competing with men as most women have attained higher educational statuses like their male counterparts and are equally occupying higher positions. Again, examples from Ghana, Uganda, Benin, Congo, Sierra Leone, Mali, Thailand, Cambodia and other parts of the world seem to suggest that there is a gradual change from the traditional role of women being fish processors and traders to primary investors or financiers and owners of boats and vessels (Holvoet, 2011; Odotei, 1992; Okali, 2006). The changing roles suggest shifts in power dynamics. A shift in power dynamics in the fishing activity may mean men may not have absolute control of fish and by extension not be able to use it to exploit women for

sex. In this regard, the power relations in the theory may not apply in all cases. In spite of the critique, the theory is applicable to this current study because it provides a basis for explaining the gender roles of women and men, power inequalities and the effect on interpersonal sexual relationships between male and female fishers within the fishing activity.

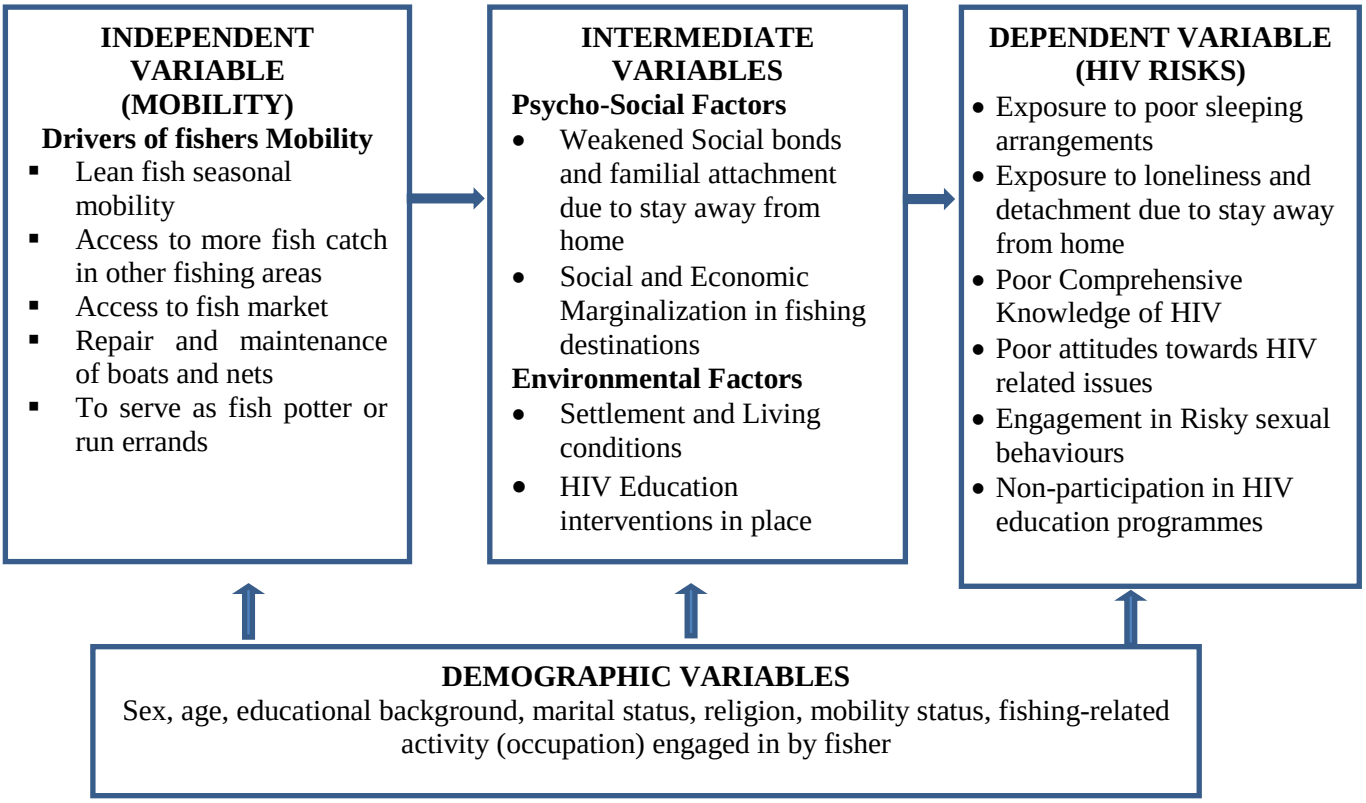
In sum, the four theories provide elements that help to predict and explain individual responses to mobility patterns, psycho-social behaviours, sexual behaviours, gender dynamics that expose fishers to HIV infection risks in fishing destinations. Having assessed their strengths and limitations, the four theories have been adopted and used to develop the Conceptual framework of the study.

2.13 Conceptual Framework

2.13.1 Introduction

Figure 2.2 is a conceptual framework, which highlights the relationship between mobility of fishers and HIV risk behaviours. The framework was guided by the literature, theories and earlier conceptual frameworks that have attempted to relate mobility to HIV risk exposure (Anarfi, 1993; Camlin et al., 2014, Tiruneh et al., 2015).

Figure 2.2: Conceptual Framework of Mobility of Fishers and HIV risks



Source: Author's Construct.

In spite of the differences, the current framework takes on board some ideas from the earlier models used by the authors who worked on risk to HIV (Anarfi, 1993; Camlin et al., 2014; Tiruneh et al., 2015; Yang, 2006). The conceptual framework has four components: the independent variable, the intermediate variables, the dependent variable, and background variables of the respondents. The framework illustrates interrelations between the four components to predict the relations between mobility and HIV risks among fishers (see Figure 2.2).

2.13.2 Independent Variables

Mobility is the main independent variable of this study. Mobility in the framework refers to any travels outside the study community of Elmina to engage in any fishing-related activity, which required the respondent to spend at least a night at a fishing

destination point in the last 12 months preceding the study. The framework (Figure 2.2) classifies participants of the study into two mobile fisher groups; mobile and non-mobile. A mobile fisher is any fisher who had travelled outside of Elmina (point of origin) to engage in any fishing-related activity in any other fishing community in the last 12 months preceding the study. On the other hand, a non-mobile fisher refers to a fisher whose work within the last 12 months was spent only within the home community. The term 'home' is used advisably to mean the current place of residence of the respondents, which is the study area of Elmina.

The assumption of the framework is that several push and pull factors account for the fishers' travels (mobility) from one fishing destination point to another. As shown in Figure 2.2, mobility to engage in fishing-related activities is induced by certain push and pull factors (Lee, 1966) such as the desire to look for fish elsewhere when fish is not availability at a fishing destination point, especially during lean fishing seasons, the desire to increase fish catch in other fishing areas, the desire to gain access to fish market to either buy fish at very affordable price or sell fish at good price, the benefits of getting access to loans to serve as capital, to do repair or maintenance on boats, nets, etc,, and to serve as fish potter.

2.13.3 Demographic Variables

The demographic variables (control) of the study include sex, age, educational background, marital status, religion, mobility status, fishing-related activity (occupation) engaged in by the fisher. Figure 2.2 illustrates the association between the demographic and independent variables (mobility of fishers). According to Lee (1966) age, education and marital status have important influences on mobility. For example, there is higher rate of mobility among younger persons in most fishing communities because they are

more likely to gain employment when they seek for employment in fishing destinations (Muniz et al., 2010). The fisheries sector is also considered a very dangerous and physically demanding sector and so attracts younger and stronger individuals with the capacity to do physically demanding tasks. These factors explain the dominance of males and young people in the fishing sector (Anarfi and Caldwell, 1997). Educational background also features in the framework as an important demographic variable because fishing is an occupation that employs people with little or no educational qualifications (FAO, 2006). Marital status is an important predictor of fisher mobility because fishing is an occupation that requires a lot of travels, and people with marital commitments often find it a challenge to cope with the numerous movements. In view of this, workers in the fisheries, especially, artisanal fishers who make extensive travels are predominantly young and unmarried persons (Duwal et al. 2015).

2.13.4 Intermediate Variables

The intermediate variables in the framework play a part in elevating HIV risk among fishers in fishing destinations. The intermediate variables are the psycho-social and environmental factors that serve as interface between the independent variables and the dependent variable (HIV risks). The intermediate variables also relate to the demographic variables of the respondents such as sex, age, education background, marital status, religion, mobility status and type of fishing activity (occupation) engaged in as discussed earlier.

Psycho-Social Factors: The psycho-social factors in framework refers to weakened social bonds and familial attachments of people in fishing communities, which usually arise when mobile fishers stay away from home (current place of residence) over long periods of time (Holvoet, 2011; Mojola, 2011; Tumwesigye et al., 2012; Olowosegun et al., 2013; SCT, 1969). Figure 2.2 implies that frequent separation of people from their

families can disrupt family life and regular sexual relationships and likely lead to risky sexual behaviours. In other words, a fisher has to have the ability to control his/her sexual conduct when they are away from home during their travels. The framework assumes that the ability to control may depend on demographic variables such as the sex, age, marital status, religion etc. of the fisher. For example, young people are more likely to be induced to engage in non-regular sexual relationships since they are not attached and very sexually active (Duwal et al., 2015; Olowosegun et al., 2013). The religion of a person may also deter a person from engaging in deviant behaviours (Gyimah et al., 2010; Hummer et al., 2004; Hirschi (1969) even when they are away from home. Marital status also has relationship in the control of sexual behavior when people move away from their places of origin. Being married may also serve as deterrent from engaging in risky sexual behaviours because of social norms about marital fidelity and spousal control (Yang and Xia, 2008).

Social and Economic Marginalization – Social and economic marginalization in the framework relates to gender inequalities, power imbalances and economic inequalities that arise as a result of the roles society ascribe to males and females in fishing communities (Connell, 1987). For example, the lack of economic empowerment of women in fishing communities expose them to risky sex as most of them lack the capacities to negotiate for safe sex in FFS relationships which occurs in fishing environments. The power and control of resources by men amount to economic marginalization with women facing the biggest brunt of it. The framework predicts social and economic marginalization as a driver of HIV risks among female fishers both at the societal (community) and institutional (value chain) levels.

Environmental Factors: Environmental factors refer to settlement conditions of fishers and the types of HIV education programmes in place to improve knowledge, attitude and

sexual behaviours. The two environmental factors have been used as predictors of HIV risk in previous studies in different countries for achieving different objectives which are closely similar to the current study (Camlin, 2013; Lungu and Husken, 2010).

The first environmental factor in the framework relates to the settlement conditions of the respondents. According to earlier works by Kher (2008) and Lungu & Husken (2010), fishing communities tend to be overcrowded and lack social amenities. The current study refers settlement as living arrangements such as place of sleep, access to water and toilet facilities in fishing destinations. Lack of these facilities has been linked to HIV risks among female fishers in an earlier study (Lungu and Husken, 2010). For instance, female fishers who find no decent and protective shelter at a fishing destination whilst in mobility may be exposed to sexual violence and exploitation that could expose them to HIV or other harmful acts (Lungu and Husken, 2010). Again, earlier works on mobility and HIV have also associated poor living settlements of young fishers in fishing communities to the engagement in alcoholism, drug abuse and promiscuous life styles (Bannerman et al, 2006; Holvoet, 2011; FAO, 2007; Kher, 2008). The framework assumes poor settlement conditions to elevate HIV risks among fishers.

The second environmental factor illustrated in the framework relates to HIV Education interventions in place. The assumption of the framework is that the availability and access of fishers to HIV education programmes tend to increase or decrease their vulnerability and capability to manage the HIV virus. An IOM (2003) report indicates lack of access to HIV initiatives make mobile populations more vulnerable to HIV infection. HIV initiatives that have yielded significant efforts in improving HIV knowledge and sexual practices, especially in developing countries, include public awareness creation, condoms supply, testing and counselling. Access to such services is deemed important to influence people's actions in relation to HIV and AIDS. From the

framework, the environmental factors are also influenced by variables such as the mobility status, age, sex, educational background etc. For example fishers who are highly mobile may not have adequate time to participate in HIV education programmes or utilize HIV services, thus affecting their levels of HIV prevention and transmission methods. Religion of fishers may also influence the kinds of HIV prevention methods to utilize. Earlier studies show religion influences the use of condoms as some religious groups preach against it as sinful (Agha, Hutchinson, & Kusantahn, 2006; Mash & Mash, 2013).

2.13.5 Dependent Variables

The framework conceptualizes dependent variables as proximate determinants or behavioural factors that serve as indicators of risky sexual behaviours among fishers. They constitute lifestyles or behaviours that place a person at increased risk of acquiring HIV. According to the framework, the proximate determinants include exposure to poor sleeping arrangements. This is particularly mentioned as it relates to circumstances where female fishers exchange sex in other to have a place of sleep, which leads to risky sex as most females are unable to negotiate for the use of condoms. Exposure to loneliness and detachment due to stay away from home is another proximate indicator of HIV risks illustrated in the Figure 2.2. The level of comprehensive knowledge on HIV, and poor attitudes towards HIV related issues (failure to test for HIV, negative attitudes to People living with HIV, HIV risk denials etc.) are also indicated as dependent variables of HIV risks in the current study. Engagement in risky sexual behaviours are included because having a greater number of non-regular sexual partners, inconsistent use of condoms etc, are associated with a risk of sexually transmitted infections. Non-participation in HIV education programmes also constitutes an HIV risk factor because it leads to lack of knowledge and ignorance on HIV and AIDS.

CHAPTER THREE

STUDY AREA AND RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the study area and methodology employed in this study. It details the research design and procedures, data sources, research population, sample size determination and sampling procedures and methods and instruments used, which are described extensively. The chapter also explains the methods for analysing and presenting both qualitative and quantitative data and the steps and processes taken to resolve ethical issues anticipated.

The study examined fishers' mobility and sexual experiences and in doing so, a survey was conducted using a semi-structured questionnaire to explore the views, knowledge and experiences of fishers on their mobility and sexual engagements with regard to HIV risk. Key informant interviews (KIIs) were also conducted with key officials of the KEEA Municipal Assembly, Municipal Health Administration Office, officers of the Fisheries Department, and officers of the Ghana AIDS Commission. Some officers of the Department of Community Development, Department of Gender, members of fisher associations, NGO officials, and community opinion leaders were also interviewed on fishing activity and issues on fishing, the sexual behaviours of fishers, and HIV. Two focus group discussions were also held with selected female fish traders and male fishers to discuss their individual lived experiences regarding mobility and HIV risk exposures.

The study was conducted at Elmina fishing community for a period of three months from 3rd July to 29th August 2017. The survey aspects and focus group discussions and some of the key informant interviews were done in July, whilst the remaining key interviews had to spread over a month. Getting some key informant interview participants was a

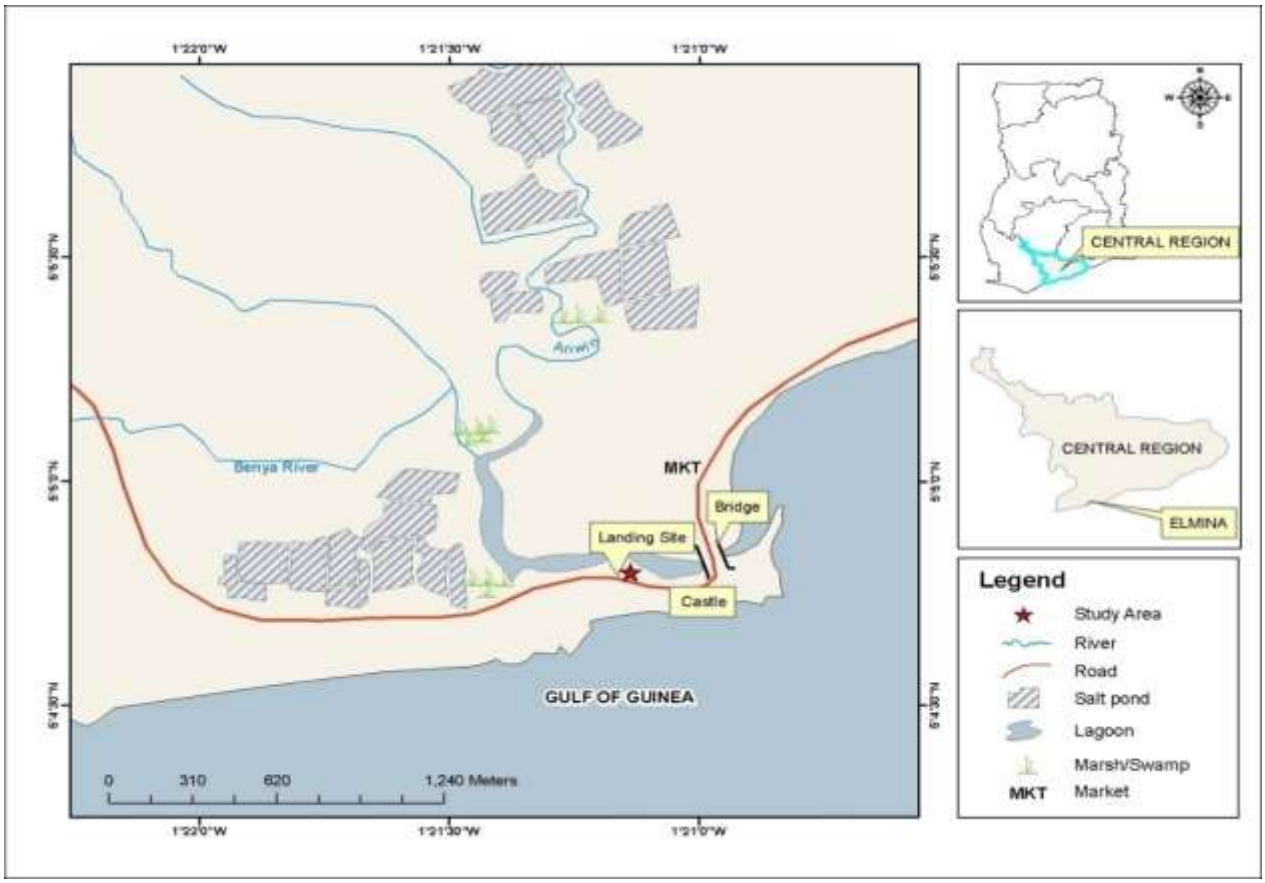
challenge and interviews had to be often rescheduled, sometimes more than once, to suit their convenience which prolonged the fieldwork.

3.2 Study Area

3.2.1 Location and Size

The study was undertaken in Elmina, which is the first European settlement in West Africa and the capital of the Komenda-Eguafo-Edina-Abirem Municipality. Elmina is located on the south coast of Ghana in the Central Region (see Figure 3.1), situated on a south-facing bay on the Atlantic Ocean coast of Ghana, 12 km west of Cape Coast (regional capital of the Central Region). It was carved out of the Cape Coast Metropolis in 1988 and elevated to a Municipality in 2008 in pursuance to Legislative Instrument (LI) 1857. The Municipality is bounded on the south by the Atlantic Ocean (Gulf of Guinea), the east by the Cape Coast Metropolis, the north by the Twifo-Hemang-Lower Denkyira District and the west by the Mpohor–Wassa East District. The Municipality covers an area of 452 square kilometers, given the municipality a population density of 319.8 persons per sq km. Elmina is the second most important landing site in Ghana, mainly used by inshore vessels and canoes. It also has two landing quays and a big fish market (GSS, 2014). Figure 3.1 is a map of the study area in Elmina.

Figure 3.1: Map of Study Area in Komenda Edina Eguafo Abirem Municipality



Source: Source: Fieldwork, July-August 2017.

3.2.2 Physical Features

The landscape of the Municipality is generally undulating dominated by batholiths. Along the coastal zone is a series of lagoons and wetlands, the largest of which include the Benya, Brenu, and Susu lagoons. These lagoons support a vibrant salt industry in the Municipality. The slopes and hills are steep in inland areas. In between the hills are valleys of various streams, which drain into the coastal lagoon and the Atlantic Ocean. These streams include the Hua and Anta in the west and the Udu and Suruwi in the east (KEEA, 2014).

3.2.3 Geology and Soils

The Birimian rock type consisting of schist and granites as well as pegmatite underlies a large proportion of the district. On the slopes of the hills, the overburden soils are sandy, clayey soils while the valleys have gravely sandy colluviums (KEEA, 2014).

3.2.4 Climate

The coastal areas of the municipality form part of the littoral anomalous zone of Ghana and experience a lower rainfall region compared with the interior locations. Temperatures are generally high. The variability in climate and vegetation is influenced more by rainfall than temperature due to the high temperatures. With double maxima, annual rainfall totals in coastal locations range between 750mm and 1,000mm while in the lower interior areas, it ranges between 1200mm and 1500mm. Generally, the KEEA Municipality is humid. Humidity varies between mornings and afternoons. For instance, relative humidity in the mornings varies between 85 percent and 99 percent, but declines in the afternoons to 50-85 percent (KEEA, 2014).

3.2.5 Vegetation

The vegetation of the Municipality varies according to the rainfall pattern. In the coastal areas, the vegetation comprises shrubs of about 1.5m high, grasses and scattered trees, whilst in the interior, secondary forest occurs but human activities are fast depleting this forest base (KEEA, 2014).

3.2.6 Population

According to the 2010 Population and Housing Census of Ghana, the population of the Municipality stood at 144,705 with 69,665 males and 75,040 females (GSS, 2012). Thirty-five percent of the population in the Municipality lives in urban centers. There are four major towns with population of 5,000 or more. These are Elmina, Komenda, Kissi and Agona Abrem. There are seven (7) other settlements each with respective population of at least 2000, which can be described as sub-urban towns.

3.2.7 Economy

KEEA has a vast coastal stretch which serves as the hub of fishing activities not just for the people in the Municipality, but also for many others in the region and beyond. Eighty five percent (85 percent) of the population is either engaged in fishing or the production of food and cash crops. Fishing is done along the coastal stretch of the Municipality, whilst farming is done inland towards the northern parts of the Municipality (KEEA, 2014). Agriculture is the backbone of the Municipality's economy. The KEEA Municipality has an estimated arable land area of about 791km^2 with just about 395.6 km^2 under cultivation. This situation calls for more efforts to be directed at making agricultural activities more viable and attractive to the youth in the Municipality. The need for the creation of markets for agricultural produce by way of establishing processing factories is also urgent and very necessary.

Commercial activities cover trading, the buying and selling of goods. This forms a very important part of the economic life of the people in the Municipality as it penetrates into the small villages in the Municipality in the form of peddling. The services sector comprises of activities in the transport, catering and hospitality industry. Tourism is a sector that can be enhanced to bring future prospects for the Municipality. At present, the tourism sector is underutilized and as a result does not generate much income for the

Municipality. The fishing sector can also be revamped to improve fish production and management if adequate support and infrastructure are improved for efficient operation. Incidentally, this is not the situation presently; for instance, the fishing harbour is silted and polluted. Most fishers lack capital to invest in their work for improved fish yield. Generally, the rate of investment is low even though there are several investment potentials to be tapped. This is an area the Municipality will have to work on, to improve upon its economic gains in the tourism and fisheries sector.

3.3 Profile of Elmina Fish Landing site

The Elmina landing site, where the study was conducted is the most resourced fishing landing beach in the Central Region and the second most important landing site in Ghana. It has berthing and landing facilities for both inshore vessels and canoes. The fishing landing site serves not only Ghanaian fishers but other fishers from other countries within the West African sub-region for fishing-related activities (KEEA, 2014). The landing facility is located on a river called Benya. The site is surrounded by two landing quays, the popular Mpoben Fish Market (Korankye and Dwomoh, 2012) and the Ayisa Market where the smoking and drying of fish is done.

The landing site is also surrounded with an array of shops that sell fishing gears and other household items. The landing site has developed into a fishing community with clinics, sanitation facilities, schools and other social communities. The site where the landing site is located is predominantly inhabited by both migrant and non-migrant fishers. Owing to the facilities of the landing sites and the fact that it has developed into a complete fishing community, it has attracted a lot of migrants who usually go there in search of jobs in the fisheries sector. The inhabitants of the landing site have established social groups such as fisher associations to focus on common concerns of fishers in the

fishing village. The traditional fishing custom of Elmina allows fishing to be carried out on all days except on Tuesdays, which is used to rest, repair boats and mend nets. Any defaulters are arrested and sanctioned. The peak fishing season in Elmina starts in July and ends in September, while the off-peak period spans between January and June each year (Korankye and Dwomoh, 2012).

3.3.1 Reasons for the Choice of Elmina as the Study Area

Elmina was chosen as the study area using convenience sampling method taking into account the under mentioned reasons as basis:

i. Elmina being the fishing community with the largest number of fisher populations in the Central Region (Aheto et al., 2012; Korankye, 2008; Korankye and Dwomoh, 2012) was considered appropriate for easy access to fisher populations.

ii. Elmina has access to berthing and landing facilities for both inshore vessels and canoes, which serve as a hub of fishers from across the country and the other countries within the West African sub-region to engage in fishing and other related activities (KEEA, 2014). This made it suitable for on-site and direct physical observation of settlement patterns, state of social infrastructure and services (schools, hospitals etc.), sleeping and living arrangements, the repair, moulding and making of fishing gears, and the general experience of fishers.

iii. Elmina has a number of fisher associations and fish monger associations that could be very useful in the sampling design.

3.4 Research design

This was a cross sectional study that employed mixed-methods approach to data collection, using both qualitative and quantitative methods. The use of mixed methods involves collecting both quantitative and qualitative data, integrating both qualitative and

quantitative data and utilizing distinct designs that may involve theoretical frameworks. It has been argued that since mixed method is a combination of qualitative and quantitative approaches, it provides a more comprehensive and complete analysis of a research problem than using a single approach (Creswell, 2009). Fitzgerald (2006) and Boyden and Ennew (1997) observed that every social research that combines both quantitative and qualitative methods yields more valid and representative findings. Using mixed methods in this study was to reduce the weaknesses and biases characterized with the use of either quantitative or qualitative approaches. The use of the two was to also serve as cross-checks and additional or complementary source of information. The choice of qualitative methods also allowed in-depth interpretation of mobility and sexual (lived) experiences of fishers, whilst the quantitative allowed the examination and the drawing of relationships between independent variables and dependent variables of interest in the analysis.

Considering the broad expectation of the study, the types of research questions raised which bordered on participants' private sexual experiences, and to meet the study objectives, it was apparent that one data source would not be appropriate to address the issues in the study. An additional method was, therefore, required to explain and enhance the quality of data to be collected. It was on this basis that mixed-methods approach was adopted for this study. The study therefore combined a survey, key informant interviews, focus group discussions, observation, and also used published and unpublished textbooks, articles, journals, official documents from the KEEA Municipal Assembly, government publications and other related literature accessed on the Internet to enhance details in the discussions.

The study utilized Convergent parallel mixed method, in order to present a comprehensive analysis of the research problem. Choosing convergent parallel design meant that both forms of data were to be collected and analyzed at the same time in a single phase. In terms of sequence, the survey was carried out first, and preceded with focus group discussions. The Survey was carried out first and preceded with the focus group discussion. The key informant interviews and observation run concurrent with the review of unpublished and published material and administrative records.

3.4.1 Study Population

The population of this study is artisanal marine water fishers aged 18 years and above currently involved in any fishing activity in the study area. The research participants comprised fishers who engage in actual fishing, fish potters, 'hustlers', boat/canoe repairers, fishing gear sellers and fish traders. The study set out eligibility criteria or criteria for inclusion of participants. According to Polit and Beck (2004), eligibility criteria specify the characteristics that people in the population must possess, to be included in a study. The eligibility criteria for inclusion in the study under discussion were that subjects must be:

i. A male or female of age 18 and above
ii. Involved in some fishing-related activities in Elmina fishing community (these include the actual fish harvest, mending of fish nets, building and repairing of fishing canoe/boats, fish processors, traders of fish, fishing gears, transporting of fish, and pottering of fish and fishing gears)
iii. Must belong to an association.
iv. Actual fishers (those who go to sea) must be artisanal marine fishers.
v. Participants must be a stakeholder in the fishing industry.

3.5 Sample Design

3.5.1 Sample size determination

Due to budget constraints, the time needed to administer questionnaires and the unknown population size of fishers in the study area, the researcher derived the sample size by computing the minimum sample size required for accuracy in estimating proportions. In estimating the sample size of an unknown population size, there is the need to take into consideration the confidence level and confidence interval (Smith, 2013). The researcher therefore considered a standard normal deviation at 95 percent confidence level (1.96), percentage picking a choice or response (50 percent = 0.5), confidence interval (0.05 = ±5), and reaching an estimated sample size of 385 respondents. The calculation of the sample size was done as follows:

Necessary Sample Size = (Z-score)2 * StdDev*(1-StdDev) / (margin of error)2

((1.96)2 x .5(.5)) / (.05)2
(3.8416 x .25) / .0025
.9604 / .0025
384.16
385 (Sample size).

In the sampling of the survey respondents, several steps had to be taken to ensure accuracy. First of all the researcher had to find a suitable way of reaching the fishers in Elmina for the selection of participants. In order to do this, contact persons were engaged to look for fisher associations, seek their permission and get list of members of the associations to serve as the sampling frame. Some of the associations were reluctant to allow for the compilation of their members but after several calls and involvement of some Chief Fishermen, permission was granted. A listing exercise was conducted to get the sample frame for the main interview and out of that, ten fisher associations were identified with the names of the members, for the purposes of identifying eligible participants in the study area.

The next stage was to determine the sample size. After compiling the list of fishers for each of the ten associations, a population of six hundred and ninety (690) was obtained from the listing exercise. In order to ensure that fishers in each of the ten associations stood the chance of being selected for inclusion in the study, a simple random sampling by proportional allocation was used. Simple random sampling ensures that every entity (unit) in a population has an equal chance of being included in the sample selection (Kumar, 2011). The sample size of 385 (refer to Table 3.1) was derived using the following formula:

$$\text{Fisher Association (y)} = \frac{n\ (sample\ size)}{N\ (total\ population)}\ x\ \text{N1(members in each association)}$$

Table 3.1: Sample Size Calculation

Name of Association	Population	Sample Size Estimated
Girls Fish Porters Group	74	41
Ayisa Fishmongers Association	100	56
Mpobeng Fish Traders Association	40	24
Canoe Fishers Association	80	44
Novisi Fish Mongers Association	60	34
Efar Batafo Fishers Association	80	45
Ghana Co-operative Fisheries Association	56	30
Boys 'Hustlers' Group	90	50
Elmina Canoe Owners Association	60	33
Konkohin Fishers Association	50	28
Total	**690**	**385**

Source: Fieldwork, July-August 2017.

3.5.2 Sampling Technique

Simple Random Sampling was used in the selection of respondents. Simple Random sampling is a probability sampling technique which gives each member of the target population a known and equal probability of selection. All names of the fishers (690) in each of the ten Associations were written, folded and placed in ten different containers and the lottery method was used in picking names out of the containers. For each container, only the expected sample size was picked. Incidentally, the overall response rate of this study was very high in spite of the challenges in reaching fishers for the survey interviews.

3.6 Data Collection

A survey questionnaire and two in-depth interview guides (for KII and FGD) were utilized for the collection of the primary data.

3.6.1 Survey

Owing to the constraints of time and the number of questionnaires involved in the study, three research assistants were engaged in the collection of the semi-structured questionnaires for the survey. All three research assistants were graduate National Service persons who were then attached to the Department of Children in Cape Coast. Before the fieldwork, the researcher held a two-day interviewer orientation training for the three field assistants. Training sessions were conducted in both Fante/Akan and English since these are the language for communication in the fishing community. They were taken through the survey instrument, discussed contents, and the process to be used in administering it.

The research assistants were later taken through a mock exercise for practical purpose and ensure whether they had understood the guidelines and process required to administer the questionnaire effectively. After the orientation, they were used for the pretest exercise to assess their understanding and also test the validity of the survey instrument.

The administration of the survey instrument covered a period of one month, beginning from July 2017 and ending in August 2017. All questionnaires were individually administered at vantage points near the offices of the Fisher Associations within the fish landing site and fish traders market area at Ayisa (where the landing site and market are located) in Elmina. Most of the interviews were done in the local language of Fante/Akan, and English was only used when the respondent requested to communicate in English.

Respondents were identified by four community contact persons who were also engaged by the researcher to do the identification of fishers on the list of the Associations. They looked for the fishers and then led them to be interviewed by the field assistants at any place at the landing site convenient to the respondents. The interviews were not conducted until the respondent had been made aware of the aims of the exercise, his/her assurance of confidentiality indicated and consent given. All the respondents were notified of their rights to answer, skip or reject any questions they found uncomfortable to respond to. They were also allowed to ask questions on areas where they needed clarifications. On the average, an interview took between 25 minutes and 45 minutes.

3.6.2 Key Informant Interviews

The study utilized key informant interviews (KII) to gather information from selected subjects. Since it is often impossible to do strict probability sampling in the field (Bernard, 1990), the non-probability techniques (purposive and convenience sampling techniques) are also used to choose certain participants in the key informant interview aspects to serve as complementary information. Purposive sampling was used in the selection of subjects for the KIIs. The purposive sampling was utilized because it constitutes a procedure for selecting research informants on the basis of their relevance to the research questions, theoretical position and the argument or explanation that the researcher is generating in a study (Mason, 2002). The KIIs had to be conducted for purposes of crosschecks and corroboration of information gathered from the use of the other qualitative and quantitative methods. In all 30 people participated in the KIIs (see Table 3.2).

Participants of the KIIs comprised key officials of the KEEA Assembly, representatives of the Municipal Health Directorate, Ghana AIDS Commission, NGOs/CBOs, Department of Fisheries, and community opinion leaders as indicated in Table 3.2. The KIIs was done to explore their views on the fishing activity and issues related to the sexual behaviours of fishers and their implications, the challenges faced by fisher-folks, and lessons for the future.

The official KII interviews were carried out in various offices of the participants. In certain cases where they were not available alternative arrangements were made to have interviews at a place convenient for the participant. The interviews with opinion leaders were held in households and housing units and in the case of the leaders of the associations, in their various offices at the landing site in Elmina. Two officials, one

from the Fisheries Department and the other from the Ghana AIDS, had their KII interviews on phone, recorded and transcribed later.

Table 3.2: Participants of the Key Informant Interviews

Subject	Frequency
KEEA Administration Office (Coordinating Director, Assistant Planning officer, Municipal Director of Social Welfare and Community Development & Gender Desk Officer of the Assembly)	4
Municipal Health Directorate	1
Ghana AIDS Commission	1
Non-governmental or Community-based Organisations officials	2
Department of Fisheries	2
Community members (fisher associations, and other opinion leaders of the fishing community	20
Total	30

Source: Fieldwork, July-August 2017.

The KIIs with officials were conducted personally by the researcher in English, and each session took between 30 minutes and one hour. To make the sessions official and also seek permission for target officials to freely participate in the interviews, an introductory letter was prepared by the researcher and signed by the Director of the Centre for Migration Studies (CMS) of the University of Ghana and submitted to the authorities of the agencies to identify key officials for the interviews. The selected officials were later contacted to make necessary arrangements for the interviews to be had.

Even though the officials were aware of the interviews, on the day of the interview (s), the researcher had to do a self-introduction about the objectives of the interview, reason for the selection of the subject, and statement of confidentiality was emphasized and assured. Interview sessions only began after the full consent of the subject had been granted. Similar process was followed in the interviews with opinion leaders.

3.6.3 Focus Group Discussion

Focused group discussions were utilized because it provides an opportunity to hear issues which may not emerge from the other interactions in the survey and key informant interviews. According to Gaiser (2008) interaction among FGD participants lead to

more emphasis on the points of view of the participants than those of the researchers. Two focus group discussions were held; one with male fishers and another among female fish traders. Participants in the FGDs were drawn from the fisher associations. Five of the associations were for male fishers and the remaining five were also for female fish traders. Two fishers were selected to represent an association, so in effect each group was made up of ten participants. In selecting the participations for the groups, criteria based on age, resident status, involvement in the associations and capacity to provide in-depth information needed to augment the study questions were considered. This was to have a mixed group that would adequately provide information that will reflect the range of experiences regarding the study objectives.

Both FGDs were held on same day but at different venues the males FGD was held under a shed, which is used as meeting place for male fishers at the landing site. Each FDG commenced with a debriefing to reflect on what the exercise was about, the reason why participants were taking part, the need for their cooperation, and how the discussion was going ro be done, Owing to the sensitive nature of some of the issues, which bordered on sexuality and privacy, participants were strictly assured of their confidentially and freedoms to quit at any time if each of them wanted to leave the discussion. The two FGDs took between one and half and two hours.

The researcher was the main moderator of the discussions and one of the field assistants was assigned to take notes. Audio recording was also made of the sessions. The recordings were subsequently transcribed and utilized for report writing. All the focus group discussions were held in Fante language. None of the participants of the FGDs took part in the other aspects of the study.

3.6.4 Observation

At the landing beach, several visits were carried out for physical observation of the offshore activities at the landing site (Figure 3.2). The observation allowed direct assessments of the settlement patterns, state of social infrastructure and services (toilet facilities, bathing amenities, HIV counselling centres etc.), the sleeping and living arrangements, the repair, moulding and making of fishing gears, and the general experience of fishers in the fishing village of Elmina. Photographs and videos were produced in the process, some of which have been presented to enrich discussions in this study.

Figure 3.2: Some canoes berthing at the landing site in Elmina

Source: Taken by Author during fieldwork, July 2017

3.7 Secondary data sources

The nature of the study required the use of secondary data sources to serve as additional information to complement the other sources. Relevant national and local official documents (budget reports, annual reports, administrative material, etc.) from institutions such as the Ghana AIDS Commission, Department of Fisheries, Ministry of Gender,

Children and Social Protection, and the KEEA Municipal Assembly were utilized. Other secondary material used includes government publications such as the DHS, Population and Housing census reports and academic reference materials (books, articles, etc,). Other reference material was also gleaned from the internet.

3.8 Pretest

Pre-testing of field instruments is an essential step in a research project. It allows the validity and reliability of instruments to be enhanced. Before the final data collection, the survey and focus group instruments were pre-tested on a sample of fishers at Chorkor, a fishing community in the Accra Metropolis on 20th June, 2017. Chorkor was chosen on the basis that it bears similar characteristics as Elmina. Fishers in Chorkor also engage in artisanal fishing like the fishers in Elmina, so it the choice of that fishing community was well suited. The main goal was to find out how fishers would respond to the questions and the results used to review the final survey instrument for the main study.

The pretest showed that certain questions had to be modified. For instance, some of the questions on the FGDs bordering sexuality had to be taken out because they were found to be too sensitive. Again, it was realized during the pretest that some essential questions which needed to be asked were not captured in the survey instrument and so were later included in the final questionnaire.

3.9 Data Analysis

3.9.1 Quantitative

The quantitative data were analyzed using Statistical Package for the Social Sciences (SPSS). The SPSS software package was useful for data entry, classification, and subsequently, producing tables for demonstrating trends and patterns observed and discussing the results of the study.

Both descriptive (frequencies, percentages, means and standard deviation) and inferential (Chi square test, binary regression, etc.) statistics have been used in the analysis to draw conclusions on the quantitative data gathered. Bivariate analysis has been done by way of cross-tabulation between variables of interest to determine the association between independent and dependent variables. The independent variables considered are the demographic variables of the respondents in terms of age, sex, educational attainment, marital status, religion, mobility status, and fishing-related activity engaged in by the respondent. These have been tested on the dependent variables for levels of significance. For instance relationships have been drawn between the demographic variables and condom use among fishers, engagement in casual sexual encounters, comprehensive knowledge of fishers about HIV prevention, participation in HIV education programmes, engagement in fish-for-sex transactions, etc.

Multivariate (binary regression) analysis was performed to test relationships between the demographic variables (independent variables) and the dependent variables. Three binary regression models were run for the study. The first model tested for significance between background characteristics and being sexually active, and having sex with any casual partner in the last 12 months. The second tested statistical relations between background characteristics and respondents who reported ever tested for HIV, and those

with the intention to get tested. In the third model, a test was performed between the background characteristics and use of condoms, and condom use in the last occasional sex with a non-regular partner.

3.9.2 Qualitative

The qualitative data were analysed using a thematic approach. The data gathered during the interviews and focus group discussions were organized and used to produce a report on the qualitative aspects. Five processes were followed to analyze the qualitative data. These included; typing of notes and transcription of audio recordings, familiarizing, assigning codes, organizing codes, and writing report.

First, the raw data for both the KIIs and FGDs were transcribed and typed out. During the transcription stage, important statements that emerged from participants during the sessions were used as quotations for further clarifications on some of the discussions on both the quantitative and qualitative analysis. Second, the data were read through copiously for the researcher to familiarize with the data gathered from the interviews and focus group discussion sessions. After going through the data and familiarizing, codes were assigned to the data. For example, the codes assigned to the KIIs were 'Strategies for HIV and AIDs Education', 'Achievements', 'Challenges' and 'The way forward'. The same process was done for the FGD data by assigning codes based on the themes on the FGD guide, which are all in line with the questions and objectives of the study. The next stage was to organize the data from the KIIs and FGDs by arranging them under the four codes (themes). The final stage was to write the report on the findings. Figure 3.3 indicates the processes for analyzing the qualitative data.

Figure 3.3: Processes for Analyzing Qualitative Data

Source: Author's construct, July 2018.

3.10 Ethical Considerations

Polit & Beck (2004) describe research ethics as a system of moral values that are concerned with the degree to which procedures governing research adhere to professional, legal and sociological obligations and standards to participants of a research project. Since some aspects of the present study bother on the privacy of subjects, it was deemed sensitive in content and required ethical clearance. In view of this, ethical clearance was sought from the Ethics Committee for the Humanities (ECH) at the University of Ghana and approval was granted by the Committee in April 2017 to commence fieldwork. During data collection, oral consent was obtained from all participants, and for each interview session, steps were taken to explain the purpose of the study. All interviews were held at the convenience of the participants to ensure privacy and confidentiality.

3.11 Limitations

The compilation of the list of fishers in the various associations was quite a challenging task as the contact persons found it difficult to get the real names of the fishers. In certain cases nicknames had to be used for easy identification. It was also difficult

compiling names as some of the associations were reluctant in giving out names of their members and this affected the numbers in some of the groups. There was also no means of checking if the fishers on the list were actually true members of the associations.

Getting the fishers on the list to interview was a challenge due to the high mobility of many of them. On the day of scheduled interviews, some fishers had to join fishing expeditions and so could not be present for their interviews. In certain cases, some had to be replaced, whilst call backs had to be made in order to meet and conduct interviews. This prolonged the fieldwork as a lot of the interviews had to be rescheduled. Changes in interview schedules also affected the schedule of the other interviews.

Even though, ideally, the study was intended to sample a 50/50 split of males and females in the research population to ensure gender balance, this was not possible due to the uneven distribution of the members on the Fishers' Association list and also difficulty in reaching the males, who were more mobile than the females. This, however, did not in any way affect the results of the study.

Another limitation was the difficulty of getting women participants in the FGD to discuss issues regarding fish-for-sex. Unlike the men who were open and freely engaged in the discussions, the women were reticent in giving out information about their engagement in transactional sex. Given that in Ghana sex is a subject that is usually not discussed in the open, it is very likely that some of the responses given by the women on transactional sex may not be accurate as a significant number of them may not have given full disclosure about their engagement in the FFS transactional sex (Adiku 2017; Kwankye et al., 2007).

CHAPTER FOUR

BACKGROUND CHARACTERISTICS, PATTERNS OF MOBILITY, LIVING CONDITIONS AND EXPOSURE TO HIV RISKS

4.1 Introduction

This chapter presents the background characteristics, and examines the patterns of mobility and living conditions and their association with HIV risk among fishers. The chapter also covers the fishers' mobility (travels) from Elmina to other fishing destinations in the last 12 months preceding the survey, and the reasons that account for such trips, the destinations visited within the period, reasons for the length of stay of the fishers in other fishing destinations, influences of staying away from home and the challenges faced in the communities as well as how these relate to HIV risk among fishers.

4.1.1 Socio-Demographic Characteristics

The demographic and socio-economic characteristics of the 385 fishers were examined with respect to age, sex, marital status, level of education, religion, mobility status and type of fishing occupation engaged in. Table 4.1 presents the socio-demographic information of respondents in this study. From Table 4.1, 198 (51.4 percent) were females, whilst the remaining 187 (48.6 percent) fishers were males.

Table 4.1: Socio-Demographic Characteristics of Respondents

Sex	Frequency	Percent
Male	187	48.6
Female	198	51.4
Age		
<25	86	22.3
25-34	93	24.2
35-44	115	29.9
45-54	50	13.0
55-64	27	7.0
65+	14	3.6
Mobility Status		
Mobile Fisher	209	54.3
Non-Mobile Fisher	176	45.7
Education		
No Education	129	33.5
Middle/JHS education	207	53.8
Secondary/vocational and higher	49	12.7
Religion		
Islam	21	5.5
African Traditionalist	19	4.9
No religion	29	7.5
Christianity	316	82.1
Marital Status		
Never married	112	29.1
Cohabiting/Informal/Concensual	34	8.8
Currently married	180	46.8
Divorced/separated/widowed	59	15.3
Type of fishing occupation		
Fish Catch Group	98	25.5
Post-harvest Group	149	38.7
Maintenance and Repair Group	55	14.3
Porters and Errand Group	83	21.6

Source: Fieldwork, July-August 2017.

In terms of age, Table 4.1 also shows that of the 385 respondents sampled, those aged 34-44 constituted the highest percentage (29.9 percent), followed by the 25-34 age group (24.2 percent) and the <25 age group (22.3 percent). Respondents aged 65 years and above constituted the least (3.6 percent). The data presented in Table 4.1 further indicates that fishers below age 35 represented 76.4 percent of the total sample. This may suggest the engagement of younger people in the fishing activity in the study area, corroborating earlier research findings of Duwal et al. (2015) and Olowosegun et al. (2013) who found that due to the physically demanding nature of certain aspects of fishing, young people are more engaged in it. Table 4.1 shows that 54.3 percent of the

respondents were mobile fishers, while 45.7 percent constituted those reporting to be non-mobile fishers.

Data in Table 4.1 further indicate that 53.8 percent of respondents had Middle/JHS education, and almost a third of the total sample of respondents have no education, whiles 12.7 percent have secondary/vocational school and higher education. The results show a high illiteracy rate among fishers in the community studied. This is to be expected as many studies undertaken on artisanal marine fishers have generally shown high illiteracy among fishers (Duwal et. al., 2015; Mangnani et al., 2002). The study results (not indicated in Table 4.1) also indicate a dominance of females in the sample of respondents who have never been to school (36.9 percent against 29.9 percent), and those who have had basic and middle school education (54.5 percent against 52.9 percent), while the males dominate within the secondary/vocational school and higher educational level (17.1 percent against 8.6 percent). The data also show a significant association between fisher's level of education and engagement in fishing activities.

All respondents were asked to report on their religion, which only required them to mention their religious affiliation, with no attempt to probe to find out if they actually practised their faith. From Table 4.1, the vast majority of respondents were Christians (82.1 percent). The remaining proportions had no religious affiliation (7.5 percent), belonged to the Islamic Religion (5.4 percent) and African Traditional Religion (4.9 percent). Christianity was therefore, the dominant religion among fishers sampled, much higher than the national figure of 71.2 percent reported in the 2010 Population and Housing Census (GSS, 2012).

Table 4.1 also indicates that 46.8 percent of respondents were married, 29.1 percent have never been married, 15.3 percent were divorced/separated/widowed, and almost nine

percent were in informal consensual (cohabiting) relationships. The data presented suggest that about 47 percent of the respondents were married.

The respondents were required to provide information on the types of fishing occupation activity they were engaged in, and the results are presented in Table 4.1. The type of activity refers to the economic activity of the respondents at the time of the study. Fishers engaged in post-harvest activities such as post-harvest activity (processing, marketing, storage, transportation etc.) constituted the highest (38.7 percent), followed by those engaged in actual fishing (25.5 percent), and those engaged in the potterage of fish and running of errands (21.6 percent). The remaining proportion was engaged in boat (canoe) repair and maintenance (14.3 percent).

Figure 4.1: Some male fisher mending their nets after a fishing expedition

Source: Taken by Author during fieldwork, July 2017

Further analysis in Table 4.2 shows sex differentials in the engagement of fishers in the fishing activity in the study area. Significant gender divisions are noted in the proportions of males and females in some aspects of the fishing activity in Table 4.2.

The table indicates non-participation of females in actual fishing, but dominates in post-harvest activities (94 percent). This conforms to an FAO (2015) publication, which notes that globally there exists a division of labour between men and women in the fisheries, with males and females engaged in particular roles.

Table 4.2: Type of fishing activity engaged in among respondents by Sex, Age, and Education

Response	**Type of fishing activity engaged in**			
	Actual fishing	**Post-harvest activity (processing, marketing, storage, transportation etc.)**	**Boat repair/maintenance and sale of fishing gears etc**	**Fish porters, Hustlers (mending of nets, carrying of , running errands etc.)**
Sex				
Male	52.4	4.8	18.2	24.6
Female	0.0	70.7	10.6	18.7
P-Value				0.000
Age				
<25	11.2	3.4	18.2	72.3
25-34	30.6	18.1	36.4	19.3
35-44	37.8	38.9	25.5	7.2
45-54	12.2	22.8	5.5	1.2
55-64	6.1	11.4	7.3	0.0
65+	2.0	5.4	7.3	0.0
P-Value				0.000
Mobility Status				
Mobile Fisher	20.3	46.6	11.6	21.6
Non-Mobile Fisher	33.3	26.8	18.3	21.6
P-Value				0.000
Education				
No Education	27.1	45.0	11.6	16.3
Middle/JHS education	26.6	41.1	12.1	20.3
Secondary/vocational and higher	16.3	12.2	30.6	40.8
P-Value				0.000

Source: Fieldwork, July-August 2017.

The FAO (2015) publication highlights that roles in fishing activities in fishing communities are sharply divided, with men harvesting the fish, and women engaging in post-harvest activities such as smoking, drying, and marketing. Figure 4.1 is a picture of some fishers mending their nets after a fishing expedition. From the picture, only males are engaged in the activity.

Further interactions in the two FGDs, showed that the work of the fish potters is laborious and requires extreme physical ability to carry it out. This may explain the predominance of males (24.6 percent against 18.7 percent) in the sample of fish potters. Though pottering in Ghana is documented as a female dominated activity (Apt, van Ham et al., 1992; Awumbila and Schandorf, 2008), in the fishing activity the dynamics seem different owing to the nature of fishing and the manner in which pottering is undertaken in the fishing sector. From the chi square test results in the table, there is a significant relationship (P-value<0.000) between sex of fisher and the type of activity they engage in. The results then show that the variables are not independent of each other implying a significant association between the sex of a fisher and the type of activity they engage in the fishing community.

In both focus group discussions with male and female fishers, the issue of male and female engagements in the fishing activity in the study area was probed and discussed further. One issue that came out strongly was the reason females are not allowed to go sea and fish but engaged in post-harvest fishing activities. In the female group, it was reported that females are not allowed to go fishing because there is the likelihood that they may be in their menstrual period whilst at sea and this is perceived to be an abomination. In the male group, it was also gathered that going to fish with women was an abominable act due to their menstrual issues, which sometimes pose a challenge for the crew whilst at sea. A Chief fisherman in the group said the following:

> Women needed a convenient space to clean up anytime they had their period and it poses a constantly embarrassing challenge for the women to clean themselves on the canoe in the presence of many men. Again, the men also found it very uneasy coming into contact with the women when they had their period at sea. (Egya Smith, July 2018).

Confirming the earlier statement, another member of the group indicated that the sea is a god and that it abhors uncleanliness. In other words, going to sea with a woman in her menstrual period is perceived as an abominable act to the god of the sea. In the same FGD, a young man also shared the following thoughts about engagement of women in fishing:

> Women are greedy. My grandfather told me that in the past when women were allowed to go to sea to fish, the canoes were capsizing frequently. This was because, anytime the crew members of an expedition had completed a day's catch, the women on board would always urge the men to make more fish catch and in the process get the canoe overloaded and sometimes leading to the canoe capsizing. Many deaths were recorded amongst fishers due to this and so a decision was taken to exclude women from any fishing expedition. Women are only allowed to sit on canoes for travelling purposes and not for fishing. (Abeiku Bernard).

The above statements account for the non-participation of women in actual fishing harvest, and also explain the sharp gender division of labour in the fishing activity (Connell, 1987; Hitomi, 2009). In an earlier publication by Odotei (1990) on gender and traditional authority in artisanal marine industry in Ghana, she describes the sea as an entity that is worshipped as a god and that fishing is not only an economic activity but a religion as well. The perception of women being bad-luck also resonates the position of Hitomi (2009) who ascribed the lack of female participation in South Asian fishing communities that women on board a fishing expedition brings bad luck. The statements expressed by the male fishers in the FGD seem to justify the positions of Odotei (1990) and Hitomi (2009); the former describing the sea as a sacred entity which needs to be protected from uncleanliness and the latter describing women as unclean and bringing bad-luck. In an interview with the Regional/District Fisheries Officer, he indicated that there is no record of any woman going to fish on the sea in Elmina.

From Table 4.2, age is significantly associated with the type of fishing activity engaged in by the respondents ($P<0.000$). Table 4.2 further suggests that fishers below 25 years

have a higher percentage rate of engagement in the pottering of fish (72.3 percent), which is a fishing activity that requires younger persons with physical strength to undertake (Duwal et al 2015; Olowosegun et al., 2013). It can also be seen from Table 4.2, that the percentage engagement of respondents aged 35-44 years in actual fish catch (37.8%) and post-harvest activities compared to the other age groups. This finding corroborates earlier work, which describes actual fish catch and post-harvest fishing as an activity usually dominated by individuals aged 30-45 in the fishing value chain (FAO, 2006). Of interest is the high (36.4%) engagement of younger (25-34 years) respondents in boat repair, which is described in the fisheries literature as dominated by aged fishers (FAO, 2006). In the KII with the Fisheries Department, it was noted that fishing boat (canoe) maintenance and repairs are usually done by adult males with the requisite expertise for maintenance and repair work. A participant in the male FGD also indicated that aged-fishers do boat repair and maintenance work because it requires a lot of sitting-down and does not require extreme physical strength to carry out the duties to be performed. The current result suggest that younger fishers are now showing interest in other aspects of fishing that requires some level of experience and expertise which usually comes with long years of experience on the job

In terms of educational attainment and type of fishing activity, the chi square test run also shows significant association between the two categorical variables as indicated in Table 4.2 ($p<0.000$). From the results in the table, educational attainment has a significant association with the type of fishing activity engaged in by a fisher. Engagement in the fishing activity in the study area decreases with increase in the educational level of the respondents. This suggests that one does not necessarily require higher educational attainment to engage in fishing activity.

4.2 Mobility from Elmina to other fishing Destinations

This section is focused primarily on trips from Elmina to other fishing communities by the fishers to engage in fishing and related activities and the characteristics of the respondents. The respondents reported on the fishing destinations they worked in the last 12 months, reasons for the trips and the length of their stay in these fishing communities. Table 4.3 presents information on the respondents' mobility to other fishing communities, according to background characteristics.

Table 4.3: Mobility outside Elmina in the last 12 months by background Characteristics

Background Characteristics	Percentage who were mobile in the last 12 months	P value
Sex		**0.000**
Male	67.7	
Female	41.9	
Age		**0.005**
<25	66.3	
25-34	52.2	
35-44	59.1	
45-54	44	
55-64	44.4	
65+	16.7	
Education		**0.798**
Never been to school	51.9	
Basic and middle school education	55.6	
Secondary/vocational school and higher	56.2	
Marital Status		**0.000**
Never married	57.7	
Cohabiting/Consensual	35.3	
Currently married	57.8	
Divorced/ Separated/Widowed	59.5	
Type of fishing-related occupation		**0.000**
Fish Catch Group	76.3	
Post-harvest Group	37.6	
Maintenance and Repair Group	45.5	
Porters and Errand Group	65.1	
Total	**54.4**	

Source: Fieldwork, July-August 2017.

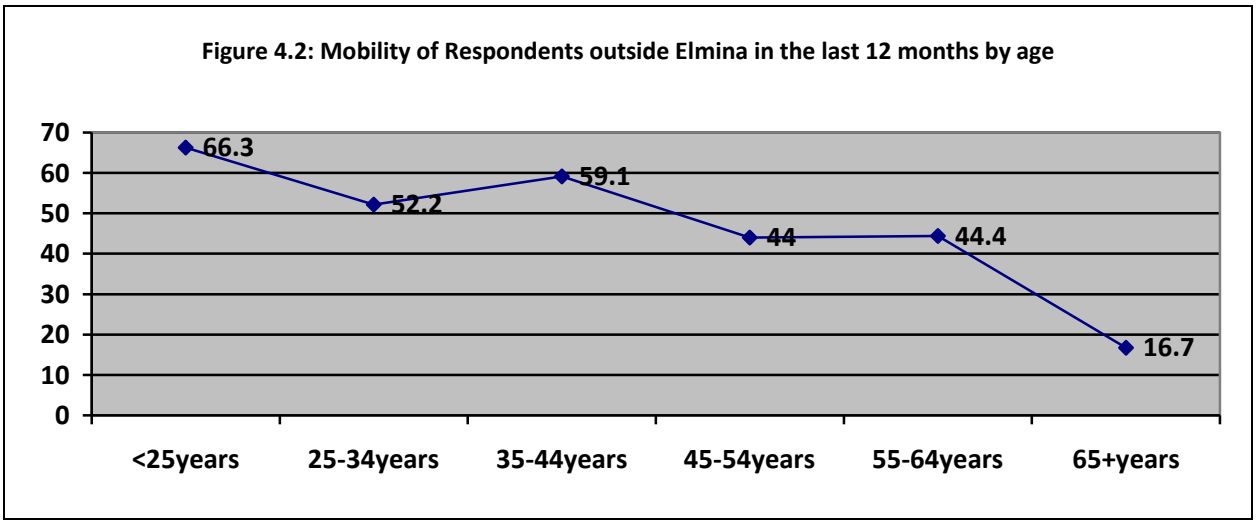
From Table 4.3, it can be seen that 54.4 percent of the respondents reported that they were mobile while the remaining 45.6 percent indicated that they were not mobile over the last 12 months. This suggests that more than half of the respondents were mobile, while the rest worked only in the Elmina fishing community.

The sex of the respondents is strongly associated with mobility of the respondents ($p<0.000$), as higher mobility is observed among the male group than the female (Table 4.4). An FAO (2015) report notes that men are the primary producers of fish and this predominantly requires them to embark on extensive travels on boats while women engage in post-harvest activities such as smoking, drying, and marketing offshore. The females' activities are usually confined to the fish land sites. This partly explains the higher mobility of males (67.7 percent) than females (41.9 percent) in the current study. It was also reported during the female FDG that some mobile females sometimes follow their partners to get fish for smoking or sell for their partners at the other fishing destinations. This was explained in the following words:

> Some female fishers follow their husbands to other fishing destination points to sell or process their partners' portion of fish derived from a fishing expedition. These are usually the wives of some the men on the canoe. (Tawiah, July 2018).

By age, the proportion of the respondents who traveled out of Elmina in the last 12 months preceding the survey was highest in those aged <25 (66.3 percent), and lowest among those age 65+ (16.7 percent). The rest of the younger age groups (25-34 and 35-44) also recorded higher percentages than the older age groups as seen in Figure 4.2.

Figure 4.2*:* Mobility of Respondents outside Elmina in the last 12 months by age



Source: Fieldwork, July-August 2017.

Data presented in Figure 4.2 indicate higher proportions in the younger fishers compared to the older fishers, suggesting that younger fishers were more likely to travel outside of the study area 12 months prior to the survey. In an interview with an opinion leader, he explained that the work of fishers on the sea is physically demanding and requires younger persons to do it effectively. He explained in the following words:

> When we go to sea and we cast the net in the sea, the nets sometimes get entangled and we are to dive into the sea to release them. If you are not smart, young and strong you cannot carry out such a task. The older fishers don't usually travel outside Elmina to fish. They use small canoes with paddles and fish around Elmina, so they can get some little catch for their own consumption. (Kofi Tawiah, July 2018)

The above statement indicates that actual fishing on the sea requires the engagement of younger individuals and that explains the higher rates of involvement and mobility of the younger respondents compared to the older respondents in the current study. This finding corroborates that of the report of the Secretariat of the Pacific Community First Pacific Regional HIV/AIDS and STDs Conference (1999) which indicates that due to the high physical demands of the job of fishers, only young persons with physical strength are suitable for it. Therefore, the younger persons have a higher possibility of

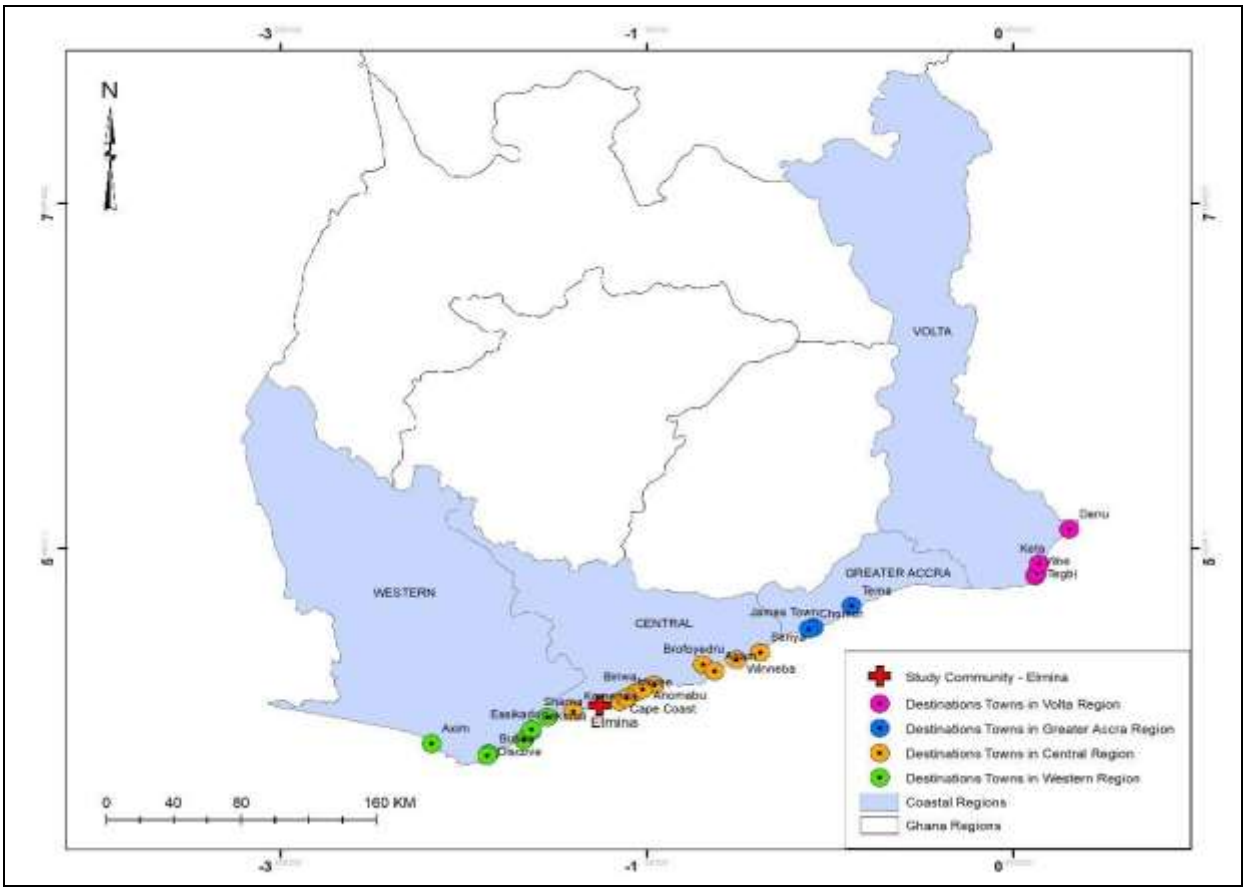
engagement in travels to other fishing destination points than the older persons due to the physical demands of the activities involved.

The educational level of the respondents had no association with the mobility outside Elmina over the period under review. However, the respondents with secondary/vocational school and higher backgrounds were more likely to travel in the last twelve months than the other categories. With regard to marital status, proportions that reported to have moved to other communities were highest (59.5%) among respondents who reported are divorced/separated/widowed from their spouses. The results show strong association between all the occupation categories and mobility outside Elmina, The fish catch group and those in the potterage and errand group reported higher percentages that travelled to other fishing communities outside Elmina than those in the other fishing-related occupation group as can be seen in Table 4.4. This is so because the fish catch group and the potterage and errand group always travel as part of their work schedules. Whereas the former travels to catch fish, the latter also move from one fishing destination to another to carry fish from boats. The other fishing occupation categories need not travel as much to other destinations as their scheduled are confined to the landing sites.

4.2.1 Fishing Destinations visited in the last 12 months

In the two FGDs held with the male and female fishers, participants were asked to make a list of fishing communities that they usually travel to engage in fishing-related activities. Figure 4.2 is a map showing the names of the communities compiled by the participants. The fishing communities indicated on the map shows that most fishers in Elmina travel to engage in fishing-related activities in communities in the Central, Western, Greater-Accra and Volta regions.

Figure 4.3: Map showing Fishing Destinations visited by respondents



Source: Fieldwork, July-August 2017.

This finding gives an indication about where most fishers go to work as well as the patterns of their movements in the last 12 months. The list of fishing communities in Figure 4.3 suggests that the respondents sampled in the current study were engaged in internal migration for fishing, and their mobility has been within the Central, Western, Volta and Greater Accra regions, which incidentally constitute the main fishing communities in the country,

The key informant interviews with a Fisheries Officer and Focus Group Discussions also suggest that most fishers in Elmina engage in artisanal fishing. In the key informant interview with a Fisheries Officer in Elmina, he reported the following:

> A fisher requires a lot of resources to make long marine trips. The reason being that, he needs to have enough supplies of food, water and fuel to travel on the sea

> to fish for a number of days. Since most fishers in Elmina are small artisanal fishers, they do not have enough resources to take them far away. This explains why most of them fish in the waters around Elmina. (Desk Officer, Fisheries Department in Elmina, August 2018).

Another fisher in the male FGD corroborated the above statement in the following:

> These days we don't get a lot of financial support to go to sea to catch fish. We don't have money to buy enough pre-mix fuel and so we are compelled to go to fish with the little resources we gather, which only takes us into a few nautical miles. In the past we could go as far as Ivory Coast and The Gambia. (Akrasi, July 2018).

From these statements, the distance fishers are able to cover to engage in a fishing expedition and the length of stay of the mobile fishers' is dependent on the resources at their disposal. Few resources mean short distance fishing expedition. The finding supports the Push Pull Model with regards to the construct on intervening obstacles, where Lee (1966) introduced a simple conceptualization of the intervening obstacles which sometimes restrict people to embark on a movement. These may include distance, cost of transport and restrictive immigration laws of destination countries. In the current study, the main intervening obstacle restricting long nautical trips is limited resources for their trips, which include the capacity of procuring quantities of pre-mix fuel for the trips.

4.2.2 Main Reason for travelling to other fishing destinations

As part of the questions regarding the mobility patterns of the fishers, they were asked to report on the main reasons for their travels outside Elmina in the last 12 months. From Table 4.5, it can be seen that 44 percent reported travelling to buy or sell fish, and 39.2 percent did so to serve as fish potters in other fishing destinations. The other reasons, according to Table 4.5, were travelling for the purpose of assisting a family member's fishing activity (6.7 percent), tracking fish in other the fishing destinations (6.3 percent) and to do repair or maintenance work on boats (3.8 percent).

Table 4.4: Reason for travelling to other fishing communities in the last 12 months

Response	Sex		Total (%)
	Male (%)	Female (%)	
To buy or sell fish	39.7	50.6	44.0
To serve as fish potter	38.9	39.8	39.2
To assist Family member's fishing activity	5.6	8.4	6.7
To track fish in other fishing communities	10.2	0.0	6.3
To do repair or maintenance work on boats	5.6	1.2	3.8
Total %	100.0	100.0	100.0
Total N	126	83	209

Source: Fieldwork, July-August 2017.

The majority (83.2 percent) of the respondents who travelled did so to buy or sell fish or to serve as fish potters. Travelling to track fish or assist family members' fishing activity were each reported by less than a tenth of those who travelled in the 12 months before the fieldwork was conducted. In Ghana, family labour is a major source of labour for agricultural activities but travelling to assist family members' fishing activities is not reported by a high percentage of the respondent as can be seen in Table 4.4.

There are sex differentials in terms of the reasons for travelling from Elmina to other fishing communities. For instance whereas more females than males indicated that they travelled for purposes of buying and selling fish or assisting other family members with work, a higher percentage of males (5.6 percent) than females (1.2 percent) travelled to do repair work on boats,. While more than a tenth (10.3 percent) of the males travelled to track fish, none of the females did so. The areas of dominance by either male or females is determined by the areas of their engagement within the fishing value chain in fishing communities, where sharp gender divisions of labour exist and other roles of males and females (Béné and Merten, 2008; De Silva, 2011; FAO, 2015; Mbenga, 2000; Merten and Haller 2007; Odotei, 1990). For instance post-harvest activities such as buying, selling and fish processing is dominated by females whilst the fish catch and boat repair

are male dominated activities. Though the percentage of females was slightly higher than males, the proportion of the respondents who indicated travelling in the last 12 months to serve as potters is about same for both sexes. Though, head potterage in Ghana is documented as a female dominated activity (Apt, van Ham et al., 1992; Awumbila and Schandorf, 2008), the result of this study does not support this position as the proportion of the males and females is almost at par. The reason is that the nature of the load of fish involves a lot of physical strength, which requires the involvement of males to do the lifting aspects, whilst the females do the carrying aspects, thus requiring the engagement of both males and females.

The reasons given by the respondents were work-related, suggesting that the mobility of fishers in the Elmina community is purely driven by economic reasons; the desire to gain more fish or lucrative fish trade elsewhere where the fisher can get access to fish and maximize their income. This confirms the findings of Crona et al. (2010) who argue that fishers usually move from their home community to other fishing communities in fulfillment of their occupational objective of improving their incomes.

4.2.3 Reasons for staying in other Fishing Communities

Asked why they had to stay in other fishing communities, the participants in focus group discussions suggest several reasons that account for that. The term 'home' refers to the current residence or place of origin of the fisher. In the following statement a participant in the female FGD explained why she usually stays in other fishing communities for a number of days:

> Sometimes when I go to other fishing communities to buy fish, it takes me several days to get the type and quantity of fish I want. When the fish season is good, and fish is in abundance, I don't even have to stay overnight. I buy my fish and go back home, but because I spend money to get into the fishing community to trade, I have to get the fish I desire before going back. So, my staying depends on the availability of the fish. (Adwoa Afful, July 2018)

Another participant expressed that her staying in other communities depends on the prices of the fish available on the market. If the fish is expensive, one is compelled to spend a few more days in order to get fish at a cheaper price. She expressed:

> When fish is scarce some of the fish traders try to take advantage of the low supply and inflate the price of fish. Since I cannot afford to buy at that price, I have to wait until I get a good price from other source, and that requires that I spend a few more days at the fish destination. (Esinam, July 2018)

Both explanations in the previous paragraphs demonstrate that the quality, quantity, and the price of fish are factors that are associated with movement of the female fishers for periods of time outside their homes, engaging in fishing-related activities. These findings corroborates that of Mojola (2010) who argues that female fishers stay longer in fishing communities when they wish to buy fish at cheaper and affordable price, The aspects about cost also resonates with Overa's (2001) study who found that some female fishers stay in destination communities to find better prices of fish to buy.

Other reasons were also expressed by male participants in their FGDs. It was observed during the interaction, that most fishing expeditions get delayed due to fishers' inability to find the required fish catches. The following was expressed by a participant when he tried to put a point across:

> Sometimes when we sleep in other communities, it is not because we planned to go and stay there but it is due to the consequences of the journey. Sometimes we are compelled to stay because we must get enough time to be able to track down the quantity or type of fish we want. Sometimes it is the changes of the weather at sea, which changes the movements of the fish, and so we also take our time to follow the fishes. All these events take time and as a result keep us in other communities. Besides we spend a lot of money buying premix fuel for the trips and so must ensure that we have fish before returning, otherwise we cannot cover our costs. (Kofi Atta, July 2018).

From the statement above, the delay of fishers is sometimes caused by the inability of fishers to find fish at certain locations on the sea, and as a result must wait and track the location of the fish. This finding supports that of Mojola (2010) who notes that

fishermen could often be away from home for long stretches of time trying to track down the new location of the fish. The statement also depicts that the mobility and stay of fishers in other fishing communities is determined by the movement of the fish. This is because the sea ecology affects the movement of the fish, and therefore the movement of fishermen who must track the fish till they found them, thereby keeping fishers longer away from home. This finding also resonates with that of Mojola (2010), when she argue that ecologically driven changes has direct consequences on the movements of fishers, keeping them longer away from their families.

An interview with Auntie Essaba, the Fish Queen who also claimed to be a fish trader indicates that some fish traders stay longer in other fishing destinations because they wish to buy from a particular source. According to Essaba, she buys from only one source because they offer good terms, and again if she fails to wait and buy from that particular source, it may constitute a breach of contract between her and trade partners. She indicated:

> I always buy my fish from my customer, so I get a reliable source of fish supply. They trust me and I also trust them that they will always sell to me, and so I am always compelled to wait when I am expecting fish supply and they haven't returned from fishing. (Auntie Esaaba, July 2018).

From Essaba's statement, some fish traders who buy from a particular source must necessarily wait in other fishing communities until they get the fish from the source of their desire. This confirms finding from earlier work by Overa (2001).

From the results, three main reasons account for the stay of fishers in other fishing communities; delay caused by unavailability of the fish to catch, and the desire of fishers to buy or sell fish at reasonable and affordable prices. The key feature of the foregoing discussion is that staying in a fishing destination point is for the purpose of fulfilling intended goal of either catching fish back home or trading in fish to raise income or

buying from a particular source. These constitute an integral feature of all the fishing-related activities.

4.3 Living conditions in other Fishing Communities

After discussing the patterns of the mobility of fishers in the preceding section, this section focuses on the living conditions of fishers when they travel to other communities to engage in fishing activities. Living conditions relate to place of residence, sleeping arrangements, access to water and sanitation amenities etc. The literature on fishers shows that the settlement arrangements of many fishers in fishing communities are very deplorable with most of them characterized by overcrowding, sub-standard living conditions. They lack access to social facilities and services such as schools, potable water, sanitation facilities, health care (Duwal et al., 2015; Holvoet, 2011). Holvoet (2011) observes that the state of settlement conditions in fishing communities fosters promiscuous lifestyles. The analysis in this section is drawn on the responses provided to questions regarding where the respondents sleep, their sources of water, toilet facilities and the challenges they encounter in the places they reside while in other fishing destinations.

4.3.1 Sleeping Arrangements in other fishing communities

A resting place of any individual is an important aspect of life and may have implications if the individual finds challenges in having a place to reside. The current study investigated the sleeping arrangements of respondents and the results are been presented in Table 4.5. According to the Table 4.5, 41.1 percent of the respondents who travelled to other fishing destinations in the last 12 months, resided in rented rooms, 35.9 percent indicated that they lodged with friends and relatives, 16.3 percent reported residing in makeshift wooden structures, almost five percent resided on their boats, while close to two percent said they stayed in guest houses. The pattern of the sleeping arrangements

show that almost eight in ten (77 percent) of the respondents sleep in homes of friends and relatives or rented rooms around the fishing villages.

Table 4.5: Residing Place of Respondents in the other fishing communities

Where Respondents reside in other communities	Sex		Total (%)
	Male (%)	Female (%)	
Makeshift wooden structures	10.3	25.3	16.3
In friends/relatives home	37.3	33.7	35.9
Rented rooms around the fish village	42.9	38.6	41.1
Guest Houses	2.4	1.2	1.9
On the boats/canoe	7.1	1.2	4.8
Total %	100.0	100.0	100.0
Total N	126	83	209
Whether respondent faced challenges settling in other fishing communities			
Yes	64.3	66.3	65.1
No	35.7	33.7	34.9
Total %	100.0	100.0	100.0
Total N	126	83	209
Challenges encountered			
Theft	27.2	16.4	22.8
Exposure to mosquitoes	21.0	14.5	18.4
No decent accommodation	19.8	12.7	16.9
No proper food to eat	16.0	14.5	15.4
Exposure to sexual assault/exploitation	0.0	32.7	13.2
No easy access to water and sanitary facilities	11.1	3.6	8.1
Accommodation is expensive	4.9	5.5	5.1
Total %	100.0	100.0	100.0
Total N	81	55	136

Source: Fieldwork, July-August 2017.

Table 4.5 also indicates that the majority (65.1 percent) of the respondents who reported travelling to engage in fishing activity in other fishing communities in the last 12 months prior to the study faced challenges settling during their stay away from home. The challenges include theft (22.8 percent), exposure to mosquitoes (18.4 percent), lack of access to decent accommodation (16.9 percent), and proper food (15.4 percent). Other challenges include exposure to sexual exploitation and violence (13.4 percent). They further indicated that they had difficulty accessing water and sanitation facilities (8.1 percent). The accommodation they have is expensive (5.1 percent) according to them.

Interactions from the FGDs and key informant interviews confirmed why the majority (65.1 percent) reported facing challenges settling in other fishing communities. In the

following statement a mobile fisher shared his story on how the arrangement of where to sleep in other fishing communities is done:

> When we travel to other fishing communities, we have female fish traders who sell our fish for us. These women are the same persons who arrange a place for sleeping for me and my entire crew. We buy large rubber mats and spread them on the floor in compound houses of our hostess. In the event that the hostess does not have enough space, she arranges with other female friends in the community to enable the remaining crew to have a place to sleep. Similar arrangement is made in terms of where to have our baths and wash our clothes. We don't have much comfort when we embark on these fishing expeditions. (Kwamena, July 2018)

For those who usually lodged in their boats, it was reported that they improvised sleeping corners in the boat or canoe, and to avoid mosquitoes, they cover their sleeping places in the boats with mosquito nets. They also reported that they wash, cook and live on the boats once they leave their homes of origin. In the following statement, a male fisher shared his experience on how he prepares his sleeping place on the boat at night:

> Do you see that corner? That is where we sleep. In the morning this is a boat but, in the night, it is our sleeping place. There are a lot of mosquitoes here, so we use mosquito nets at night. We simply find a spot in the boat where we will feel the most comfortable and have enough space to set the net (Azay, July 2018).

It was observed from the FGDs that sex differentials exist in terms of the challenges expressed by the respondents. For instance, in recounting their challenges, it was observed that the males emphasized incidents of theft, cost of accommodation being too exorbitant, and difficulty in accessing food and potable water. In the female FGD, most participants reported incidents of their being exposed to sexual exploitation and threats of sexual abuse at their sleeping places. One participant reported the following:

> Most of my trips take me away for about a week, and because I don't have money to rent a place, I pass the night at places around the fish market. On several occasions some of the boys in the area have made attempts to rape me at night. I am passionate about this because I am not the only one who has once or twice been a victim. (Efua Otoo, July 2018).

Figure 4.4: Fish trader passing the night in front of a Pre-mix fuel station at the landing site in Elmina

Source: Picture taken by Author during fieldwork, July 2017

The FGD also revealed that some female fish traders who travel to other communities, sleep in the open or in front of shops at the fishing market. Figure 4.4 shows the sleeping place a female fish trader and her little child at fishing landing site in Elmina. It was further gathered that other female fishers lodge with their male friends because they do not want to experience the inconveniences that come with sleeping arrangements. To save money and avoid paying for lodging in hotels or guesthouses, they find it more convenient to lodge with these men. But it leads to sexual relations with them. It was further gathered that after being provided decent accommodation, many of the women feel appreciative and this often leads to sex when the men ask for sex in return. It was reported that many of these women are unable to refuse the request for sex and even when their partners decide not to use condoms, the women are either unable to communicate their disapproval or negotiate for condoms use. In the female FGD, one participant illustrated the experiences of some mobile female fishers as follows:

> When we travel to other communities, we usually don't go with a lot of money. Most of us go with the little money to be used to buy fish, and so have very little to use for lodging, food and other essentials. As a result, when situations arise for us to spend more days in that community, we try to find convenient places of rest and so when a male friend offers you a place many of us gladly accept the offer. Incidentally, these men take advantage to ask for sex in return for the accommodation and the request is often made at a time when the women finds it extremely difficult to resist. For instance, they will wait when you are about to sleep and come to ask and if you refuse, they sometimes throw you out. In circumstances like that many women oblige and even when condoms are not used, they have neither power nor the interest to even negotiate for condoms use. (Ama Kwakyewa, July 2018).

The earlier statements and the one above, depict the effects of mobility on sleeping arrangements of some female fishers. It demonstrates how men abuse power through control of resources (room as resource) to exploit women who find themselves in difficult circumstances, and the challenges that women victims sometimes go through in such difficult circumstances in the course of carrying out their work. These findings do not corroborate the power relations espoused in the Theory of Gender and Power construct on sexual division of power at the interpersonal level where men usually take advantage of vulnerable women because of their control of resources in relationships (Wingood and DiClemente, 2000).

From the discussions, a movement from a home fishing community to another could result in a mobile fisher spending some periods of time in other fishing destinations, which require sleeping arrangements to be made. These arrangements are often not convenient as they increase vulnerability among some fishers, especially females, who very often are exposed to varying circumstances such as HIV risks, sexual violence and exploitation.

4.3.2 Access to water and Sanitation Facilities

In addition to the challenge with accommodation, respondents also reported problems of access to safe drinking water and sanitation facilities in other fishing destinations. It was gathered from the FGDs that fishers faced some challenges in getting easy access to water for their daily use during their trips. Some of these challenges include water not running frequently, long distances to source of water, water being salty, long queues for water and high cost of getting water. Participants in the two FGDs also reported challenges in getting toilet facilities to use when they embark on their trips to other communities. It was reported in the FGDs that with exception of Elmina landing sites which has few well-managed public toilet, most of the public toilets in many of the fishing communities are not clean and so during their trips they find it difficult getting decent places for their use. Others mentioned for example, that the toilets in Elmina are far from the landing sites and so if they need to use a toilet facility, they had to cover long distances to access them. High cost of using toilets was also cited as a challenge, whiles some others mentioned challenges of forming long queues to access toilets. The following comment by a Chief Fisherman illustrates some of the challenges cited:

> The toilets in the community are few. Not all homes in this community have toilets and so many of us use public toilets, which are not very clean and also expensive to use. It costs 50 pesewas per visit, and sometimes one has to form queues before getting access. It is really a big challenge for many of us. (Chief, July 2018).

In the female FGD, it was reported that bathing facilities do not pose a big challenge for most fishers who lodged in proper residential places with bathing facilities (refer to Figure 4.5). It was noted that fishers who depend on public pay baths had to pay for a bucket of water at a cost of 50 to 70 pesewas and some fishers find it difficult to afford cost of water for their daily use. Figure 4.5 is a picture the public pay-bath facility at the Elmina fish-landing site. In view of the cost, some individuals who cannot afford resort

to having their baths in the open or in obscure places. One participant made the following remarks:

> I always use pay bath in most of the places I go to but if I don't get it, I look for a makeshift structure and have my bath in it. This applies to most of the other fishermen here. (Adjoa, July 2018)

The lack of proper place for having a bath also exposes females to sexual abuse as illustrated by the following comments:

> I usually have my bath at the back of an uncompleted building in the evenings. One evening while taking my bath a certain man held my breasts when I had applied soap on my face. I shouted to my neighbours for help before the man run away to escape beating. (Aboagyewaa, July 2018).

Figure 4.5: Pay-bath rooms at Elmina landing site

Source: Picture taken by Author during fieldwork in July 2017.

The challenge of fishers to access potable water, sanitation facilities and suitable sleeping arrangements in other fishing destinations, may not be limited to only fishers, but has also been reported among other mobile groups such as child potters (kayayee) in Ghana, where young migrant girls have had to share appalling and overcrowding

sleeping places, which lack water and other sanitation facilities (Kwankye et al., 2009; DOC, 2015; Ahlvin, 2012; Awumbila et al., 2014). According to these earlier works, lack of proper sleeping arrangements makes mobile people vulnerable and easily exposed to reproductive health risk, including HIV and STIs. The current findings suggest that female fish traders also become victims when confronted with similar challenges regarding their sleeping places in other fishing destinations.

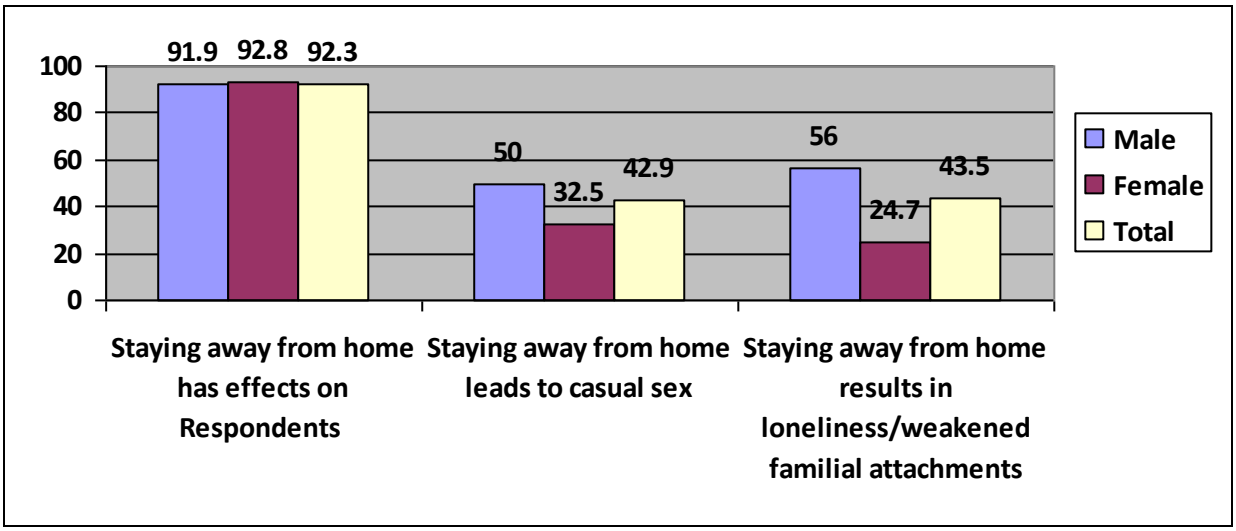
4.3.3 Effects of length of time spent away from home on Fishers

The findings of earlier studies have shown that due to the highly mobile nature of the work of fishers, much of their working time take them to stay away from their families for several days (Deane, 2013, Brockerhoff et al., 1999; Abobi, 2015). The findings of these studies have shown that staying away from home leads to changes in sexual behaviours among fishers, including their engagement in casual sexual relationships at destination points. Other studies have also associated loneliness, isolation and weakening of familial attachments to fishers staying away from home for lengths of time (Hirschi, 1969; Hawthorne, 2008; Weine et al., 2012; Zhuang, 2012; Opio et al., 2011). Since the length of time mobile groups spend away has important implications for HIV risk this section examines it and the results are presented in Figure 4.5.

The vast majority (92.3 percent) of the respondents in the current study who were mobile indicated that staying away from home affect them in several ways. A higher percentage of females than males reported that staying away from home affects them. Asked to explain why they felt staying away from home affects them, almost 43 percent (42.9 percent) reported that staying away from home leads them to engaging in non-regular sexual behaviours, and 43.5 percent reported that their staying away from home makes them become lonely and weakens their familial attachments (Figure 4.6). This finding resonates with earlier works (IOM/UNAIDS, 2005; Opio et al., 2011) which cite

loneliness as one of the main effects of mobility on mobile workers. For example, Opio et al., (2011) emphasize that when people move away from home, loneliness sets in leading to the engagement in risky sexual behaviours.

Figure 4.6*:* Effect of Staying Away From Home on Study Respondents



Source: Fieldwork, July-August 2017.

Further interactions during the male and female FGDs also showed that when fishers travel to other fishing communities some of them find themselves in loneliness conditions because many of them travel without their partners or close relatives. The FGDs involving female fish traders showed that when mobile fishers travel and stay away from home, it is not unusual to feel the need to be close to someone when one feels lonely. One of the participants explained in the following:

> It is not unusual to be tempted to have sex with another man when you feel lonely in another community. Sometimes the urge for a sexual partner comes naturally when you are lonely. (Esi Koomson, July 2018)

It is observed from the discussion that the effects of loneliness and the desire to seek for companionship or social contact could influence decisions on sexual conduct of some fishers as expressed in the female FGD. These arguments have been raised in earlier works, in which it was argued that when the need for companionship or social contact is

not met during times of loneliness, some mobile fishers find themselves feeling lonely, and yearn for closeness, which leads to engagement in alcohol consumption and sex with a casual sexual partner (Anarfi and Caldwell, 1993; Hawthorne, 2008; Weine *et al.*, 2012; Zhuang, 2012; Opio et al., 2011).

The male FGD suggests that loneliness has substantial influence on many male fishers engaging in HIV risk behaviours when they travel from their home communities. In the following statement, Kwamina, a male participant of the FGD, shared his experience:

> When we go to fish we don't go with our wives and girlfriends because females are not allowed to engage in fishing. In other fishing communities, because we don't have our women with us, we find a drinking spot to drink when we feel lonely and at the drinking place, one can find himself a woman for company. Some of the women who feel lonely also come to the bars, so it is sometimes easy to have a companion who is equally ready to keep you company. (Kwamina, July 2018)

As indicated by Kwamina, some fishers find means of entertainment to kill boredom whilst on their fishing trips. Many socialize in drinking bars and in the process end up engaging in non-regular sexual behaviours. A study by Setiawan and Patten (2010) reports heavy alcohol drinking as a source of entertainment for killing boredom and loneliness by mobile fishermen. According to the study, the fishermen drink heavy alcohol and later engage in sex with local women. The link between loneliness and engagement in non-regular sexual habits has also been documented by Hjelm (2014). She argues that the risk of engaging in sexual risk-taking behaviour gradually increased with how lonely people are. The finding also associates with the Social Control Theory (SCT), which argues that human beings act differently by sometimes engaging in deviant behaviours when they are outside social control establishments. According to the SCT these changes in behaviours may occur due to the loosening of social bonds between people and their loved ones and relations because of detachments and the lack of controls by family and other close relations at destination points during work (Hirschi, 1969,

1970). In effect, frequent mobility of fishers may lead to loneliness, alcohol abuse, and engagement in non-regular sexual behaviours, which elevates HIV risk among them.

4.4 Chapter Conclusion

This chapter has analyzed data regarding the patterns of mobility, and living conditions and their association with HIV risk among fishers in the study area. The chapter has discussed the patterns of mobility regarding the current place of residence of respondents, and revealed that fishers move to other fishing communities to catch fish, trade in fish or engage in other fishing related activities such as repair boats or serve as fish potters. The chapter also looked at the patterns of mobility from Elmina to other fishing destinations and based on the patterns of movements, the study established that most fishers engaged in internal mobility in the last 12 months. The chapter has shown that though mobility is a livelihood strategy for fulfilling the occupational goal of fishing, it also serves as driver of the engagement of fishers in risky sexual behaviours that elevate their risks to HIV transmission and infection. Mobility also makes fishers face challenges in finding places to lodge whilst outside their current place of residence, and exposes female fishers in particular to sexual exploitation as well as HIV risks.

CHAPTER FIVE

HIV AND AIDS-RELATED KNOWLEDGE AND ATTITUDES OF FISHERS

5.1 Introduction

This chapter discusses the respondents' knowledge and attitude regarding HIV and AIDS. The chapter is presented in two parts; the first focusing on HIV and AIDS-related knowledge and the second on their attitude towards HIV and AIDS. In the first discussion, issues on knowledge about AIDS prevention, comprehensive knowledge and sources of information about HIV and AIDS are examined. The second part also highlights the respondents' HIV and AIDS-related attitude and perception. These include different types of attitudes towards testing for HIV virus, and HIV risk denial among fishers; whether they felt AIDS is dangerous and whether they were afraid of AIDS.

5.2 Knowledge about AIDS

5.2.1 Awareness of Respondents on AIDS

Protecting and avoiding the spread and multiple re-infections of HIV requires good knowledge. In order to have a better assessment of the respondents' knowledge of HIV and AIDS, this section begins with an analysis of the awareness of the respondents about AIDS. The percentage distribution of the respondents who have heard of AIDS is shown in Table 5.1. As can be observed from the p-values, none of the socio-demographic variables is significantly related to the knowledge about HIV and AIDS among the respondents. The vast majority (97.9 percent) of the respondents reported to have heard of AIDS, while a little over two percent indicated that they have not heard of the disease. The awareness rate of the males is however slightly higher (98.4 percent) than that of the

females (97.5 percent) who claimed to have heard of it. Though slightly lower, the finding of the current study is consistent with an earlier study in Elmina (Korankye, 2008), which indicates that males in the study area have better knowledge on the disease compared to their female counterparts.

Table 5.1: Percentage of respondents who have heard of HIV and AIDS by Socio-demographic characteristics and mobility status

Socio-demographic Characteristics	Frequency	Have heard (%)	P-values
Sex			0.527
Male	184	98.4	
Female	193	97.5	
Age			0.584
<25	86	100	
25-34	91	97.8	
35-44	112	97.4	
45-54	49	98.0	
55-64	26	96.3	
65+	11	98.7	
Mobility status			0.331
Mobile	206	98.6	
Non-mobile	170	97.1	
Education			0.550
No Education	126	97.7	
Middle/JHS education	202	97.6	
Secondary/vocational and higher	49	100.0	
Religion			0.766
Islam	21	100.0	
African Traditionalist	19	100.0	
No religion	28	96.6	
Christianity	309	97.8	
Marital Status			0.062
Never married	109	97.3	
Cohabiting/Informal/Consensual	34	100	
Currently married	177	98.3	
Divorced/ Separated/Widowed	57	98.3	
Type of fishing activity engaged in by fisher			0.620
Fish Catch Group	97	99.0	
Post-harvest Group	145	97.3	
Maintenance and Repair Group	53	96.4	
Porters and Errand Group	82	98.8	
Total	**377**	**97.9**	

Source, Field survey, July 2017.

With regard to age, the proportion with awareness is highest (100%) among those less than 25 years and lowest among the 55-64 (96.3%)-year group. In terms of religion, the rate of awareness is highest amongst adherents of Islam and African Traditional religion.

With regard to education, awareness is highest amongst respondents of secondary/vocational and higher educational backgrounds. By marital status, awareness is universal for the respondents who were Cohabiting/Informal/Consensual (100 percent). Similarly, awareness of AIDS is highest for mobile fishers (98.6 percent) than for non-mobile fishers (97.1 percent). Among the fishers, those engaged in actual fishing are more aware of AIDS than the others in the other fishing-related occupations as seen in Table 5.1

The results in Table 5.1 are consistent with the Ghana Demographic Health Survey national figure of 97.5 percent awareness in Ghana (GSS, 2015). Incidentally, however, whilst the awareness of AIDS is higher amongst males in the current study, the 2014 GDHS found higher awareness among females (99 percent) in relation to males (98 percent). There is not much variation in the awareness of AIDS among the respondents in this study, except by marital status where the percentage drops to 87.5 among the widowed. No significant association is observed between the awareness of AIDS by background characteristics. This is perhaps because awareness of AIDS was generally high across all the study participants.

5.2.2 Knowledge about HIV and AIDS Prevention

Being aware of a disease does not in itself constitute knowledge about it. After discussing the awareness level of the respondents on HIV and AIDS, the current section delves into knowledge about HIV prevention. There are three key areas where HIV prevention programme implementers usually focus their messages and efforts on. These three areas, which are commonly referred to as the 'ABC Message', focus on abstinence, being faithful to one partner, and condom usage. Respondents were asked to indicate how HIV and AIDS can be prevented. Asked whether there is a way to prevent AIDS, 84.9 percent of respondents said there is, 13.5 percent said there is no way to prevent the

disease, while almost two percent (1.6 percent) said they did not know. Table 5.2 provides results on the multiple responses of respondents' knowledge of HIV and AIDS prevention methods by age, sex, mobility status, educational status and religious affiliation.

Table 5.2: Knowledge of HIV Prevention Methods by sex, age, mobility status, and education

Background Characteristics	Using condoms	Abstinence	Limiting sex to one uninfected partner	Avoiding sharing of sharp and piercing objects
Sex				
Male	92.3	92.3	93.5	63.7
Female	86.2	86.8	83.8	68.1
Age				
<25	90.8	89.5	92.1	66.2
25-34	96.0	90.7	89.3	72.4
35-44	79.6	90.8	85.7	56.7
45-54	85.7	85.7	85.7	74.4
55-64	96.4	96.4	90.9	79.1
65+	98.5	95.7	97.7	84.1
Mobility Status				
Mobile fisher	85.9	87.6	88.2	60.6
Non-Mobile fisher	89.4	91.4	88.7	72.1
Education				
No Education	79.3	79.3	79.3	56.7
Middle/JHS education	89.1	92.2	91.1	64.7
Secondary/vocational and higher	97.7	97.7	95.3	90.7
Total	**87.6**	**89.4**	**88.5**	**65.8**

Source, Field survey, July 2017.

Almost 9 of every 10 of the respondents (87.6 percent) indicated that they know HIV can be prevented using condoms, through abstinence (89.4 percent), and by limiting sex to one uninfected partner (88.5 percent). Avoiding sharing of sharp and piercing objects was known as a preventive method by the lowest proportion of the respondents (65.8 percent).

A higher percentage of the males (92.3 percent) than the females (86.2 percent) know that using condoms can reduce the risk of the HIV infection during sexual intercourse.

Nine in ten (92.3 percent) of males, and a little above 8 in ten (83.8 percent) of females reported to know that abstinence can be a preventive measure against the HIV virus. A proportion of 93.5 percent of males and 83.8 percent of females indicated that limiting sex to one's uninfected partner reduces the chances of getting HIV, and 63.7 percent of males and 68.1 percent of females knew avoiding sharing of sharp and piercing objects can prevent HIV infection.

Table 5.2 indicates few notable differences in the levels of knowledge of HIV and AIDS prevention methods in respect to age. For instance the respondents in the older age groups have higher percentages score of HIV and AIDS knowledge compared to those in the younger age categories. Again, from Table 5.2, it can be seen that the respondents in the older age groups have higher percentages regarding avoiding the sharing of piercing and sharp objects as a preventive measure against HIV. This suggests a higher (though marginal) level of knowledge of prevention methods among the older age groups than those in the younger age groups. This observation of higher knowledge among older respondents can partly be explained to their regular participation in HIV education programmes. In the female FGD, it was reported that aged fishers who are usually non-mobile get more time to participate in such programmes at the fish landing sites. In other words, their attendance and participation in HIV education programmes have given a higher percentage of them to have the opportunity to acquire more knowledge than the other groups that are highly mobile and hardly get similar opportunities. In the female FGD, one elderly woman reported in the following:

> I always participate in HIV public education programmes when the health officers come here. It is very useful because I get the opportunity to listen to the programme officers and ask questions for clarification in all the areas I don't understand. I also get to hear other people's experiences on issues related to HIV and AIDS. (Mena Adjoa, July 2018).

Explaining why the older fishers attend HIV programmes, the Programmes Coordinator of the Municipal Health Administration of the KEEA reported the following:

> The Ayisa market happens to the main venue for most education programmes, which is the place fish market queens and fish mongers sit to process their fish. The programmes managers strategically choose the Ayisa market because it is a central point for getting fishers to participate. Incidentally, since the older fishers are usually present at the fish market either processing fish or awaiting fish supply from new expeditions, they get the opportunity to participate in HIV programmes. (Programmes Coordinator, Municipal Health Administration, August 2018).

From Juliana's statement, the older fishers participate in HIV programmes because they are held at a place close to their work place giving them the proximity advantage for attendance. They also have time availability during their idle moments when they wait for fish supplies, thereby making it convenient for their participation in such programmes whereas the highly mobile fishers are on the move.

Table 5.2 also shows that non-mobile fishers tend to have better knowledge of HIV preventive methods than those who are usually mobile. The non-mobile respondents have more access to information on AIDS preventive methods than their mobile counterparts. This was confirmed in the key informant interview with the Programmes Coordinator at the Municipal Health Administration when she reported the following:

> Most of the fishers who participate in our programmes are those who are mostly non-mobile. They normally comprise women, old men, and other fishers whose work is confined to the landing sites. They are the ones who get more time to participate in HIV intervention programmes, whereas their counterparts who are mobile hardly have time to attend such programmes. (Programmes Coordinator, Municipal Health Administration, August 2018).

The findings indicate that mobility largely accounts for limited knowledge of mobile fishers about HIV preventive methods, when compared to their non-mobile fisher counterparts, and is consistent with prior research (Allison and Seeley, 2004; Onstermann et al., 2011; Kissling et al., 2009). For instance Onstermann et al. (2011)

report of the comparatively low knowledge among mobile fishers against their non-mobile counterparts and adduced it their non-participation in HIV services. Some earlier works have also attributed low knowledge of mobile fishers about HIV and AIDS to their high mobility, prevent them from attending HIV educational interventions (Allison and Seeley, 2004; Kissling et al., 2009). The current finding and earlier research findings presented suggest that the highly mobile nature of some fishers affects their ability to participate in HIV interventions and acquire more knowledge on HIV prevention methods. Their inability to participate in these programmes puts them behind their non-mobile colleagues, who usually get more time to attend. This may explain the slight difference in levels of knowledge between non-mobile and mobile fishers.

It can be seen from Table 5.2 that the respondents with secondary/vocational and higher education recorded higher percentage about awareness of the various preventive methods, compared to the other education categories.

Despite the high percentage of the respondents having knowledge on HIV prevention methods, flawed knowledge was also observed in the qualitative aspects in terms of difference between AIDS and HIV. It was observed from the two FGDs (both males and females), that many of the participants could not tell the difference between HIV as a virus and AIDS as the disease. Some participants described HIV as a disease and others referred to AIDS as a virus. In other instances, some participants referred to HIV and AIDS as one, leaving no clear distinction between the virus 'HIV' and the disease 'AIDS'. One participant said the following:

> If you have sex with your girlfriend and you don't put on condoms, you will get AIDS and die of HIV. This is because most of the women in the fishing destinations are carrying the AIDS 'worms' (Kwamina, July 2018)

Another female participant, buttressing a point on how she thought she could prevent herself from getting the virus, said the following:

> HIV and AIDS are the same. AIDS was the name given to the disease when it first broke out. The new name for AIDS is HIV but methods of prevention are the same. Wearing condoms while having sex is the safest way to prevent it. (Esi Koomson, July 2018)

The above statements agree with earlier studies, which also found ignorance and naivety of participants' distinguishing between HIV and AIDS. For example, in a study in Elmina, Korankye (2008) found a significant proportion of his study sample to be naïve on the subject matter. An UNAIDS (2011) report also states that generally, the literature of many global surveys on HIV and AIDS have strived to use the terms "HIV" or "AIDS" independently of each other to clearly mark the difference between the virus and the disease.

The low proportion (66 percent) of the respondents identifying avoidance of sharing of sharp and piercing objects as HIV prevention method indicates inadequate knowledge of some of the preventive methods. This observation suggests that despite the high knowledge of the respondents on the prevention methods, there are still gaps in the knowledge that need to be filled. This may serve as a prompt to HIV interventions regarding how to package such programmes in future HIV and AIDS prevention education. The frequent participation of non-mobile fishers in HIV programmes than mobile fishers may suggest that programme implementers have not been able to find suitable strategies to attract and get more mobile fishers to attend their educational programmes. There is a need to tailor strategies that will be convenient to attract and engage fishers who are continuously on the move from one fishing community to another.

5.2.3 Comprehensive Knowledge of respondents

This section examines comprehensive knowledge of respondents about HIV and AIDS. Comprehensive knowledge on HIV and AIDS refers to an individual knowing that using condoms consistently during sexual intercourse can reduce infection, having just one uninfected faithful partner can also reduce the possibility of getting HIV, and also knowing that a healthy-looking person can have HIV, and rejecting the two most common local misconceptions about HIV transmission, that HIV can be transmitted by mosquito bites and that HIV can be transmitted by supernatural means (GSS, 2015).

Based on the definition above by the Ghana Statistical Services, this study computed a composite indicator that indicates comprehensive knowledge on HIV and AIDS using the following questions; can a healthy looking person have HIV?, can you become infected with HIV and AIDS having sexual intercourse without a condom?, can you become infected with HIV and AIDS from mosquito bites, can you become infected with HIV and AIDS through witchcraft?, and can the risk of HIV infection be reduced by having sexual intercourse with only one faithful uninfected partner?. The five questions were used to compute a score on comprehensive knowledge on HIV and AIDS ranging from 0 to 5. The mean and median scores were 3.3 and 4.0 respectively as seen in Table 5.3. The median score was used in Table 5.3 as a guide to classify comprehensive knowledge either as high or low. If a respondent had a knowledge score of four and above, he/she was considered to have high knowledge on HIV and AIDS, and if he/she had a knowledge score of 0 to 3, he/she was considered to have low knowledge.

Table 5.3: Comprehensive Knowledge of respondents

Number of indicators answered	Frequency	Percent
Could not answer any (0) of the indicators correctly	12	3.1
Could answer one (1) of the indicators correctly	12	3.1
Could answer two (2) of the indicators correctly	40	10.4
Could answer three (3) of the indicators correctly	107	27.8
Could answer four (4) of the indicators correctly	199	51.7
Could answer all five 51) indicators correctly	15	3.9
Total	385	100.0
Mean		3.3
Median		4.0
Computed Comprehensive Knowledge		
Low	171	44.4
High	214	55.6

Source: Field survey, July 2017.

Using the median score to classify comprehensive knowledge either as high or low, the result of the data analysis in Table 5.3 shows that 55.6 percent of the respondents have high comprehensive knowledge on HIV and AIDS. The FGD with the male fishers, however, showed that some participants (3 out 5) had heard of AIDS, knew about how to prevent it, but still held the view that the disease is spread through supernatural means. In the male FGD, some participants expressed flawed knowledge. A mobile fisher in the group reported the following:

> Fishers don't get AIDS because of the salty sea water, which kills HIV germs. Fishermen are hard-working and so sweat a lot from the work we do on our canoes and boats. When we sweat it kills the HIV germs. (Kofi Gyebi, July 2018).

Another mobile fisher in the same group explained when the question of whether he believes HIV can be contracted through supernatural means was posed to the group:

> 'Some of the women here are witches, and some others have evil spirits and so when you have sex with them, they transmit the HIV virus into your body. Owing to this a lot of the young men and women have got the disease in Elmina. (Bernard, July 2018).

Putting the views expressed into context it can be concluded that, though the quantitative results in Table 5.3 show that generally, the majority of the respondents had comprehensive knowledge about the disease, there are segments of fishers in the

community who are still influenced by cultural beliefs, which may go against effective HIV and AIDS prevention and control.

5.2.4 Source of Information on HIV and AIDS

It is important to find out about the sources of people's knowledge about HIV and AIDS in order to plan programs and take important decisions of how to reach people with HIV knowledge and intervention initiatives. In view of that, the current study sought information on the source of respondents' information on HIV and AIDS and Table 5.4 presents the results.

Table 5.4: Main Source of Knowledge of HIV Information by socio-demographic and mobility status

Background Characteristics	Television	Radio	Publications (Newspaper, Pamphlets, Posters)	Health Care workers	Townhall/ community durbars	Internet
Sex			P <0.000			
Male	11.6	50.3	21.9	1.3	3.9	11.0
Female	32.3	31.7	3.6	10.8	12.6	9.0
Age			P <0.000			
<25	13.2	39.5	10.5	3.9	5.3	27.6
25-34	25.3	29.3	20.0	10.7	5.3	9.3
35-44	29.6	44.9	11.2	4.1	9.2	1.0.
45-54	19.0	52.4	4.8	9.5	9.5	4.8
55-64	22.7	40.9	4.5	4.5	22.7	4.5
65+	14.3	57.1	29.6	0.0	0.0	0.0
Mobility Status			P<0.174			
Mobile fisher	19.4	47.6	11.8	5.9	6.5	8.8
Non-Mobile fisher	25.8	33.1	13.2	6.6	10.6	10.6
Education			P<0.000			
No Education	33.3	50.6	1.1	4.6	10.3	0.0
Middle/JHS education	20.3	40.6	11.5	7.3	8.9	11.5
Secondary/vocational and higher	9.3	20.9	39.5	4.7	2.3	23.3
Total	**22.4**	**40.7**	**12.4**	**6.2**	**8.4**	**9.9**

Source, Field survey, July 2017.

Table 5.4 shows that, radio (40.7 percent) and television (22.4 percent) are the main sources of HIV information. Newspaper/publications (12.4 percent) are sources for just a little over a tenth. The other sources mentioned were the Internet (9.9 percent), town

hall/community durbars (8.4 percent), and programmes organized by health care workers and (6.2 percent). The major sources of information regarding HIV and AIDS in the current study confirms finding of similar study by Zafar et al., (2014) who found radio and television as the main source of HIV and AIDS information among adult fishermen in coastal areas of Karachi.

Table 5.4 further indicates sex differentials in the sources of HIV information of the respondents ($p<0.000$). For instance in this study a higher percentage of the male respondents listen to radio than the other sources, whereas females use either the radio or television as sources of information. Age is significantly associated with sources of information ($p<0.000$). For example, whiles radio is a major source amongst older respondents, the use of the Internet is more popular among the younger age groups.

By mobility status, mobile fishers use the radio whiles television is a preferred source for most non-mobile fishers according to the table. The observation of mobile fishers using radio as source is probably linked to their ability to access radio information whilst on the move. This was confirmed during the male FGD when some participants mentioned that most mobile fishers use the radio as their source of information. It was further explained that many fishers have access to radio sets and can also access radio on their mobile phones even if they do not have radios, and so compared to the other sources, radio was much easier for everyone to have access for information on HIV and AIDS. Due to the mobile nature of fishers, innovative communication technology such as mobile phones, text messaging, which can be accessed whilst mobile, could serve as important strategies for HIV and AIDS campaign among the subgroup of mobile population.

With regard to educational attainment, the results of the chi-square test indicate a significant association between educational attainment and the source of HIV information among the respondents (P<0.000). For example, from the table, the use of radio and television is seen to be more common amongst respondents who have no education as well as others with lower education, whereas the Internet and newspaper serve as the preferred source of information for respondents with higher education.

5.3 HIV and AIDS related attitudes

This section examines the attitudes and perceptions of the respondents towards HIV and AIDS. The first part of the section discusses respondents' perceptions regarding AIDS as a dangerous disease. The second part focuses on HIV testing and the reasons for non–testing of HIV among respondents.

5.3.1 Perception regarding AIDS as a Dangerous Disease

One of the important ways of assessing people's perception to guide appropriate initiatives and interventions on HIV and AIDS is to find out whether they perceive the disease to be dangerous. The respondents were asked to report whether they perceive AIDS to be a dangerous disease or not. In response, 82.9 percent said it is, while 13.5 percent felt it was not. Almost four percent indicated they don't know if it is a dangerous disease (Table 5.5). Explaining why they think so, 41 percent said AIDS kills fast, 24.8 percent believed AIDS has no cure and that makes it dangerous. Almost nine percent of them said AIDS weakens the immune system of infected persons, and a little less than six percent felt AIDS claims more lives than any other disease. Two reasons were given by the group that indicated that AIDS is not dangerous. These included those who thought fishing is more dangerous than AIDS (12.4 percent), and the others who thought that people who get AIDS are individuals who have been cursed (2.2 percent). From the results, though the majority (82.9 percent) of the respondents expressed that

AIDS is a dangerous disease, the reasons given by the 13.5 percent who think AIDS is not dangerous bothers on flawed perception and superstition, which needs to be addressed through education and sensitization.

Table 5.5: Perception regarding AIDS as a Dangerous Disease by sex

Response	Sex		Total
AIDS as dangerous disease	**Male**	**Female**	
Yes	88.2	77.8	82.9
No	9.6	17.2	13.5
Don't know	2.1	5.1	3.6
Total %	100.0	100.0	100.0
Total N	187	198	385
Reasons for AIDS being dangerous			
AIDS kills fast	43.2	38.8	41.0
AIDS has no cure	28.4	21.3	24.8
Fishing is more dangerous than AIDS	8.7	16.0	12.4
AIDS weakens the immune system of infected persons	6.0	11.7	8.9
AIDS claims more lives than any disease	7.1	4.8	5.9
You can only get AIDS when you are cursed	1.6	2.7	2.2
Total %	100.0	100.0	100.0
Total N	183	188	371
Being afraid of AIDS			
Yes	83.3	62.6	73.2
No	16.7	37.4	26.8
Total %	100.0	100.0	100.0
Total N	187	198	385

Source: Field survey, July 2017.

Asked if they were afraid of AIDS, 73.2 percent indicated being afraid of the disease, and 26.8 percent said they were not (Table 5.5). More females (83.3 percent) than males (62.6 percent) expressed fear of AIDS. The quantitative data suggest that majority of respondents perceive AIDS to be a dreadful disease. Incidentally, however, during the male FGD it was observed that many of the male participants perceived fishing as riskier and by far more dangerous occupation which cannot be compared to the risk posed by HIV. For most participants, the sea water poses more threats to them daily. Some participants explained that their work involves dangerous perils at sea and once disaster strikes such as drowning and dangerous storms, they kill instantly. Explaining how dangerous the work is, one participant noted:

> Any day we go to sea, we make up our minds that we may not come back home alive. This is because our work is very risky. We face dangerous storms at sea and are threatened by the rough sea in our small boats. There have been instances when our colleagues have drowned due to their boats capsizing at sea. We know we can die any minute and so AIDS is a small thing. It is only a disease that can affect anyone, (Efo, July 2018)

The above sentiments indicate that some fishers, especially, male fishers perceive fishing as a more dangerous undertaking than the risk posed by HIV and AIDS. Deducing from the statement, dying from AIDS is not as common as the frequent deaths that fishers usually witness as sea. The perception that fishing poses more risk than HIV is not unique to this study alone. Other studies also found similar evidences, in which fishers were reported to have demonstrated lack of fear for HIV because of the dangers they face at sea doing their work (Adalbertus, 2018, Holvoet, 2011; Opio et al., 2011; Akimu et al., 2006). Holvoet (2011) has emphasized that the perception that fishers have that AIDS is not as dangerous as their work at sea may lead to poor attitudes towards the disease. Other researchers have also argued that lack of fear for HIV in fishing communities may also affect the uptake of HIV prevention services; some of them view HIV infection as less risky than drowning during fishing (Opio et al., 2011; Akimu et al., 2006).

This brings to the fore the HBM construct, which emphasizes that the likelihood of individuals taking precaution on a health condition that poses risk depends on whether they perceive personal vulnerability to that particular health risk. With a fatalistic attitude, there is the likelihood of fishers discounting the fear of the disease, which may further have negative implications for HIV and AIDS prevention strategies and safe sex behaviour outcomes (Allison and Seeley, 2004; Lubega et al., 2015). According to the HBM, the value and expectancy beliefs guide individual health behaviours. In other words, the perceptions individuals have about a disease have implications for decisions

and actions on prevention or exposure to a disease such as AIDS. Among the fishers, the dangerous nature of their occupation accounts for their attitude towards the HIV virus.

5.4 HIV Testing among respondents

HIV testing is an important step in the prevention of the virus. According to Opio et al. (2011) there is a big missed opportunity for care and support services when people fail to get tested for HIV and receive results of the test. Having knowledge of one's sero-status is considered a starting point for lifesaving antiretroviral therapy (ART) and to reduce sexual, parenteral, or vertical transmission (Kurth et al., 2015). Counseling and testing are regarded as the starting point for all HIV programming (GAC, 2015; WHO, 2014). The literature shows that an individual's decision to know his or her HIV status can provide motivation for that individual to take steps to engage in safer sex practices, to access care and treatment, and to live an affirmative life (GSS, 2015). When people get to know of their HIV status, they may take informed decisions.

5.4.1 Ever testing and Intention to get tested for HIV

Opinions were sought about whether the respondents have ever had an HIV test or not. Table 5.6 shows that less than 10 percent (8.8 percent) of respondents have ever tested for HIV. The vast majority (91.2 percent) reported they have never had an HIV test. This meant that 9 out every 10 of the current study respondents have never been tested for HIV and are not aware of their sero-status. This is not unique to this study but is consistent with other studies which have found low HIV testing uptake among fishers (Musumari and Chamchan, 2016; Opio et al., 2013). Though significantly lower, the percentage of respondents who have had an HIV test in the current study is higher than the current national figure of six percent for Ghana (GAC, 2015). A higher proportions of females (10.6 percent) than males (7 percent) reported to have ever tested for HIV,

conforming with national testing trends which indicate women always show the willingness for testing compared to men (GAC, 2015). Earlier studies have documented that men are usually afraid to have HIV test for fear of being found out of their infidelity if test comes out positive (Matovu et al., 2014).

Table 5.6: Ever tested, Intention to get tested for HIV

Response	**Sex**		**Total**
Ever tested for HIV	Male	Female	
Yes	7.0	10.6	8.8
No	93.0	89.4	91.2
Total %	100.0	100.0	100.0
Total N	187	198	385
Willingness to have an HIV test			
Yes	8.3	30.0	20.2
No	91.7	70.0	79.8
Total %	100.0	100.0	100.0
Total N	132	160	292
Knowledge of where to have an HIV			
Yes	60.0	70.8	69.0
No	40.0	29.2	31.0
Total %	100.0	100.0	100.0
Total N	10	48	58
Reasons for not wanting to be tested for HIV			
Scared of what the results will be	23.1	29.5	26.2
Worried that they could be discriminated against if others learned of their HIV-positive status	22.3	27.7	24.9
Don't have any of the risk factors for HIV infection/Haven't done anything risky	17.4	20.5	18.9
Cost of having the test	17.4	13.4	15.5
Unaware of HIV testing sites	19.8	8.9	14.6
Total %	100.0	100.0	100.0
Total N	121	112	233

Source, Field survey, July 2017.

Again, from Table 5.6, almost 8 out of every 10 (79.8 percent) of the respondents indicated their unwillingness to have an HIV test, and 7 out of every 10 (69 percent) reported knowing where to have the test. A higher percentage of females than males indicated that they know where an HIV test can be done, suggesting that the females had higher proportion with knowledge of where to test for HIV than males.

5.4.2 Reasons for not willing to get tested for HIV

Understanding the factors influencing the low usage of testing may provide information for the design of context based and appropriate strategies for improving testing uptake in fishing communities. This section examines the reasons the respondents gave for not willing to be tested for HIV, and Table 5.7 presents the results. Fear of knowing what the results of the HIV test will be account for why a little more than a fourth (26.2 percent) of the respondents would not be willing to have an HIV test. Almost a quarter (24.9 percent) of them, would not want to test for HIV for fear of being stigmatized when others learned of their HIV-positive status. Close to a fifth (18.9 percent) reported not ready to have the test because they perceived they did not have any of the risk factors for HIV infection and so saw no need to get tested. Another 15.5 percent cited cost of having the test as the barrier while and 14.6 percent were not willing to have the test because they were unaware of where to have HIV test.

5.4.3 Logistic regression of relationship between ever tested for HIV, intention to test for HIV and background characteristics

Table 5.7 presents the logistic regression results of the test of association between ever tested for HIV, willingness to test for HIV, and socio-demographic characteristics. In respect to ever tested for HIV, only age is significantly associated with ever tested for HIV. There is a negative association between age and ever tested for HIV. In other words, the age of respondents is associated with a decreased likelihood of ever tested for HIV. Table 5.7 shows that respondents aged 25-44 are 0.321 times as likely as those in the 45+ age group to ever get tested for HIV.

There was no significant association between ever tested for HIV and the following background characteristics: sex, education, marital status, religion, fishing related occupation and mobility status.

Table 5.7 also shows that sex, age and fishing-related occupation are significantly associated with willingness to get tested for HIV. In terms of sex, the male respondents are 3.922 times as likely as females to express willingness to have an HIV test. In other words, the current study shows that compared to females, males are more likely to express the willingness to get tested.

Age of the respondents is negatively associated with willingness to get tested for HIV. As seen in the table, respondents aged below 25 are 0.324 times as likely as those aged 45 and older to express the willingness to take an HIV test. This suggests that the younger a respondent is, the more likely he/she will decide to participate in HIV testing.

Table 5.7: **Binary regression of relationship between ever tested for HIV, intention to test for HIV and background characteristics**

Background characteristics	Ever had an HIV Test			Willing to test for HIV		
	B	Sig.	Exp(B)	B	Sig.	Exp(B)
Sex						
Male	.666	.237	1.946	1.367	.005	3.922
Female (Ref.)	-	-	1.000	-	-	1.000
Age						
<25	-.795	.282	.451	-1.127	.037	.324
25-44	-1.138	.049	.321	-.340	.393	.712
45+ (Ref.)	-	-	1.000	-	-	1.000
Education						
No Education	.603	.317	1.828	.549	.332	1.732
Middle/JHS education	.428	.425	1.534	.258	.620	1.294
Secondary/vocational and higher(Ref.)	-	-	1.000	-	-	1.000
Marital Status						
Cohabiting/consensual	-.073	.918	.930	-.118	.843	.889
Currently Married	-.151	.801	.860	-.663	.174	.515
Divorced/Separated/widowed (Ref.)	-	-	1.000	-	-	1.000
Religion						
No Religion	-18.470	.998	.000	-19.547	.998	.000
Christianity	-18.732	.998	.000	-19.115	.998	.000
Islam	-17.913	.998	.000	-18.196	.999	.000
African Traditional Religion (Ref.)	-	-	1.000	-	-	1.000
Fishing related occupation						
Fish Catch Group	-.632	.330	.532	.977	.004	2.657
Non-fish catch Group	-	-	1.000	-	-	1.000
Mobility Status						
Mobile Fisher	.659	.095	1.932	.508	.501	1.662
Non-Mobile Fisher (Ref.)	-	-	1.000	-	-	1.000

Source: Field survey, July 2017. **Ref. = Reference category**

The table also shows that fishing-related occupation is associated with willingness to get tested for HIV. Respondents in fish catch group are 2.657 times as likely as those in the non-fish catch group to have the intention to get tested for HIV.

5.5 Chapter Conclusion

This chapter has examined the comprehensive knowledge among participants and their perceptions on HIV and AIDS and accepting attitudes regarding persons living with AIDS. The majority of the respondents studied have good comprehensive knowledge of HIV prevention methods and transmission routes. Radio and TV are the most common

sources of HIV and AIDS information of the respondents. The chapter also indicates that most respondents perceive AIDS to be a dangerous disease that need to be feared. In spite of the fact that the majority expressed fear for the disease, the qualitative results have shown that some of the respondents perceive fishing to be more dangerous than AIDS. This result shows there are segments of people in the study area still having flawed knowledge about the disease**.** The results in the chapter also shows low testing uptake among the respondents sampled. A large proportion of the respondents are not willing to test for HIV. It is indication of the need to intensify education on HIV testing in the study area.

CHAPTER SIX

SEXUAL BEHAVIOURS EXPOSURE OF FISHERS TO HIV RISK

6.1 Introduction

This chapter examines the sexual behaviours that expose fishers to HIV risk, and is organized into six sections. The first section deals with the results on sexual behaviour with respect to any sexual activity engaged in by the respondents in the last 12 months preceding the study. The second section discusses the engagement in casual sexual activity, and number of casual sexual partners they had over the recall period. The second section ends with a regression analysis testing the relationship between the background characteristics and ever having sex and sex with casual sexual partners in the last 12 months. The third section discusses condom usage behaviour among the respondents within the recall period, and the fourth focuses on fish-for-sex (FFS) transactional sex. The fifth section deals with perceptions of the respondents on HIV and AIDS.

6.2 HIV and AIDS related Sexual Behaviour

Earlier studies have shown that most HIV infections are contracted through heterosexual contact (Conway et al., 1991; GSS, 2015). In view of this, information on sexual behaviour was deemed important for assessing HIV and AIDS-related behaviours in this section. The respondents were asked a number of questions, namely: whether they had ever had sexual intercourse in the last 12 months; whether they used a condom over the period; engaged in sexual intercourse with any casual partner; used condoms in the last encounter with a casual partner; and were to indicate the number of sexual partners that they had over the 12 months period prior to the survey.

6.2.1 Sexual activity in the last 12 months

Table 6.1 presents the percentage of the respondents who reported being sexually active in the last 12 months by sex, age, education, mobility status, and type of fishing-related activity engaged in. From Table 6.1, it can be seen that more than 9 out of every 10 (92.5 percent) of the respondents reported that they had sex at some time in the last 12 months, while slightly under eight (7.5 percent) said they did not have sex over the period. The results also indicate that 95.2 percent of the males and 89.9 percent of the females had sex during the period. Sexual activity in the last 12 months was higher among the younger respondents than among the older ones. Age is significantly positively associated with sexual activity, suggesting a strong association between age and sexual activity ($p<0.000$), with higher proportions of the younger respondents reporting sexual activity than the older respondents. No significant association was observed between education and sexual activity in the last 12 months, however, higher proportions of the respondents with basic and middle school education had sex compared to the others according the results in Table 6.1

Even though, the mobility status of the respondents had no association with sexual activeness, the results show that a little higher percentage of the mobile fishers had sex in the 12 months preceding the study compared to those who were not mobile. This finding corroborates the findings from earlier works, which reveal that mobile individuals are more likely than non-mobile individuals to be sexually active (Cassels et al., 2014; Opio et al., 2011).

Significant association was observed between marital status and sexual activity (p-value = 0.000), with respondents who claimed to be in consensual relationships, separated and

those who had never married, reporting higher percentage that engaged in sexual activity in the last 12 months according to Table 6.1.

Table 6.1: Sexual activity in the last 12 months by Sex, Education, Mobility status, Marital status and the type of fishing activity engaged in by respondents

Background Characteristics	Ever had sex in the last 12 months		
	Frequency	Percent	P< Value
Sex			0.049
Male	178	95.2	
Female	178	89.9	
Age			0.000
<25	85	98.8	
25-34	93	100.0	
35-44	115	100.0	
45-54	46	92.0	
55-64	15	55.2	
65+	2	16.7	
Education			0.096
No Education	114	88.4	
Middle/JHS education	196	94.7	
Secondary/vocational and higher	46	93.9	
Mobility Status			0.142
Mobile Fisher	197	94.3	
Non-Mobile Fisher	158	90.3	
Marital Status			0.000
Never married	107	95.5	
Cohabiting/Consensual	34	100.0	
Currently married	166	92.2	
Divorced/Separated/Widowed	49	88.3	
Type of fishing occupation			0.003
Fish Catch	93	94.9	
Post-harvest	130	87.2	
Maintenance and Repair	50	90.9	
Porters and Errand	83	100.0	
Total	**356**	**92.5**	

Source: Fieldwork, July-August 2017.

The respondents who reported serving as potters and running errands and those who claimed to be engaged in actual fishing have higher percentages who were sexually active than the other categories.

6.3 Sex with Casual Partner in the last 12 months

Most HIV infections in Ghana are contracted through heterosexual contacts (GSS, 2015), and so getting information on casual heterosexual behaviours from the respondents was important in analyzing high HIV risk sexual behaviour. A casual sex partner is defined

here as any sex partner other than spouse (s) in case of currently married respondents, and in respect of respondents who were not married or not in any form of marital union (consensual/cohabiting, separated, divorced, or widowed), it was defined as any partner with whom the respondent does not have sexual intercourse on a regular basis (NACO, 2006). Sex with a commercial sex partner was also included in the category of casual sex partners in this study, and this was explained to the study participants during the interviews.

The respondents were asked whether they have had sexual encounters with any casual partner in the last 12 months before the study. The results are presented in Table 6.2. Overall, 23.6 percent reported sex with casual sexual partners. The proportion that reported sex with casual partners was higher among males (31.1 percent) than for females (14 percent) and was significant ($p<0.000$). This finding of men having higher involvement in casual sex is not unique to this study. It has been observed in an earlier work by Opio et al. (2011) in Uganda, which found multiple sexual partnerships four times higher in men than in women. In terms of mobility status, the respondents who were mobile reported higher percentage (30.1 percent) who had casual sexual intercourse compared to non-mobile respondents (20.0 percent). This finding corroborates that of a study on boatmen in Bangladesh, which found higher engagement of casual sexual partners by mobile boatmen compared to those who were not mobile (Gazi et al., 2008). Higher casual sex among mobile fishers can be explained by the fact that they are consistently on the move without their families and relatives accompanying them. Without the scrutiny and checks of their families and close relatives, mobile fishers have more freedom to engage in any deviant affairs if they chose to do so.

Table 6.2: **Sex with casual Partners by sex, age, mobility status, education, religion and marital status**

Background Characteristics	Respondents who have had sex with casual partners in the last 12 months		
	N	percent	P< Value
Sex			0.000
Male	59	31.1	
Female	25	14.0	
Age			0.000
<25	38	44.7	
25-34	19	20.4	
35-44	12	10.4	
45-54	13	28.3	
55-64	2	13.3	
65+	0	0.0	
Mobility Status			0.018
Mobile Fisher	56	28.4	
Non-Mobile Fisher	28	17.7	
Education			0.142
No Education	20	17.5	
Middle/JHS education	50	25.5	
Secondary/vocational and higher	14	30.4	
Religion			0.014
Islam	9	31.6	
African Traditionalist	9	50.0	
No religion	10	32.1	
Christianity	56	20.6	
Marital Status			0.000
Never married	42	39.3	
Cohabiting/Consensual	10	29.4	
Currently married	18	10.8	
Divorced/Separated/Widowed	14	27.8	
Total	**84**	**23.6**	

Source: Fieldwork, July-August 2017.

The age of respondents was also found to have significant association (p<0.000), with casual sexual activity with those in less than 25 years reporting the highest (44.7 percent) casual sexual encounters in the last 12 months. This finding suggests that more younger fishers are engaged in risky sexual behaviour and considering their higher sexually activity rate, there is the tendency of their engaging in multiple and concurrent sexual behaviours and elevating their risk of acquiring STIs, including HIV as observed in earlier studies (Duwal et al., 2015; Olowosegun et al., 2013).

The Chi-square analysis indicates significant association between marital status and casual sexual activity at p-value = 0.000, with the respondents who were never married

(39.3%) reporting the highest casual sexual intercourse within the 12 months call back period. Currently married respondents, however, reported the least (10.8%) involvement in casual sex. Even though reported engagement in casual sex was least in currently married respondents, it is very significant as it has HIV risk implications for regular partners of these married persons in the event that they engage in unprotected sex with them. This finding confirms earlier findings of Anarfi (1993) in which he discusses the high possibility of mobile persons transmitting communicable disease to their regular partners back home after engaging in casual sex whilst in mobility.

Though results of the chi-square analysis showed no significant relationship between education and sex with casual partners, the study indicates that respondents who had never attended school reported the lowest (17.5 percent) proportion of casual sexual activity while those with secondary school, vocational or higher education reported the highest (30.4 percent). This is consistent with findings from Booysen (2004) and Tenkorang & Fernando (2008) that individuals with higher education have higher income and are likely to engage in multiple and casual partners as they can afford the payment for it. From the results, the higher the educational status attained, the higher the rate of engagement in casual sexual behaviours. Regarding religion, the percentage involved in casual sex varied from 50.0 percent among African Traditional Religion followers to 20.6 percent for Christians and is significantly at p-value of 0.014. This suggests that religion has influence on individual sexual behviours. Similarly, several studies in Africa have made observations that link religion as a strong force for molding individual sexual conduct (Yamba, 1997; Trinitapoli & Regnerus, 2006; Awusabu-Asare et al.,, 2004; Takyi et al., 2003).

6.3.1 Number of casual partners

The respondents who reported to have had sexual encounters with casual partners were also asked to provide information on the number of casual partners they have had over the 12 months period. Fisher's Exact Test was used to examine the association between background characteristics and number of casual partners. Fisher's Exact Test was used because the variables are categorical and some of the cells have cases less than five. From Table 6.3, 52.4 percent of the respondents who reported having sex with casual partner had it with one partner, 35.4 percent reported having it with two partners, and 12.2 percent had it with three or more partners.

Table 6.3 shows that a higher proportion of males reported multiple casual sexual partners compared to females. A little less than half of males (44.8 percent) reported two casual sexual partners while a little over a tenth of females (12.5 percent) reported two casual sexual partners. There is statistically significant association between sex and number of casual sexual partners (p-value = 0.000), with approximately 17 percent of males reporting three or more casual sexual partners, whilst no female reported engagement with three or more sexual partners.

Table 6.3: **Reported number of casual sex partners in the last 12 months among respondents by background characteristics**

Background Characteristics	Number of sexual partners, past 12 months						
	1 partner		2 partners		3+ partners		P-value
	N	percent	N	percent	N	Percent	
Sex							0.000
Male	22	37.9	27	44.8	10	17.2	
Female	21	87.5	4	12.5	0	0.0	
Age							0.001
<25	11	29.7	16	43.2	10	27.0	
25 – 44	22	71.0	9	29.0	0	0.0	
45+	10	71.4	6	28.6	0	0.0	
Marital Status							0.001
Never married	15	36.6	17	41.5	9	22.0	
Currently married	22	81.5	4	14.8	1	3.7	
Divorced/Separated/Widowed	6	42.9	8	57.1	0	0.0	
Education							0.600
No Education	10	52.6	6	31.6	3	15.8	
Middle/JHS education	24	48.0	19	38.0	7	14.0	
Secondary/vocational and higher	9	69.2	4	30.8	0	0.0	
Religion							0.012
No religion	2	22.2	5	55.6	2	22.2	
Christianity	35	60.3	16	27.6	7	12.1	
Islam	5	83.3	1	16.7	0	0.0	
African Traditionalist	1	11.1	7	77.8	1	11.1	
Mobility Status							0.001
Mobile Fisher	21	38.2	25	45.5	9	16.4	
Non-Mobile Fisher	22	81.5	4	14.8	1	3.7	
Type of fishing activity							0.198
Fish Catch Group	11	40.7	12	44.4	4	14.8	
Post-harvest Group	11	84.6	2	15.4	0	0.0	
Maintenance and Repair Group	8	61.5	3	23.1	2	15.4	
Porters and Errand Group	13	44.8	12	41.4	4	13.8	
Total	**43**	**52.4**	**29**	**35.4**	**10**	**12.2**	

Source: Fieldwork, July-August 2017.

The results show that engagement in multiple casual sexual partners is more pronounced in males compared to females. This finding also resonates with earlier research, which also notes higher involvement of males than females in casual sexual behaviours (Cassels et al., 2014; Opio et al., 2011). Earlier studies have indicated cultural reasons also accounting for the higher engagement of males in casual sexual activity than females. For example, reports of the Soul City Institute (2008) and Tibesigwa & Visser (2014) show that it is much easier for males to have multiple sexual partners than females because culturally, females are not allowed to engage in multiple sexual partners other than their regular sexual partners, while men are not restricted from doing

so. This may suggest the higher rate of engagement in casual sexual behaviours of the males than the females in the current study.

With regard to age, the respondents below 25 years reported the highest percentage with multiple casual sexual partners. A little more than 7 out of every 10 of the respondents less than 25 years reported more than one casual sexual partner. Almost equal proportion of respondents between 25 and 44 years (71.0 percent), and 45 years and older (71.4 percent) had one casual sexual partner. The association between age and number of casual sexual partners is statistically significant ($p<0.001$). The survey results indicate that higher multiple casual partner encounters among respondents below 25 years suggest that being young increases the likelihood of having multiple casual sexual partners. This finding has also been documented in previous studies (Gordon, 2005; Kissling et al., 2005; Olowosegun et al., 2013).

From Table 6.3, it can be seen that the respondents who are currently married have a higher percentage rate of the respondents reporting sexual engagements with one partner than those in the other categories. Regarding those who had two partners, Table 6.3 shows a higher percentage rate of engagement among respondents who were never divorced/separated/widowed (57.1 percent) and those who had never been married (41.5 percent). A little more than 2 out of every 10 of the respondents who were never married recordered the highest rate of engagement in respect to those who had three partners or more. The association between marital status and number of casual sexual partners is statistically significant ($p<0.001$). From the results in Table 6.3, higher multiple casual sexual partner encounters are recorded among never married respondents.

Education is not significantly associated statistically with number of casual sexual partners reported by the respondents ($p<0.600$). There are variations in the proportions

of the educational categories regarding number of casual sexual partners. About 7 out of every 10 of the respondents who have attained secondary/vocational school and higher education reported one casual sexual partner while a little less than half of respondents who have attained basic and middle school education (48.0 percent) reported one casual sexual partner. The lack of association between education and reported engagement in casual sexual partners contrasts with some other studies where education level was significantly associated with engagement in multiple casual sexual partnership (Booysen, 2004; Tenkorang & Fernando, 2008).

Regarding religion, a higher proportion of respondents who are African Traditionalists (88.9 percent) reported multiple casual sexual partners compared to Christians (39.7 percent). More than 8 out of every 10 respondents who are Muslims (83.3 percent) reported one casual sexual partner while a little more than 6 out of every 10 (60.3 percent) of the respondents who are Christians reported one casual sexual partner. The association between religion and number of casual sexual partners is statistically significant ($p<0.012$). The lower proportion of Christians in multiple casual sexual partners brings to the fore the influence of religious ethics and practices of Christianity, which advocate for sexually purity among its members. Christian doctrines also frown on concurrent and casual sexual behaviours as sinful and caution their members to desist from such behaviours. In effect, as Takyi et al. (2003) observe, religion serves as an important factor in shaping sexual behaviours.

The study found that mobile fishers (61.9 percent) reported higher proportion of multiple casual sexual partners compared to non-mobile fishers (18.5 percent). The majority of non-mobile fishers (81.5 percent) reported one casual sexual partner. The association between mobility status and number of casual sexual partners is statistically significant

($p<0.001$). The higher proportion of reported multiple non-regular sexual partner among mobile fishers suggest higher incidence of risky sexual behaviours among mobile fishers than non-mobile fishers. This finding is consistent with previous studies which found that mobile individuals have higher HIV risk profiles compared with permanent residents (Olawore et al., 2018. Gazi et al., 2008; Opio et al., 2011). Some explanations have been advanced for the higher number of multiple casual partners among mobile fishers. Olowosegun et al. (2013) and Gordon (2005), for example, report that mobile fishers are more likely to have multiple casual partners since mobility detaches them from home and are free to engage in all kinds of sexual engagements without any constrains from family and social structures at home. In Ghana for instance, males have the freedom to have multiple partners without much restriction compared to females who are expected to be faithful to one sexual partner (Awusabo et al., 2004; Kuumuori et al., 2012).

The type of fishing activity is not significantly associated statistically with number of casual sexual partners ($p<0.198$). About 8 out of every 10 of the respondents who are members of the post-harvest group (84.6 percent) reported one casual sexual partnership while a little more than 4 out of every 10 (40.7 percent) of the respondents who are members of those who catch fish reported one casual sexual partnership. Almost an equal proportion (14.8 percent), of the respondents who catch fish and those who maintain or do repair work on boats (15.4 percent) reported three and more casual sexual partnership. The results show high percentage rate of engagement in one partner sexual engagement amongst those engaged in post-harvest activities compared to those in the other categories. This was to be expected as the post-harvest group is dominated by females, who culturally, are required to be faithful and required to have sex with only their regular partners (Awusabo et al., 2004; Kuumuori et al., 2012). On the other hand,

the results show higher rate of eengagement in multiple sexual partnerships among respondents who catch fish.

6.3.2 Association between Background Characteristics and Sexual Behaviours

This section tests the robustness of the associations between the background characteristics (independent variables) and ever having sex and sex with casual sexual partners in the last 12 months (dependent variables). Table 6.4 shows the results of the logistic regression of the relationship between background characteristics and ever having sex and having sex with casual partners in the last 12 months. Age was the only background characteristic that was statistically significantly when regressed on ever had sexual intercourse within the recall period of 12 months. From the regression analysis, it is observed that the respondents younger than 25 years are 0.017 times as likely as those aged 45 years and above to engage in sexual intercourse within the last 12 months. This observation stems partly from the fact that most fisheries workers are individuals who are usually very young and tend to be very sexually active (Gordon, 2005; Kissling et al., 2005; Olowosegun et al., 2013). The findings from the current study suggest that respondents below 25 years are more sexually active, confirming the findings of the earlier studies cited. There was, however, no statistically significant association between sex, education, religion, fishing related occupation, and mobility status and ever having sex in the last 12 months.

The results of the regression analysis on the relationship between background characteristics and ever been sexually active and having sex with any casual sexual partners in the last 12 months is also shown in Table 6.4. Marital status was the only variable that has statistically significant relation with reported engagement in casual sex in the model. In this study, respondents who were married were 3.002 times less as likely as those divorced/separated/widowed to report ever having sexual intercourse with

casual sexual partners. This observation conforms to earlier studies, which have explained that since the expectation of sexual fidelity in marriage is nearly universal in all cultures, married individuals are more likely to avoid extra marital sex to avoid unwanted pregnancies, forestall mistrust and suspicion of sexual infidelity if found out (DeMaris, 2009). Yang and Xia (2008) also note that being married serves as deterrent to the engagement in risky sexual behaviours because of social norms about marital fidelity and spousal control. These findings resonate with Hirchi's (1969) Social Control Theory, which emphasizes high moral values amongst people with commitments. Inferring from Hirschi's (1969) theory, being married requires one to be faithful and committed to the bonds of marriage, thereby placing some restraints on married individuals than those without any marital commitments.

Table 6.4: **Relationship between being sexually active, and having sex with any casual partner in the last 12 months and background characteristics**

Background characteristics	Ever had sex in the last 12 months?			Had sexual intercourse with any casual partners in the last 12 months		
Sex	B	Sig.	Exp(B)	B	Sig.	Exp(B)
Male	-.342	.630	.710	-.558	.151	.572
Female (Ref.)	-	-	1.000	-	-	1.000
Age						
<25	4.074	.001	.017	.658	.164	.507
25-44	-20.538	.994	.000	.180	.134	1.824
45+ (Ref.)	-	-	1.000	-	-	1.000
Education						
No Education	-.818	.426	.441	.658	.160	1.930
Middle/JHS education	-1.697	.091	.183	.180	.660	1.198
Secondary/vocational and higher (Ref)	-	-	1.000	-	-	1.000
Marital Status						
Cohabiting/consensual	.200	.784	1.221	.344	.483	1.411
Currently Married	.050	.926	1.052	-1.099	.012	3.002
Divorced/Separated/widowed (Ref.)	-	-	1.000	-	-	1.000
Religion						
No Religion	-.935	.586	.393	.125	.857	1.133
Christianity	-.373	.774	.689	.432	.442	1.540
Islam	.171	.916	1.186	-.517	.510	.596
African Traditional Religion (Ref.)	-	-	1.000	-	-	1.000
Fishing related occupation						
Fish Catch Group	-.408	.671	.665	-.376	.352	.687
Non-fish catch Group	-	-	1.000	-	-	1.000
Mobility Status						
Mobile Fisher	.081	.869	1.084	-.309	.300	.734
Non-Mobile Fisher (Ref.)	-	-	1.000	-	-	1.000

Source: Fieldwork, July-August 2017. **Ref. = Reference category**

The model indicates that, controlling for all the other background characteristics, age is observed to be the only significant predictor of ever having sex among respondents in the last 12 months before the survey. Age is therefore an important factor that needs to be considered in any programme planning intervention by policy makers and programme managers concerning sexual activeness among fishers. As the results show that young fishers are more sexually active, it is an indication for the need to customize ongoing or future HIV educational campaigns and interventions to be youth-centered in the study area, while not neglecting the other age categories

The results of the regression show that currently married respondents are less likely than those divorced/separated/widowed to engage in casual sexual encounters. This may be a positive indicator in the campaign drive of encouraging married people to be faithful to their partners**.** This has other implications as it indicates the possibility of the other marital groups engaging in casual and concurrent sexual behaviours, which may still elevate HIV risks among people in the study area.

6.4 Condom use behaviour

Evidence abound that condoms are physical barriers that can substantially reduce the risk of exposure to HIV through sexual intercourse because they are made of materials (latex) that do not allow HIV to pass through them (Pinkerton & Abramson, 1997). Consistent use of condoms in casual sexual activity is regarded as a means of ensuring protected sex to reduce the risk of HIV transmission through sex. Despite, the clear evidence of the effectiveness of condoms in reducing risk of HIV transmission, earlier research have documented lower condoms use amongst fishers who often experience high rates of HIV infection due to their involvement in casual and concurrent sexual behaviours (Bouanchaud, 2011; Kwena, 2006). This section examines condom use behaviour amongst all the respondents and those who reported having sex with casual partners.

6.4.1 Condoms usage in the last 12 months during sexual intercourse

Table 6.5 is the analyses of the results of condom use in the last 12 months during sexual intercourse, and whether condoms was used at the last time that the respondent had sex by background characteristics. According to the results presented in Table 6.5, 47.8 percent of the respondents in the current study used condoms during sexual intercourse in the last 12 months, suggesting that more than half of the respondents who had sex over the period engaged in unprotected sex and likely to have already been

exposed to HIV and other STIs infection. The results show that condoms use among the study participants is low and is consistent with findings of previous studies (Smit, 2005; USAID, 2000; Zafar, 2014). Overall, 56.7 percent of the male respondents and 38.8 percent of the females reported ever using condoms in the last 12 months. The likelihood of condom use is reported by a percentage of the males than the females in the current study.

This finding is not unique to this study but consistent with another study, which found higher consistent condoms use in men compared to their female counterparts (Opio et al., 2011; Bauni and Obonyo, 2000). The result gives an indication of the possibility of condom use in sexual encounter if a male does not have a condom as earlier research have found that the decision to whether to use a condom usually depends on males (Bauni and Obonyo, 2000). The study finding also raises an issue on condoms acceptability. Judging by the high and widespread knowledge of mode of prevention, it brings to question whether people have not accepted the use of condoms. There is the need to promote and urge people in the community to be consistent in the use condoms during their sexual engagements, assuring them that it is a highly effective method for preventing HIV and other sexually transmitted infections.

Table 6.5: **Condom usage in the last 12 months by Background Characteristics**

Background Characteristics	Respondents who have been using Condoms in the last 12 months		
	N	percent	P< Value
Sex			0.001
Male	101	56.7	
Female	69	38.8	
Age			0.000
<25	55	64.7	
25-34	57	61.3	
35-44	36	31.3	
45-54	17	37.0	
55-64	5	33.3	
65+	0	0.0	
Mobility Status			0.029
Mobile Fisher	104	52.8	
Non-Mobile Fisher	65	41.1	
Education			0.017
No Education	46	40.4	
Middle/JHS education	94	48.0	
Secondary/vocational and higher	30	65.2	
Religion			0.048
Islam	14	73.7	
African Traditionalist	11	61.1	
No religion	15	53.6	
Christianity	130	44.7	
Marital Status			0.000
Never married	68	63.6	
Cohabiting/Consensual	23	67.6	
Currently married	58	34.9	
Divorced/Separated/Widowed	21	48.9	
Type of fishing activity			0.000
Fish Catch Group	47	50.5	
Post-harvest Group	43	33.1	
Maintenance and Repair Group.	31	62.0	
Porters and Errand Group	49	59.0	
Total	**170**	**47.8**	

Source: Fieldwork, July-August 2017.

There is a statistically significant relationship between condom use and age (P-value=0.000) as can be seen in Table 6.5. Condom use amongst the respondents decreases by increase in age, thus, the younger respondents have a higher percentage rates of condoms use than the older ones. Several explanations have been offered for the higher condoms use among younger people than older people. Chamratrithirong and Kaiser (2012), for example, argue that age is important in determining an individual's

use of condoms, the reason being that younger people have better knowledge about condoms.

In terms of mobility status, the percentage who have ever used condoms in a sexual activity in the last 12 months is higher for those who were mobile (52.8 percent) than those who were not mobile (41.1 percent). Further investigations during the focus group discussions showed that, unlike non-mobile fishers who live with their sexual partners, most mobile fishers move to other fishing destinations without their sexual partners and so to avoid contracting diseases and avoiding unwanted pregnancies, they are compelled to use condoms if they must engage in sex. A migrant male fisher in a FGD noted:

> Back home in the Volta Region, when I am having sex with my wife, I don't use condoms, but here in Elmina, I use condoms, so I don't get a disease or impregnate another woman. (Adu, July 2018).

Another participant reported that some fishers who are highly mobile keep condoms if the need arises for them to use them. Asked why they kept condoms on them, one explained:

> I always keep condoms on me anytime I go for long fishing expeditions. Sometimes, when you are in other communities it is difficult to find condoms to buy and so it becomes very convenient when you already have some on you. (Sammy, July 2018)

The above statements about mobile fisher keeping condom was reported in studies in Tanzania and Senegal too, which indicates that travelers are more likely to report condom use compared to non-mobile persons (Mnyika et al., 1997; Lagarde et al., 1996). Another study by Lagarde et al. (2003) also found that condom use opens way for mobile persons to protect themselves from sexually transmitted diseases. In the study, it was found that mobile persons travel without their primary partners and as a result more likely to have concurrent sexual encounters away from home, and so compared to the non-mobile fishers, are likely to report higher rate of condom use.

The level of educational attainment has a positive association with condoms use. As seen in Table 6.5, use of condoms is much higher among the respondents with higher education (P<0.017). This is consistent with earlier studies which have indicated that individuals with higher educational levels are more likely than those with lower education to use protective devices such as condoms during sexual intercourse (Mangnani et al., 2002; Sharma and Nam, 2018). The results indicate that educated individuals tend to have more knowledge about condoms and as a result use condoms in sexual encounters than those with little or no education.

In terms of religion, the percentage of respondents having used condoms is substantially higher amongst followers of Islam (73.7 percent) than African Traditional Religion (61.1 percent) followers or those with no religion (53.6 percent), but lowest amongst Christians (44.7 percent). The low rate of condom use among Christians was anticipated and may be attributed partly to religious influences of some Christian groups such as the Catholics and Pentecostals, whose doctrines are interpreted by their followers to emphasize the use of condoms as a sinful act (Agha, Hutchinson, & Kusantahn, 2006; Mash & Mash, 2013; Benthem & Stroebel, 2012; Mash & Mash, 2013).

The percentage which used condom is higher amongst the respondents who are never married, cohabiting or in consensual unions but lowest among currently married. The percentage who use condom is relatively higher among respondents who are in consensual relations and those never married, and lowest among currently married respondents. This finding is not unique to this study. Other studies have found low condom use among individuals who are married (Sharma and Nam, 2018; FHI360/USAID, 2014). In the FGDs, some participants reported that married people found it difficult to negotiate for condom use with their spouses because of fear of being

suspected of infidelity, especially when one has just returned from a trip in another fishing community. This was illustrated by a male participant in the following statement:

> Even when you want to use condoms, you are sometimes afraid to ask because your wife will think you cheated while you were away on your travels. This is one of the main reasons most of us married can't even suggest to other partners to use condoms. (Fofie, July 2018).

Another participant indicated that he has been married for several years and has never used condoms with his wife, and so introducing condoms now, will generate mistrust in his marriage. He expressed passionately:

> I have been married for twenty-five years and throughout the marriage we have never used condoms. It will seem very strange to suddenly introduce condoms at home. I don't know how I will explain this to my wife, who is already suspicious of me. (Quansah, July 2018).

With regard to the use of condoms by married people, another female participant also expressed the following in the female FGD:

> I know that my husband has a lot of sexual partners, but I cannot ask him to use condoms because condoms are usually used for girlfriends and prostitutes. Besides, it is the men's decision to use condoms. He might even get angry and divorce me for disrespecting him to ask him to use condoms. This is the reason I find it difficult to even suggest to my husband to use condoms. (Janet, July 2018).

The statements above indicate that although some respondents desire to use condom, the fear of being suspected of cheating or offending their partner, deter them from negotiating for the use of condoms among married people. The issues raised reflect observations made in earlier findings of a Kenyan study which indicates that most married couples do not use condoms because their lack of courage to negotiate condom use with their spouses. The study explains that married couple fails to do so for fear of straining or breaking their marriages even they are aware their spouses are having other partners (Bauni and Obonyo, 2000). Other studies have also adduced the low condoms use among married people to perceived notions that condoms are only used in extra-

marital sex and not in marital sex. Owing to this notion, some couple disregard condom use even when they aware that the partner is promiscuous (FHI360/USAID, 2014; Sharma and Nam, 2018). Owing to this, married people may have very limited options to negotiate safe sex with their spouses who may be engaged in risky sexual behaviour, and this may elevate HIV risk among them. This finding serves as a pointer to Programme managers to intensify education on how to communicate condom use among married people.

Table 6.5 also shows that in terms of fishing related occupation, the prevalence of condom use in the last 12 months during sexual intercourse was highest among the maintenance and repair group and lowest among the post-harvest group. This was to be expected as the maintenance and repair group is dominated by males whilst the post-harvest group predominantly is made up of females and so is less likely to use condoms as indicated earlier in the section in analysis on gender and condom use.

6.4.2 Condom usage at last sexual intercourse with casual partner

Since condom use may not be consistent with respondents who reported using condoms within the 12 months period, the study also examined condom use in the last sexual intercourse with casual partners by respondents. This was done because use of condom during sex with casual partners can reduce the risk of HIV transmission. A proportion of 62.1 percent of the respondents reported using condoms during their last sexual encounter with a casual partner (Table 6.6).

Table 6.6: Condom usage in the last sexual intercourse with casual partner by Background Characteristics

Background Characteristics	Respondent who used Condoms in last sex with casual partner		
	Frequency	Percent	P< Value
Sex			0.455
Male	64	63.4	
Female	41	60.3	
Age			0.180
<25	42	76.4	
25-34	31	55.4	
35-44	19	52.8	
45-54	9	52.9	
55-64	4	80.0	
65+	0	0.0	
Mobility Status			0.415
Mobile Fisher	68	65.4	
Non-Mobile Fisher	37	57.8	
Education			0.715
No Education	27	58.7	
Middle/JHS education	61	65.6	
Secondary/vocational and higher	17	56.7	
Religion			0.056
Islam	12	92.3	
African Traditionalist	10	90.9	
No religion	11	73.3	
Christianity	72	55.4	
Marital Status			0.012
Never married	53	77.9	
Cohabiting/Consensual	13	56.5	
Currently married	25	43.9	
Divorced/Separated/Widowed	14	69.7	
Type of fishing activity			0.208
Fish Catch Group	29	61.7	
Post-harvest Group	25	59.5	
Maintenance and Repair Group	15	48.4	
Porters and Errand Group	36	73.5	
Total	**105**	**62.1**	

Source: Fieldwork, July-August 2017.

By sex, the percentage of respondents who reported using condom in their last sexual intercourse is slightly higher for the males (63.4 percent) than the females (60.3 percent). This study corroborates other studies which have also reported that men are more likely to report condom use than women because men are more likely to have sex with casual partners with whom condom use is more common (Chamratrithirong and Kaiser, 2012; Opio et al., 2011).

Though no statistically significant relationship between age and condom use was observed, the cross-tabulations showed higher rate of condom use among respondents who are less than 25 years (76.4 percent) and those who were 25-34 years (55.4 percent). From Table 6.6, it can be seen that the rate of condom use decreases in the older age categories .Other studies have however observed strong links between age and condom use. For example, Chamratrithirong and Kaiser (2012) found that younger people are more likely to have better knowledge of condom and may be more likely to use it. The current result reflects condom use behaviour among the youth in the study area, and so calls for the intensification of the campaign for the use of condoms among the youth in HIV education in the study community.

There was a statistically significant association ($p<0.012$) between marital status and condom use during the last sex with a casual partner. Reported use of condom varies and was highest in respondents who were never married (77.9%) and lowest among those who were married (43.9%). In terms of education, condom use during last sex with casual partner is highest among respondents with basic and middle school education (65.6 percent) and lowest among those who have never been to school (58.7 percent). Regarding mobility status, higher proportion of mobile respondents (65.4 percent) reported condom use with casual partner as compared to non-mobile respondents (57.8 percent). By religion, the rate of condom use in last casual sex is highest in Islamic religious group and lowest amongst Christians. This finding supports many studies on condoms use that have reported low condoms use amongst Christians (Agha, Hutchinson, & Kusantahn, 2006; Benthem & Stroebel, 2012; Mash & Mash, 2013). The low use of condoms among Christians may relate to religious doctrines of certain Christian denominations against the use of condoms.

In terms of fishing-related occupations, prevalence of condom use is highest amongst those engaged in potterage and errands and lowest amongst the maintenance and repair group. The high use of condoms among the potters and errand group is understandable because it further demonstrates that younger fishers in the study area appear to be using condoms in order to avoid unwanted pregnancy and transmission of STIs.

6.4.3 Association between Background Characteristics and condom usage behaviour of respondents within the last 12 months

This section tests the relationship between background characteristics and condom usage behaviour of respondents within the last 12 months. Table 6.7 presents the results of logistic regression analysis of the relationship between the background characteristics and use of condoms, and the use of condoms by respondents in their last occasional sex with casual sexual partners. From Table 6.7, the age, level of education and religion are significant predictors of condom usage among respondents.

When age was regressed on the use of condom, the results showed negative association between age and use of condoms. The results show that respondents aged below 25 are 0.169 times as likely as those aged 45 and older to use condoms in the last 12 months while those within the 25-44 year group are 0.444 times as likely as those aged 45 and older to use condoms in any sexual intercourse in the last 12 months. This implies that the younger a fisher is, the more unlikely he/she will use of condoms. The less likelihood of young fishers to use condoms is worrisome and may have implications for elevated HIV risk among them.

Table 6.7: Binary regression of use of condoms, condom use in the last occasional sex with a casual partner by background characteristics

Background characteristics	Ever used condoms in the last 12 months?			Used condoms in last sexual intercourse with any casual partners?		
	B	Sig.	Exp(B)	B	Sig.	Exp(B)
Sex						
Male	.197	.604	1.218	.014	.987	1.014
Female (Ref.)	-	-	1.000	-	-	1.000
Age						
<25	-1.779	.001	.169	-1.447	.204	.235
25-44	-.812	.036	.444	-.976	.324	.377
45+ (Ref.)	-	-	1.000	-	-	1.000
Education						
Never been to school	1.771	.000	5.879	1.384	.177	3.991
Basic and middle school education	1.016	.008	2.763	-.177	.850	.838
Secondary/Vocational and higher (Ref.)	-	-	1.000	-	-	1.000
Marital Status						
Cohabiting/consensual	.005	.991	1.005	2.873	.030	17.681
Currently Married	.105	.792	1.111	2.849	.042	17.271
Divorced/Separated/widowed (Ref.)	-	-	1.000	-	-	1.000
Religion						
No Religion	.027	.970	1.027	.808	.599	2.243
Christianity	1.484	.012	4.409	.040	.975	1.041
Islam	-.151	.843	.860	-22.065	.999	.000
African Traditional Religion (Ref.)	-	-	1.000	-	-	1.000
Fishing related occupation						
Fish Catch Group	-.280	.546	.756	-.514	.546	.598
Post-Harvest Group	.088	.839	1.092	.542	.631	1.720
Maintenance and Repair Group	.192	.674	1.212	-2.419	.058	.089
Potters and Errand Group (Ref.)	-	-	1.000	-	-	1.000
Mobility Status						
Mobile Fisher	.182	.491	1.199	1.461	.048	.232
Non-Mobile Fisher (Ref.)	-	-	1.000	-	-	1.000

Source: Fieldwork, July-August 2017. **Ref. = Reference category**

Table 6.7 also indicates that respondents who have never been to school are 5.879 times as likely as those who have attained secondary/vocational and higher education to use condoms. In addition, those who have attained basic and middle school are 2.763 times as likely as those who have attained secondary/vocational and higher education to use condoms. This finding is inconsistent with other studies carried out on mobility and HIV. For instance, in a study by Mangnani et al. (2002), they found that individuals who

attend school to a higher level are more likely to utilize condoms, compared to those who dropped out or never attended school. The result may also be a good indicator of positive impact of HIV education in the study area as the current study shows universal knowledge of HIV and AIDS issues among respondents. It suggests that individuals who never attended school have the knowledge of HIV and AIDS, and are applying the message given them by utilizing condoms.

The Table 6.7 also shows an association between the religion of respondents and the use of condoms in the last 12 months. From the table, Christians are 4.409 times as likely as those who profess the African Traditional Religion to use condoms. The finding of Christians more likely to use condoms disputes the findings of earlier works, which have found less use of condoms among Christians compared to other religious groups. Earlier works have indicated that Christian groups urge their members not to use condoms because their doctrines see use of condoms as sinful, and as such serves as inhibitions of some Christians in using condoms. Religion therefore serves as an important factor in determining individual practices of condoms use (Takyi and Adai, 2003; Zou et al., 2009). The current study findings may suggest a change in sexual behaviours in the use of condoms amongst people who profess Christianity.

Table 6.7 also indicates the relationship between background characteristics and condom use in last casual sex had by respondents. From the table, marital status appears to be an important predictor for reported use of condom use in last casual sex among respondents. Respondents who are cohabiting are 17.681 times as likely as those who are divorced/separated/widowed to use condoms in their last sexual intercourse with casual partners.

Data in Table 6.6 also indicate that those currently married are 17.271 times as likely as those who are divorced/separated/widowed to use condoms in a last occasional sex with a casual partner. This finding is also worrisome, since it seems to indicate the less likelihood of fishers who are divorced/separated/widowed to use condoms in the study area. Since sexual activity in the study area is mainly heterosexual, the possibility of this group mixing with those not utilizing condoms in the other groups such as currently married is very high. Once they do not utilize condoms and they are present in the study area, they are likely to engage in sex with married or others cohabiting or in consensual relationships. As a result, they may constitute a big threat to the fight and campaign against the transmission and spread of HIV in the study community.

Again, from the table, mobility status is significantly associated with the use of condoms in last occasional sex with casual partner. Mobile fishers are 0.232 times as likely as non-mobile Fishers to use condoms in a last occasional sex with a casual partner. This observation can partly be linked to the fact that mobile fishers are generally on the move and do not to travel along with their regular partners and so in the event of any sexual activity, may use condoms to avoid unwanted pregnancies or STIs.

A study by Ochieng et al., (2011) also explained that mobile fishers, especially the males, usually have the financial resource to buy condoms compared to their non-mobile counterparts. The finding indicates that mobility influences condom usage in concurrent sexual behaviours, with mobile fishers more likely than non-mobile fishers to utilize condoms in casual sexual encounters. In sum, the model indicates that, controlling for all the other background characteristics, age, education and religion are observed to be significant predictors of condom usage in last 12 months. These are important factors that are to be considered in any programme planning intervention by policy makers and

programme managers concerning condoms usage among fishers and other mobile groups. From the result in Table 6.6, the predictors of condoms usage in last sexual encounter with casual partner are marital status and mobility status. Since they constitute critical predictors in condom usage in casual and concurrent sexual behaviours, they also require some attention in the planning and implementation of future HIV education programmes

6.4.4 Perceived barriers to condom use with casual partner

As discussed earlier in the introduction of this section, respondents who reported not using condoms were asked to explain why they did not use condoms in their last occasional sexual encounter had with a casual partner. The essence was to examine the perceptions and constraints surrounding non-use of condoms among the respondents and get a contextual understanding of why people fail to use condoms. The reasons given by participants for not using condoms have been presented in Table 6.8. Among those who did not use condoms with casual partners during the last sex act, partner objection due to reduction in sexual pleasure was still an important reason accounting for 33.3 percent.

Table 6.8: Reasons for Non-use of Condoms in Last Sexual Encounter with a Casual Partner by sex

	Sex		Total
Reason	**Male**	**Female**	
Partner objected	29.5	42.9	33.3
Condom not available	23.5	28.5	25
Trust partner not to have any sexual infection	23.5	28.6	25
Partner very attractive and not likely to carry any sexual infection	23.5	0.0	16.7
Total %	100.0	100.0	100.0
Total N	17	7	24

Source: Fieldwork, July-August 2017.

Twenty-five percent of respondents reported they did not use condom because they trusted their partners to be without sexual infection. This brings to the fore the argument raised in the second construct of the HBM, that the actions people take to prevent or not prevent a health condition depends on how they perceive the threat of that health

condition to be. If a person perceives his or her sexual partner has no sexual infection, the desire to use condom may not arise. Same proportion (25 percent) indicated condom was not available and did not know where to go for some. The remaining 16.7 percent indicated that they did not use condom when they had their last sex with a casual partner because the partner was very attractive and unlikely to carry any sexual infection. This finding is very significant as it indicate low risk perception and poor comprehensive knowledge of some of the respondents. The finding confirms earlier work of Eleftheriou et al. (2016.

Sex differentials exist in the reasons given by respondents for not using condoms. A higher proportion of the females cited partner objection (on the basis of condom reducing sexual pleasure) as their reason for non-use of condoms. This finding confirms similar observation of Chamratrithirong and Kaiser (2012) who found that men usually object to condom use because of claims that condoms reduce pleasure of sexual intercourse.

A higher proportion of females (28.6 percent) than males (23.5 percent) indicated that they trusted their partners to have no sexual infection and saw no need to use condoms because they assumed, they were disease-free. Several studies have suggested that trust of women for their male sexual counterparts expose them to HIV risk. For example, in a study in Uganda, female respondents reported having sex without condoms because they felt assured their main partner did not have other sexual partners (Higgins et al., 2014).

A slightly higher proportion of females (28.5 percent) than males (23.5 percent) also reported not using condom because it was not readily available at that moment of sexual encounter. This was to be expected because research has shown that one of the social norms cited as a motivation for condom use in Africa is that it is the responsibility of males to take the decision to use condoms in sexual encounters (Bauni and Obonyo,

2000; Kandel, 2002) and so when the male partner does not have condoms, then the sexual partners have sex without the use of condom.

The results in Table 6.8 show that whilst 23.5 percent of males cited their lack of condoms use because they found their sexual partner attractive and unlikely to carry any sexual infection, none of the females did, so found no need to use condoms, a proportion of 23.5 percent of males did. This finding has been observed by other studies, which have linked attractiveness to condom use in heterosexual men. Eleftheriou et al. (2016) found strong correlation between perceived attractiveness and condom use intentions in heterosexual men. They reported that participants in the study expressed the willingness to have sex with attractive women but indicated less inclination to use condoms. In another study by Agocha and Cooper (1999), male participants indicated that attractive women are less risky and the men were less inclined to use condoms with such women. The current finding confirms the earlier studies and emphasizes that men are less likely to use condom especially when they find their partner to be attractive.

6.5 Transactional Sex and Sexual Behaviour of Fishers

Transactional sex is any sexual activity which involves exchange of sex for money or gift (food, meat, fish, favour etc). Transactional sex is considered a risky sexual practice as it is usually associated with multiple sexual partnerships. Earlier studies have described FFS as a transactional sexual relationship between female fish traders and male fishers as a part of the local fish trade economy, in which sex is traded for fish (Béné and Merten, 2008, Mojola, 2011; Kissling et al., 2005). Owing to the risks involved in FFS, the current study asked respondents questions about the occurrence and their engagement in the phenomenon. Table 6.9 presents results of the information regarding participation in FFS.

Table 6.9: Fish-For Sex Transactional sex in the last 12 months by background Characteristics

Background Characteristics	Respondents who engaged in FFS in the last 12 months		
	N	Percent	P-value
Sex			**0.000**
Male	31	24.8	
Female	6	4.3	
Age			**0.000**
<25	20	32.8	
25-34	10	15.9	
35-44	6	7.1	
45-54	1	3.0	
55-64	0	0.0	
65+	0	0.0	
Mobility Status			**0.024**
Mobile fisher	28	17.7	
Non-Mobile fisher	9	7.8	
Education			**0.952**
No Education	11	12.9	
Middle/JHS education	22	14.4	
Secondary/vocational and higher	4	14.3	
Religion			**0.000**
Islam	0	0.0	
African Traditionalist	6	75.0	
No religion	7	33.3	
Christianity	24	10.7	
Marital Status			**0.001**
Never married	22	27.8	
Cohabiting/Consensual	2	11.1	
Currently married	10	7.4	
Divorced/Separated/Widowed	3	12.3	
Type of fishing activity			**0.000**
Fish Catch Group	16	23.9	
Post-harvest Group	3	2.9	
Maintenance and Repair Group	3	7.5	
Porters and Errand Group	15	27.8	
Total	**37**	**13.9**	

Source: Fieldwork, July-August 2017.

It can be seen from Table 6.9, a proportion of 13.9 percent had engaged in the FFS practice in the last 12 months. The table further indicates sex differentials in the engagement in FFS by the respondents within the period ($p<0.000$). Reported engagement in FFS is higher among males (24.8 percent) than in females (4.3 percent), which is supported by an earlier study on fish-for-sex (Idowu et al., 2012). The low percentage of females needs to be interpreted with caution. Unlike males, it is not a common practice in Ghana for females to be openly expressive in disclosing their sexual

experiences. In the FGDs with both males and females, it was observed that the male group was more open talking about FFS, whilst the females were reticent in discussing the subject. A recent study in Ghana found that Ghanaian social norms allow infidelity on the part of men but frown on women engaging in extra marital affairs and so it is easier for males than females to talk about such issues. In Ghana, women hardly talk about their personal sexual issues with strangers (Adiku, 2017). Another study by Kwankye et al., (2007) found that responses given by migrant girls on their sexual activities may be inaccurate because in Ghana matters of sex and reproductive health are usually shrouded in secrecy or discussed with caution. It is therefore possible that some of the female respondents who claimed not to have engaged in FFS, have actually engaged in it but were shy in disclosing it. This is not in any way to discredit the current results. This suggests that further studies are required to explore the pattern of engagement in FFS transactional relationships in the community.

In the male FGD, most of the participants mentioned that the mode of payment after a fishing expedition makes it highly difficult to trade fish for sex in Elmina. It was reported that since most fishers in Elmina and other immediate fishing destinations are engaged in artisanal fishing, they are not paid physical cash but receive portions of fish as payment. The participants explained that many of the fishing expeditions are not financed by the boat owners but other financiers, some of whom are well-to-do female fish traders, and so at the end of a fishing expedition, the expedition crew usually account for the fish catch and take the necessary steps to pay the cost of the expedition. In principle, the crew goes to sea to catch the fish but do neither have ownership nor financial control over the fish catch. A Chief Fisherman explained in an in-depth interview with him that anytime fishers returned from an expedition, fish is shared through a three-step sharing method in order to ensure suitable payments to the financier

(s) of the fishing expedition. The first step is to pay the financier, next is to pay the boat owner and final step is the payment of the boat crew members who are usually recruited to carry out the fishing, and all these payments are made in suitable quantities of fish. At the end of an expedition, all the fish catch is brought out of the boat, counted and placed in similar fish pans.

The financier of the expedition is given much fish covering the cost of the expedition, the boat owner is also given or takes his portion and the remaining is shared among the rest of the crew (number of crew depends on size of the boat, and usually ranges between 15 and 25). The portion given to the crew is what is referred as '*edzidzinam*', meaning fish meant to be sold as payment, since the crew is not paid cash but given fish to cover job performed on the boat. This seems to suggest that though the fish catch is made by the male expedition crew, control of the fish is neither vested in the boat owners nor the financiers, since the cost of the expedition is borne by another person (s) and actual fish catch is done by the fishing expedition crew.

Table 6.9 shows statistically significant association ($P<0.000$) between the age of the respondents and engagement in FFS in the last 12 months. However, higher percentage of FFS engagement is recorded among respondents aged less than 25 years (32.8 percent) and those in the 25-34 age group (15.9 percent). This finding is supported by works by Idowu et al., (2012) which found that young people are more prone to the engagement of FFS transactional relationship.

In the female FGD, some participants reported that FFS is not common in the Elmina fishing community even though they reported that a few young fishers could be engaged in transactional sexual relationship. In an in-depth interview with the Fish Queen, she

emphasized the possibility of younger fishers who work on the fishing boats (canoes) to be engaging in FFS. She indicated:

> It is difficult to say most men in this fishing community engage in fish-for-sex. I say this because these days it is not easy for fishers to make good catch from expedition, and to think that an entire crew will give away their fish for sex is impossible. If any of them would use their portion of fish for sex, then it may be the young boys on the boats, (Auntie Esaaba, July 2018).

Mobile fishers have a higher percentage (17.7 percent) rate of engagement in FFS than the non-mobile fishers (7.8 percent) and is significantly associated ($p<0.024$) as indicated in Table 6.9. The current finding is supported by earlier studies which have documented higher engagement of mobile fishers in non-spousal and casual sexual partners due to their high mobility from one fishing community to another without their families and spouses (Mojola, 2011; Saggurti et al., 2009; Skeldon, 2018).

In Chi-Square analysis, marital status and engagement in FFS were significantly associated ($P<0.001$). However, from Table 6.9, engagement was observed to be highest amongst respondents who were never married than the other categories in the marital status sub-group. During the female FGD, some of the participants indicated that though FFS may not be common, there is a greater possibility that it occurs amongst young, unmarried, mobile and migrant fishers in the fishing community. This was illustrated in the following statement:

> Most of the men on the boats have their own wives and so give their portion of the fish to them to sell for them. Those who give their fish to other women are those who are not married and are also migrant fishers not resident in the Elmina community. (Tina, July 2018).

The statement suggests that in Elmina, FFS occurs among unmarried fishers. However, this is inconsistent with Camlin et al's (2015) study in Kenya, which found that most men and women who exchange sex for fish were in marital partnerships. From the

discussion, the possibility of married fishers engaging in FFS in the fishing community is much lower than those unmarried, thus being married serves as restriction in the engagement in the FFS practice.

Though the Chi-Square result in Table 6.9 shows no significant association (<0.952) between education and engagement in FFS in the last 12 months, there is slightly higher percentage of engagement among those who attended basic and middle school than the other educational categories over the period. This finding resonates with Camlin et al's (2015) study in Kenyan, which found higher engagement of participants with lower educational status in FFS relationships.

The results of the chi-square test indicate a significant association between religious affiliation and engagement in FFS in the last 12 months preceding the survey (P<0.000). No engagement in FFS was observed amongst Islamic followers, and engagement is also lower in Christians than in the other categories. As seen in Table 6.9, engagement in FFS is highest (75 percent) amongst African Traditional Religion followers. In respect to mobility status, Table 6.9 indicates higher involvement of the engagement of mobile fishers than non-mobile fishers in FFS relations. Camlin et al. (2015) found similar evidence in their Kenyan study in which migrant women were reported to be involved in FFS relationships than their local counterparts. Explanation offered for the engagement of migrant women in FFS was that they are usually not known in the community and are less likely than local women to suffer stigmatization for the engagement in FFS.

The chi-square test indicate significant association between type of fishing activity and engagement in FFS (P<0.000). By type of fishing activity, engagement in FFS is highest amongst actual fishers and those engaged in pottering and errands, but lowest amongst

respondents engaged in post-harvest activities, which is dominated by females. This is expected due to the high composition of males and young people in the two categories.

From the results, 13.9 percent of respondents in the current study reported engagement in FFS in the last 12 months. Though the result shows 13.9 percent rate of engagement of the respondents in FFS in the study area, it is quite high considering the risk involved in the phenomenon, and earlier findings of fishers not using condoms consistently in casual sexual encounters (Bouanchaud, 2011; Kwena, 2006). The current finding suggests that FFS is not common in the study area; it still poses HIV infection risk to the fishers who are not consistent in condom use during sexual encounters with FFS partners.

6.5.1 Condom use with FFS partner

The study examined condom usage in FFS sexual experiences with results presented in Table 6.10 indicating that 32.4 percent of the respondents who reported engagement in FFS in the last 12 months used condoms, while 67.6 percent did not. As expected, non-use of condom is higher in males than in females as seen in Table 6.10.

Table 6.10: Respondents who used of condoms with FFS partners and reasons for non-use of condoms by Sex

Response	Sex		Total (percent)
	Male (percent)	Female (percent)	
Yes	30.0	42.9	32.4
No	70.0	57.1	67.6
Total percent	100.0	100.0	100.0
Total N	30	7	37
Reasons for non-use			
Condom reduces pleasure of sex	18.2	25.0	19.2
My partner does not like to use condoms	4.5	25.0	7.7
Trust for partner not to be promiscuous and didn't think it was necessary to use condom	72.7	50.0	69.2
Condom not available	4.5	0.0	3.8
Total percent	100.0	100.0	100.0
Total N	30	7	37

Source: Fieldwork, July-August 2017.

Asked to explain the reason for non-use of condoms, the majority (69.2 percent) cited trust for partner as reason for not using condoms. In the male FGD, some participants

explained that most FFS partners are women they maintain as their girlfriends and so trust them to be disease-free. One participant in the group who engaged in FFS explained:

> I don't use condoms with my FFS partner because she is currently my girlfriend, so I trust her. A lot of our FFS women refuse condoms during sex because they perceive condoms are only for prostitutes and not girl-friends. (Bob, July 2018).

The results corroborate that of Cassels et al. (2013) which adduce non-use or inconsistent use of condoms in FFS sexual relations to trust that sexual partners claim to have for each other. It is to be noted that the majority reporting non-use of condoms with FFS partners made reference to trust of an FFS partner.

The other reasons mentioned were that condoms reduce the pleasure of sex (19.2 percent), refusal due to dislike of condoms by partner (7.7 percent) and unavailability of condoms at the time of the sexual act (3.8 percent).

6.5.2 Reasons for fish-for-sex transactional relationship

During the male and female FGDs, participants who reported to have heard of FFS were asked to give their opinions on what they thought accounted for fishers' engagement in the phenomenon. The male group generally felt that most men engaged in it for sexual gratification. Some others indicated that they do so to exploit women who owed them money. One participant who claimed to have engaged in FFS corroborated this when he made the following statement:

> The woman I slept with owed me a lot of money from fish I gave her to sell for me. We came to an agreement to defray some of the cost by having sex with her. Since then anytime she defaults payment, she offers sex in return. (Gordon, July 2018).

It was also reported that there are young female fish traders in the community who have little or no capital to sustain their fish trade. These women become the targets of some fishers who lure them under the guise of doing them favour by selling to them at reduced

prices or giving to them on credit basis, and then eventually exploit them by having sex with them when they fail to settle payment. One participant also reported that during the lean seasons when fish is scarce, some male fishers use their portion of the fish given them as a bait to get sex from fish traders. Accordingly, these fishers may refuse to give out fish even when the fish trader has money to buy some outright. He explained in the following words:

> Some of the fishermen are very bad. During lean fishing periods when fish is hard to come by, they use their fish to get women to have sex with them. These fishermen only give their fish to traders who will agree to have sex with them before giving out the fish. (Israel, July 2018)

The reasons offered in the female FGD were similar to those of the males. For instance, one female participant expressed that:

> Even though I exchanged sex for fish, I did so because I had no other means of raising capital and so sell on credit, which led me into debt. Subsequently, I had no way of settling the debt I owed my FFS partner. He had already given me four of his shares of the 'edzidzinam' and I had not been able to give him his money because I used the money for some basic needs of my family. I could not resist when he offered to defray some of the cost by sleeping with me. (Pat, July 2018)

In an in-depth interview, another woman also shared her experience on how her desperation for fish compelled her to have her first FFS sexual encounter in Moree, a large fishing community about 20 kilometres from Elmina.

> Three years ago, fish was so difficult getting in Edina because most of the fishers here were not going to fish because they were not getting fish. Most of the fishermen moved to other fishing communities to fish, and so fish traders had no choice but to move to other fishing destinations to buy fish. I went to Moree to buy fish, and the prices were so exorbitant that I had no way of buying fish and making any profit. A certain fisher offered to sell to me at a reasonable price but on condition that I become his girl-friend. At the time, I was not married so I agreed. After a few months with him, I left because I was not happy with the relationship. (Mummee, July 2018)

The statements indicate how some male fishers take undue advantage of the female fishers through the control of fish. They also depict how some female fish traders are pushed into FFS due to lack of capital, fish debts owed, and the quest to get reliable and

constant supply of fish. This finding corroborates that of earlier research, which noted that FFS practices occur because women often give in to sex in order to secure supply of fish from fishermen (Awounda, 2003; FAO, 2006; Kissling et al., 2005; Lungu and Husken, 2010). In the fishing communities, fish is the most important resource every fisher strives to have, and so the one who has the fish has power to dictate. This is the reason FFS thrives on gender inequality within the fishing communities, which allows only men to go to sea to fish and in the end have more access and control over fish than their female counterparts. From the qualitative results, some women are compelled to engage in FFS, in order to have access to fish. Lack of capital, debts owed fishers, and scarcity of fish during lean fishing periods, make women vulnerable and they are forced to find survival strategies such as FFS in order to get access to fish to make a living.

It was also reported in the female FGDs that it is not always the case that male fishers exploit their female counterparts, but some other women, though a minority, also take advantage of the credit facility offered them and submit to FFS as a strategy for gaining capital or increasing their income for their fish trade. The participants explained that these women take the fish from the young fishers when they return from the expedition, and intentionally feign inability to pay, and then seek to exchange sex for the fish debt owed the fishers. The finding is similar to a study by Idowu et al., (2012) in coastal fishing communities of Ogun water side local government area in Ogun state in Nigeria, which revealed that the main reasons for fish traders engaging in FFS is their inability to secure capital.

Other reasons offered related to highly gendered roles within the fishing labour and activity chain, which favoured men in terms of income. Evidently, gender inequities were observed that men had competitive advantage over women in almost every link of

the value chain, except the post-harvest areas where the women dominated. This corroborated earlier studies on mobility and gender relations in the fishing sector (Béné and Merten, 2008; Merten and Haller 2007; Mojola, 2011; Odotei, 1990). During the female FGD, the participants explained that most women in the Elmina fishing community engaged in post-harvest activities such as the sale, processing and transporting of fish, whiles the men engaged in the actual fishing. They reported that men dominated the maintenance and repair of boats activity too. With regards to the sale of fishing gears, it was observed that though women participated, the larger wholesale fishing gear shops were all owned by males, whiles the smaller retail ones were owned by females.

It was gathered from the key informant interview with a Fisheries Official that except for a few female elderly fish traders who can secure loans from the banks and act as financiers of some of the fishing expeditions, the majority of the female fish traders are impoverished and lack capital for their fishing trade. He reported that most of the women who are not able to secure capital, borrow money from friends and relatives. However, the amount they can gather is usually small, and highly unreliable to serve as trading capital. The opinion of the Fisheries officer resonates with earlier observation of Moll et al. (2001) who report that due to the lack of adequate and reliable source of capital many women tend to rely on their male counterparts for support and thus account for some exchanging sex for fish. As reported, the areas of engagement of women do not give them enough income as corroborated by the Fisheries Officer during the interview in the following statement:

> The fishing activity in Elmina is highly structured on gender lines, with men in control of all the profitable income generation areas such as ownership of boats, cold stores, transport, sale of fishing gear and control of the fish resource. The actual fish catch is done by males whilst females engage in post-harvest activities. Since they dominate these areas, it places them in powerful positions

> and puts them in control of all the means of production. This creates a power imbalance which leaves very limited space for women in the fishing value chain. (Desk Officer, Fisheries Department in Elmina, August 2018).

In sum, compared to women, the male fishers (though not exclusive) in the study area have better sources of income since their areas of engagement are the most profitable parts of the current fishing activities in the study area. Even without capital, the proceeds for their share of fish catch could yield them some money, which can be used as capital. On the other hand, the females are engaged in the post-harvest activities such as selling of fish, processing and pottering, which according to the District Fisheries Officer does not yield much income for the women. Additionally, he explained:

> The women process and sell the fish and at the end the proceeds go back to the owners of the fish, who are the men. Most of the women sell on credit and make very little profits. In the end, they are compelled to exchange sex if they need to keep some of the money for their own upkeep. (Desk Officer, Fisheries Department in Elmina, August 2018).

In effect, the women engage in FFS for sex because many have very limited sources of raising capital for their trade, and so relying on their male counterparts seems the easiest and most convenient opportunity of raising capital for their trade.

6.6 Chapter Conclusion

The majority of the respondents were sexually active in the last 12 months. Most respondents who engaged in casual sexual encounters did not use condoms in their last occasional sex with casuals. Regarding condom usage behaviour among respondents, the results show very low condoms use among respondents in the last 12 months. From the discussion, perceived barriers to use of condoms by respondents include partner objection to the use of condoms, unavailability of condoms at the time of sexual

encounter, trust of partner to be disease-free, and attractiveness of partner. The result shows that almost 14 percent of respondents had engaged in the phenomenon in the last 12 months. The percentage that reported condom use in FFS sexual relations is low, thus elevating HIV risks among respondents reporting engagement.

CHAPTER SEVEN

STRATEGIES FOR CARRYING OUT HIV EDUCATION IN THE STUDY AREA

7.1 Introduction

Having proper knowledge about HIV and AIDS is an important step towards ensuring safe sex practices. An important step towards HIV prevention is the provision of education to ensure that people have adequate knowledge about HIV and AIDS, and utilize the knowledge. When people have adequate knowledge about a health condition, it serves as reminders and activates individual action and readiness to initiate action against that health condition as emphasized by the HBM construct on cues of action. Cues for action relate to actions and initiatives put in place for providing information on HIV prevention, and also serving as reminders to people on the existence of HIV. This chapter examines the participation of the respondents in HIV and AIDS education programmes, and the reasons for their non-participation. It also examines the types of strategies used by HIV and AIDS focused agencies to carry out HIV and AIDS education, their achievements, and challenges. The chapter also makes a set of recommendations to improve programming on HIV education in the study area.

7.1.1 Participation in HIV and AIDS Educational Programmes

The study sought from respondents whether they knew of any agency/institution that have carried out any HIV and AIDS education programmes in the study area in the 12 months preceding the survey. A proportion of 45.5 percent indicated that they were aware of such programmes, while 54.5 percent said they were not aware. Awareness of HIV programmes was higher among females than in males. The analysis in Table 7.1 indicates that local radio stations (41.1 percent) were the most popular education agencies that the respondents were aware of. This is followed by the Municipal Health

Directorate (28.6percent) and the Ghana AIDS Commission (19.4 percent). The agencies were cited by the lowest percentage are NGOs/CBOs (6.3 percent), and the Fisheries Department (4.6 percent).

Table 7.1: Knowledge of HIV education programmes in the last 12 months

Response	Sex (percent)		Total
Knowledge of any HIV education in community in the last 12 months	**Male**	**Female**	
Yes	43.9	47.0	45.5
No	56.1	53.0	54.5
Total percent	100.0	100.0	100.0
Total N	187	198	385
Agency/organisation implementing HIV education programme			
Local Radio Station	47.6	35.5	41.1
Municipal Health Directorate	19.5	36.6	28.6
Ghana AIDS Commission	20.7	18.3	19.4
NGO/CBO	8.5	4.3	6.3
Fisheries Department	3.7	5.4	4.6
Total percent	100.0	100.0	100.0
Total N	82	93	175

Source: Fieldwork, July-August 2017.

Participating in HIV education is very beneficial for the fight against the virus as it equips individuals with knowledge on mode of transmission and method of prevention. About a third (32.2 percent) of respondents reported taking part in HIV education programmes in the last 12 months (Table 7.2).

Table 7.2: Participation of respondents in HIV Education and reasons for not participating

Response	Sex (percent)		Total
Participation of respondents in HIV education programmes in the last 12 months	**Male**	**Female**	
Yes	21.9	41.9	32.2
No	78.1	58.1	67.8
Total percent	100.0	100.0	100.0
Total N	187	198	385
Reasons for not participating			
Not interested in HIV programmes	39	63.5	49.8
Lack of time and unavailability due to time/travel schedules of work	55.5	30.4	44.4
Venue not suitable	5.5	6.1	5.7
Total percent	100.0	100.0	100.0
Total N	146	115	261

Source: Fieldwork, July-August 2017.

On the other hand, 67.8 percent indicated they did not take part in any such programmes within the period. A higher proportion of the females (41.9 percent) than the males (21.9 percent) indicated that that they participated in such programmes.

The respondents who reported that they did not participate in any HIV education programmes were asked to explain why they have not done so. The reasons provided include lack of interest in participating in HIV education programmes (49.8 percent), lack of time or non-availability of respondent due to travel schedules of work (44.4 percent), and venue of programmes not suitable for their participation (5.7 percent). The findings support those of IOM/UNAIDS (2005) that some mobile workers fail to participate in HIV educational programmes due to the lack of interest, time availability and unavailability of most mobile people to be present during such programmes. In an interview with an opinion leader in Elmina, it was reported that the HIV and AIDS programmes that are usually organized are foreign in content and the IE&C materials are mostly produced in English. Explaining, why he has shown no interest in HIV programmes, he noted:

> The programmes are too dry. All they do is to talk and frighten us with the disease. The way they describe the disease makes it look as if it is your fault to get the disease. This is why most people here don't show interest and would prefer to either listen to radio or watch HIV programmes on TV. I believe they should include role play, sketches and documentaries that relate to the ordinary lives of fisherfolks. That is how to make people feel that the disease affects ordinary people like us. (Baah, July 2018).

The statement above explains that the content and packaging of programmes may not inspire people to attend or deter people to participate if they found them unsuitable, unattractive and not entertaining. It also means that people assess contents of programmes before participating in them.

Further interactions during the key informant interviews gave additional insights into the low participation rate in HIV education programmes among the fishers. For example, the official of the Municipal Health Administration reported during the key informant interview that it is easier to get female fishers to address than the male fishers. She explained:

> The nature of the work of the males is catching fish, which makes them highly mobile. Again, when they return from an expedition, they are required to prepare their fishing net for the next expedition, leaving them very little time for other activities such as participating in HIV programmes. There is a general lack of interest because most male fishers consider such programmes as trivial and not important. (Programmes Coordinator, Municipal Health Administration, August 2018).

The representative of the Fisheries Department (FD) also reported that apart from the mobile nature of their work, fishers have an obstinate attitude to change. The FD officer explained it as follows:

> Fishers are a group of difficult people with a mind-set of their own and very rigid in accepting change. Illiteracy is the major cause of their being difficult and so sometimes getting them to meet and discussing issues with them becomes a huge challenge. (Fisheries Officer, Fisheries Department, August 2018).

The observation by the Fisheries Officer explains why it is difficult to get some fishers to participate in HIV education programmes. The statements also offer some guidelines to programme organizers to find suitable strategies for the design of the programmes that will enable them to engage and involve them in ongoing and future programmes.

7.2 Types of HIV and AIDS Programmes held

The study delved into the strategies and approaches used for carrying out HIV education by various agencies and departments (Refer to Table 7.3).

Table 7.3: **HIV and AIDS Education Strategies of institutions**

Institution	Type of Strategy
Ghana AIDS Commission (GAC)	Community health outreach, radio and TV appearances, distribution of IEC materials
Fisheries Department	Health education and inspection of landing sites
Municipal Health Administration	Public and community education programmes, counselling and testing and provision of ART services, condom distribution, distribution of IEC materials
Department of Community Development	Public and community education programmes, radio and TV appearances
Department of Gender of the Ministry of Gender Children and Social Protection (MoGCSP)	Public and community education programmes, radio and TV appearances
Foundation Builders Kids Club (FBKC)	Public and community education programmes, radio and TV appearances, film production
Human Service Trust Foundation (HSTF)	Public and community education programmes, radio and TV appearances condom distribution and counseling, distribution of IEC materials

Source: Fieldwork, July-August 2017.

The list of agencies provided in Table 7.3 comprises both government and non-government agencies, suggesting that on-going HIV education programmes in the study area are carried out by both government and non-government actors.

7.2.1 Ghana AIDS Commission

An interaction with the Programme Coordinator at the Technical Support Unit of the Ghana AIDS Commission (GAC) in Cape Coast, which has oversight responsibility over the study area, indicated that the main strategies used include advocacy meetings, community campaigns and durbars. It was reported that the Advocacy meetings are series of quarterly meetings that the GAC usually holds at the institutional level with the civil society organisations, traditional authorities, the Ghana Health Service, Metropolitan, and Municipal & District Assemblies (MMDAs). These meetings are organized to build and sharpen knowledge and capacities of representatives of the organisations to embark on community health outreaches on HIV education. The interaction with the GAC indicated that only one meeting had been held by the second quarter of 2018, even though a second meeting was already due, and the reason for not having the meeting was due to inadequate funding.

Regarding community campaigns and durbars, the GAC indicated that occasionally, officials of the GAC collaborate with other agencies during public events and address the public on methods of HIV transmission, prevention and protection. It was reported that in the past these programmes were carried out monthly and were periodic but due to funding challenges, only one of such programmes had been held from July 2018.

The Programme Coordinator indicated that the GAC introduced a programme titled "Community HIV Education Enhancement Package" in 2011 which aimed at carrying out HIV prevention activities in several fishing communities in the Central Region. The GAC reported that this programme involved GAC officials working in partnership with other social workers to interact with community members within the fishing communities in Elmina and other surrounding communities. The programme was carried out in three approaches; 'One on one' – which involves a door-to-door interaction with individuals; 'Small group' – which involves target groups; and 'Large Group' – which involves a large group comprising all members in a target community. The GAC reported that through this intervention, it has managed to make condoms easily available, affordable and accessible through installation of condom vending machines at vantage points in the community; Continued HIV education through Peer Educators; and periodically emphasized positive behavioural change in the catchment communities.

Asked how effective the methods and strategies used for carrying out HIV education have been, the Programme Coordinator indicated that there is an increase in the number of people willing to test to know their HIV status than before. He also indicated that during certain public gatherings, community members report voluntarily for HIV services, which is indicative of the effectiveness of the methods and strategies employed in carrying out HIV education in the communities. But according to the Programme

Coordinator, despite the efforts made to create HIV awareness, many people still engage in risky sexual behaviours. He expressed this as follows:

> Even though fishers in Elmina are quite knowledgeable in HIV issues, attitudinal change is very low as people continue to practise risky lifestyles. A lot more education is still required to get the necessary attitudinal change required. (GAC Programme Coordinator, Technical Support Unit in Cape Coast, August 2018)

The GAC reported its major challenges faced in carrying out HIV and AIDS education in the fishing communities as follows:

i. High illiteracy rate amongst fishers, most of whom cannot read IEC materials
ii. Inadequate financial resources leading to 'long break' in programme implementation
iii. Fishers always have busy schedules and will hardly get time for such health education.
iv. Poor attitudinal change amongst fishers, majority of whom continued to live HIV risky lives such as having multiple sexual partners, alcohol abuse, refusal to use condom, and refusal to test to know HIV status.

7.2.2 Municipal Health Administration (MHA)

At the Municipal Health Administration in Elmina, the Programmes Coordinator reported that its key strengths regarding the service it provides is related to its capacity to provide counselling, testing and Anti-Retroviral (ART) services. The Projects Coordinator reported that the Health Administration has also had several health education and awareness creation programmes, and occasional home visits in the fishing community of Elmina and other surrounding communities.

> The awareness programmes cover not only fishers but the larger population of the entire Elmina Township. However, I must admit it has not been consistent. We only have it when we have funds. (Programmes Coordinator, Municipal Health Administration, August 2018).

The MHA reported that it also distributes IE&C materials on HIV and AIDS in the fishing communities. It was observed that most of the materials were produced in English language. During the key informant interviews with the Programme Coordinator of MHA, she complained that one of their biggest challenges is the low literacy and education among the fishers. She indicated that many of the fishers with no formal education are not able to read in the Fante language. Thus, since most of the IE&C materials were produced in English by the Ghana Social Marketing Foundation (GSMF), it makes it difficult for most people to comprehend the messages on the IE&C materials. She indicated that the MHA is occasionally invited to appear on the local Radio stations to talk on health issues, which sometimes include HIV and AIDS issues. She indicated that all the talks are made in the Fante language to enable both literates and non-literates to understand the messages broadcasted

7.2.3 Fisheries Department (FD

The Fisheries Department (FD) indicated that the Department does not organize any programmes to educate fishers on HIV, but rather sensitizes them on sanitation issues because of the dirty environs of the fishing landing sites. The representative of the FD reported that it had had a number of engagements with the fishers in the first quarter of the year, but all the meetings focused on fisheries development and how to maximize fish catch. Asked why they have not had any educational programmes on HIV, the official argued that it is not the mandate of the FD to educate fishers on HIV and AIDS. He explained that:

> We don't want to be seen doing another agency's work even though we are in closer contact with the fishers. Besides, we don't have enough money to add HIV education to the work we do. (Desk Officer, Fisheries Department in Elmina, August 2018).

The statement by the FD official indicates that the FD does not presently have any HIV and AIDS education programme in the study area. This finding has policy implications

as it signifies a policy gap in the utilization of strategic national institutions that have mandates for ensuring fisheries management and development in the country. As an agency with mandate on fisheries development and management, it is necessary that the requisite steps are taken to ensure FD to include HIV and AIDS education in its community outreach interventions.

7.2.4 Foundation Builder's Kids Club (FBKC)

As part of gathering information on HIV and AIDS education, the Foundation Builders Kids Club (FBKC) was contacted and interacted with. The FBKC is an NGO that works to advocate enhancement of women and children's rights. The organisation undertakes HIV and STIs education projects in Elmina, Cape Coast and Moree. It was reported that the NGO has operated in Elmina since 1990. The NGO started with child rights advocacy and later developed radio programmes to educate people on children's rights, sexual and reproductive rights of young people. The focus of the NGO in the last five years has been on behavioural change, and the strategies utilized by FKBC to push for behaviour change include radio discussions on topical policy issues affecting young fishers and their parents, film production and awareness creation in the fishing communities.

It was gathered that the FBKC produces a Tuesday Radio programme on Ahomka FM, a local Radio Station, with its main target audience being young fishers, their parents and fishmongers in general. Some of the featured topics on the radio programmes are child rights and sexual and reproductive rights. The radio programme has a wide coverage and has been very instrumental in informing and educating many community members on parenting and sexual and reproductive issues such as HIV transmission, prevention and attitudes regarding stigmatization and risky sexual behaviours that elevate HIV and STI infection. For instance it was gathered that parental care is inadequate that young girls as

young as about 10 years fend for themselves by indulging in sexual practices in the fishing community. It was also gathered that there are sections of members of the Elmina community who still attribute AIDS to curses. The official indicated that through the radio programme, a lot of the misconceptions and norms about the AIDS disease is gradually changing in the fishing community. The FBKC reported that as part of its advocacy projects, the FBKC uses film production to carry out various messages on topical issues, including HIV and AIDS. The NGO officials indicated during the interview that it has currently produced a film titled "The other Side of Tourism" aimed at eliminating commercial sexual exploitation of children and trafficking of children for sexual purposes in Cape Coast and Elmina. The Director of FBKC indicated that it has plans of producing a film on fishers and the spread of HIV, and is working on securing funds to carry out the project in the future.

According to the officials of the FBKC, the NGO had a series of community durbars in Elmina, Cape Coast and Moree in 2017 when it secured some funds from the GAC. The NGO reported that there is a need to intensify HIV education in Elmina as most fisher folks in Elmina for instance do not see HIV as a major concern. Project officers of FBKC mentioned that even though, many male fishers would prefer having multiple sexual partners, they indulge in unprotected sex. The NGO official explained that:

> Most male fishers in Elmina believe in marrying multiple women and keeping other sexual partners as well. Most male fishers in Elmina do not perform any marriage rites. A woman becomes an automatic wife once the man starts engaging in sexual activities with her. (Project Officer, Foundation Builder's Kids Club, Cape Coast, August 2018).

This statement indicates that fishers still indulge in multiple and concurrent sexual relations and practices that expose them to HIV risk. The biggest challenge of the NGO is the inability to secure more funds to carry out more educational programmes, and also

do assessments on effects of the performance of the radio communication on the fishing community.

7.2.5 Human Service Trust Foundation (HSTF)

The Human Service Trust Foundation (HSTF) is an NGO, which has since 2008 been engaged in public education on HIV and AIDS in the Central Region. The KEEA Municipality is one of the areas of focus of the NGO's HIV education interventions. The approaches utilized by the HSTF for carrying out HIV education in Elmina and its other operation areas include awareness raising through community durbars and radio communication.

Project officers reported that all the strategies used for their education activities have worked effectively in achieving their results. However, the awareness raising through community durbars has had a greater trickling-down effect on sexual behaviours of the fishers. During the durbars, fishers and other community members are gathered around the fish landing site, and messages on HIV are shared. Again, during national calendar days, such as the National AIDS Day, the HSTF uses their durbars to sensitize community members on HIV and AIDS, and urge community members to test for HIV, and this initiative has taken away the fear of some fisher folks in going in for the test, even though more efforts will have to be made to get more fishers participate in HIV testing uptake. When project officers were asked to indicate what have been the challenges in their work in the fishing community, they mentioned funding as their most pressing challenge. Project officers of the organisation reported that the HSTF has access to have limited funding opportunities to organise programmes in the community, and most of their programmes are not patronized by their main targets who are the fishers. One of the project officers reported that:

> When we organize community durbars, the fisher folks are usually our target audience. Incidentally, they don't show up to participate. Most of them are not interested and the others who show up, sit in for few minutes and leave to go back to fish, process fish or mend their nets for the next fishing expedition. It is very worrying to hold a programme and not able to get the participation of your target audience. (Project Officer, Human Service Trust Foundation, Cape Coast, August 2018).

The study also revealed that the NGO on numerous occasions, has been invited as panel members on various FM radio stations in the Central Region to discuss and broadcast messages on HIV and AIDS, and these have helped increase community awareness on the scourge of AIDS and the need for people to take preventive measures to avoid contracting it.

The other challenge relates to HIV denial attitudes of fishers in the fishing communities. Project officers reportedly, mentioned that most of the fishers perceive fishing as a dangerous work and so don't care about the threat of AIDS. One of the Project officers reported:

> This kind of mentality is all over in the community and so when you go in there to educate them on HIV and AIDS, some of them laugh at you. The people in Elmina need a completely new mindset about the virus and the disease and so we need to intensify education. (Project Officer, Human Service Trust Foundation, Cape Coast, August 2018).

This statement indicates that some fishers in Elmina do not recognize the importance of HIV and AIDS education, which explains the limited participation in programmes that seek to educate and sensitize people in the community. This suggests the need for intensifying HIV and AIDS education using innovative strategies well suited and will attract more people in the communities to participate.

7.2.6 Department of Gender and Department of Community Development

Interaction with officials of the Department of Gender of the Ministry of Gender, Children and Social Protection, and the Department of Community Development indicate that though the two departments embark on HIV education in Elmina and the surrounding communities, between January and July 2018, the two departments had not received any budget allocations to enable them carry out any outreach activity in the communities under the Komenda Edina Eguafo Abirem Municipal Assembly. This meant that over the period of reference, no education on HIV and AIDS had been done in the study area.

7.3 Chapter Conclusion

The chapter examined the participation of the respondents in HIV and AIDS education programmes, and the reasons for their non-participation. From the discussions, more than half of the respondents reported that they do not know of any HIV education interventions. Three out of ten respondents had taken part of HIV education programmes in the last 12 months, and reasons for nonparticipation in HIV and AIDS programmes include lack of interest, lack of time and unavailability due to travel schedules of respondents and non-suitability of programme venues. The types of strategies used by HIV and AIDS focused agencies to carry out HIV and AIDS education, their achievements, and challenges are also examined. Most of the agencies have had some successes in implementing several educational interventions aimed at improving knowledge, attitudes and behaviours among fishers. The chapter also highlights some of the challenges of the agencies, and these include lack of funding for implementing planned projects, delays in the disbursements of funds, which affect effective running of projects.

CHAPTER EIGHT

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

8.1 Introduction

HIV is a major health concern globally, and fishers are considered among the human population groups most at risk of the virus. The vulnerability and prevalence of HIV within the fisheries sector has been associated with the high mobility and risky sexual behaviours of fishers in fishing communities and at destinations where they search for fish. Even though the high HIV prevalence rates have been mentioned among fishers, the link between mobility and HIV infection risk among fishers is yet to be comprehensively established.

Accordingly, the present study attempts to examine the mobility patterns of fishers in Elmina and associated living conditions and the resultant HIV risks among them. The general objective of the study was to examine the relationships between mobility of fishers and the risk of HIV infection in Elmina, a fishing community in the Komenda-Edina-Eguafo-Abirem Municipality in the Central Region of Ghana. The specific objectives were to examine the mobility and settlement patterns of fishers and discuss their association with HIV infection risk. The study also sought to assess the comprehensive knowledge and attitudes of fishers in relation to HIV infection risks, examine risky sexual behaviours among the fishers that elevate risk of HIV infection, and describe the strategies used for carrying out HIV education by institutions that seek to improve HIV education in the study area. The theoretical underpinnings are derived from four theories, which provided explanations on the results. The theories are the Push-Pull Model, Social Control Theory, Health Belief Model, and Theory of Gender and Power.

The field work for the study was conducted at the Elmina fishing community over a period of three months from 3rd July to 29th August 2017, using a cross sectional study design that employed convergent parallel mixed research methods for data collection and analysis. In all, 435 participants were covered; 385 respondents for the survey, 30 in-depth interviews, and two focus group discussions (10 participants in each).

8.2 Summary

Of the 385 survey participants, 51.4 percent were females, while the remaining 48.6 percent constituted males. More than half (54.3 percent) of the study participants were mobile fishers, and the remaining 45.7 percent were non-mobile fishers. In terms of age, the respondents who were 34-44 years constituted the highest percentage (29.9 percent) and those 75 years and above constituted the least (0.5 percent). A little more than half the participants surveyed (53.8 percent) had middle/JHS education, and almost a third of the total sample of respondents have no education, whiles 12.7 percent have secondary/vocational school and higher education. Almost four in every ten of the respondents were engaged in post-harvest activities, 25.5 percent engaged in actual fishing, 21.6 percent served as potters (and run errands), and the remaining proportion (14.3 percent) were engaged in boat (canoe) repair and maintenance.

8.2.1 Mobility and living conditions and HIV risks

The results of the data analysis show that five in ten of all respondents were mobile to other fishing communities to engage in fishing activities in the last 12 months preceding the survey. A higher proportion of the males (67.7 percent) compared to the females (41.9 percent) were mobile fishers. Similarly, the results shows higher mobility among younger respondents compared to older respondents.

Factors including the desire to trade in fish, serve as fish porters or run errands, track fish, assist family member with fishing-related activity, and to do repair or maintenance work on boats are the reasons given by the fishers for moving to other communities to engage in fishing activities. In effect, the main reason behind the mobility of fishers outside Elmina is economic, which corroborates an earlier study by Crona et al. (2010). They also conformity with Lee's (1966) Push-Pull theory, which indicates that people move to destinations that have better conditions than where they originate from. The conditions at the origin are push factors associated with the movement.

The study results show that seven in ten of all mobile respondents faced some form of challenges during their mobility to other fishing communities in the last 12 months. Gender differentials exist in terms of the challenges faced by the mobile fishers during their travels outside Elmina, with the females bearing the greater brunt of the challenge. Lack of or limited access to accommodation exposes the female fishers to sexual exploitation by the male fishers and male residents at the destination areas who give accommodation in exchange for sex. Some of the women are not able to negotiate for condom use because of the 'kind' gesture being offered them and the fear that they will subsequently lose the opportunity of having a convenient sleeping place in the future. The inability of females to negotiate the use of condoms because of this fear of losing a comfortable sleeping place signifies their vulnerability and the power in the hands of men, who at the interpersonal level and through the control of resources, use it to exploit women. In the process, the women exposed to greater burden of HIV risk. In effect, there are specific differences in the HIV risk exposure among male and female fishers due to the sleeping arrangements whilst on their travels.

Nine out of ten (92.3 percent) of the mobile respondents indicated that staying away from home affects them as individuals. Furthermore, four in ten (42.9 percent) reported that staying away from home leads to their engagement in casual sexual behaviours, while a similar proportion (43.5 percent) also reported that staying away from home makes them lonely and weakens their ties with their families and relatives. The bivariate analysis of the data reveals significant statistical association between being lonely and engagement in non-regular sexual behaviours ($p<0.000$). The qualitative results also show that staying away from home in other fishing communities to engage in fishing related activities makes the fishers lonely and influences their engagement in non-regular sexual behaviours. This finding corroborates earlier observations, which found similar evidences of the association between loneliness and engagement in risky sexual behaviours (Hjelm, 2014; Anarfi and Caldwell, 1997).

8.2.1 HIV and AIDS related knowledge and attitudes of fishers

The majority (97.9 percent) of the study participants are aware of HIV and AIDS as was found in previous studies too (Olowosegun et al., 2009; Korankye, 2008) and the national figure (GSS, 2015). The rate of awareness about HIV is slightly higher in males (98.4 percent) than females (97.5 percent) and this may be due to the fact that the male participants of the study are more educated than the females.

Again, the majority (55.6 percent) of the respondents have good comprehensive knowledge which is necessary for prevention of HIV and AIDS. This is reflected in the results of the analysis of the data which indicates that almost nine in ten (87.6 percent) know that the HIV can be reduced by the use of condoms. Nine in ten (89.4 percent) also know that HIV infection can be reduced through abstinence or being faithful. Similar proportion (88.5 percent) also knew that AIDS can be prevented by limiting sex to one

uninfected partner who has no other partners, and seven in ten (65.8 percent) knew that avoiding sharing of sharp and piercing objects could prevent the disease. The results further indicate that the study participants have accurate knowledge of the modes of transmission of HIV and prevention methods, which are important steps towards promotion of behavioural change and reducing the HIV infection rate.

Despite the high knowledge of HIV prevention methods among the fishers, the qualitative results show that some of them have flawed knowledge of HIV and AIDS. For example, during the FGDs, a large number of the participants could not tell the difference between HIV as a virus and AIDS as the disease. While some thought HIV was the disease, others thought AIDS was the virus, and some others felt HIV and AIDS were the same. This observation suggests that despite the high knowledge of the HIV prevention methods, there are still gaps in knowledge that need to be filled in order to improve knowledge of the HIV among the various groups in the study community.

Bivariate analysis show significant association between level of education and four HIV prevention methods, with respondents with secondary/vocational school and higher education having more knowledge of the various preventive methods. The current finding reemphasizes the importance of education in influencing individual knowledge on the various prevention and transmission methods of the disease. From the results, non-mobile fishers are more knowledgeable about HIV prevention methods than the mobile fishers, which is as a result of their frequent participation in HIV education programmes. The qualitative results adduce the limited knowledge of the mobile fishers to their high mobility, which offers them limited or no time to attend HIV education programmes.

Results of both the quantitative and qualitative data, suggest that the radio and television are the respondents' main sources of information on HIV and AIDS, which correspond with earlier studies (Zafar et al., 2014, Shetty et al., 2016). Although the electronic media (radio and TV) was the main source of information on HIV and AIDS, differences were observed in the various sub-groups. In terms of sex, while more male respondents preferred listening to radio, the females chose either the radio or television. Regarding age, radio is common amongst older respondents, while the use of the Internet is more popular with the younger age groups. While mobile fishers prefer to use the radio, television is popular amongst non-mobile fishers. The qualitative results indicate that mobile fishers utilize radio as source because they are able to access information on the radio during their travels to other fishing communities.

The results indicate that most participants perceive AIDS to be a dangerous disease, with four out of five participants in agreement. The reasons expressed to support this claim was that AIDS kills fast, has no cure and weakens the immune system of infected persons, and is a disease that claims more lives than any other disease. Though, the majority expressed that the disease is dangerous, the remaining proportion (one out of five) still felt that it is not, their reasons being that fishing is more dangerous than AIDS, and only people who have been cursed get infected with AIDS. Although, the results show that majority of respondents feel that AIDS is a dangerous disease, the views expressed to explain why they felt AIDS is not dangerous bothers on superstition and ignorance.

Almost nine percent of respondents sampled had ever tested for HIV, which is higher than the current national figure of six percent (GAC, 2015). Drawing on the data, compared with the males, the females reported a higher level of testing, which also

conforms with national testing trends of women always showing higher testing rates compared to men (GAC, 2015). Through the means of binary regression analysis, the study finds out that younger respondent are more likely to participate in HIV testing. Even though three out of five respondents knew where to have an HIV test, three in ten indicated the willingness to get tested. The factors influencing respondents not to get tested for HIV were fear of knowing what the results would be, perception that they do not have any of the risk factors for HIV infection and so found no need for testing, cost of test being a barrier, fear of consequences of discrimination when test results are out and people learn of their positive HIV status, and respondents not being aware of where to have the test. The results show that attitudes towards HIV testing uptake is very poor and requires major efforts to encourage more people to participate in testing.

8.2.2 Risky Sexual behaviours that expose fishers to HIV

Nine out of ten of respondents engaged in sexual activity in the last 12 months, and the results show higher sexual activity in males than in females. Sexual activity is also higher among younger respondents than the older ones, and in respect to educational status, those with basic and middle school education have a higher percentage score of engagement in sexual activity than those in the other categories. Sexual activity is higher among the mobile fishers than among the non-mobile fishers. The results of the regression analysis reveal that age of respondents is an important predictor of ever had sexual intercourse within 12 months before to the survey. The respondents currently married are less likely than those divorced/separated/widowed to engage in casual sexual encounters according the regression analysis.

The study examined sexual engagements with casual sex partners in the last 12 months, and the result shows that a little over 25 percent of the respondents who had sex over the period of reference had it with casual sex partners. The chi-square test results indicate statistically significant association between sex, age, mobility status, religion, marital status, and engagement in casual sex. A little less than half (44.7 percent) of respondents aged less than 25 years engaged in causal sexual encounters 12 months prior to the survey. A higher proportion of the males (31.1 percent) than females (14.0 percent) engaged in casual sex 12 months before survey. In terms of mobility status, a higher proportion of the mobile fishers (28.4 percent) compared to non-mobile fishers (17.7 percent) engaged in sex with casual partners within the period.

The study also investigated condoms use during sexual intercourse among respondents in the last 12 months. Based on the findings, 44.2 percent of the respondents used condoms during sex over the period of reference. Condoms usage among the study participants is lower in females (38.8 percent) than in males (56.7 percent). Other studies in Africa report similar results (Opio *et al*., 2011; Bauni and Obonyo, 2000). By multivariate analysis, age, level of education, and religion are significant predictors of condom usage among respondents. The regression test results showed negative statistical association when age was regressed on the use of condom, suggesting that the younger a fisher is, and the more unlikely he/she will use of condoms. The regression results also indicate that respondents who have never been to school and those who attained basic and middle school are more likely to use condoms compared to those who have had secondary/vocational and higher education. Also, Christians are 4.409 times as likely as those who profess the African Traditional Religion to use condoms.

The majority of respondents (62.1 percent) who reported having sex with casual sex partners in the last 12 months did so without the use of condom. A slightly higher proportion of the males (63.4 percent) than females (60.3 percent) engaged in casual sex without using condom over the period of reference. The results also show a link between mobility and the number of casual partners had by the respondents. The current result shows that respondents reporting to be mobile in the last 12 months had more casual sexual partners than those who were non-mobile. Explanation offered during the qualitative aspects is that mobile fishers change partners at different fishing destinations during their travels.

The regression tests for significance between the background characteristics and last occasional sex with a casual partner indicate marital status and mobility status as important predictors for reported use of condom use. Respondents currently married are 17.271 times as likely as those who were divorced/Separated/widowed to use condoms in a last occasional sex with a casual partner, while mobile fishers are 0.232 times as likely as non-mobile fishers to use condoms in a last occasional sex with a casual partner. Four reasons cited as perceived barriers to condoms use in sex with a non-regular partner are partner objecting, condoms not available for use, trust for partner to be disease free, and attractiveness of partner.

Almost fourteen percent of respondents sampled reported engaging in fish-for-sex (FFS) transactional relationship in the last 12 months preceding the current study. The results show higher rate of FFS engagement in males (24.8 percent) than in females (4.3 percent), while condoms use in FFS is reported to be low (32.4 percent), but higher among females (42.9 percent) than in males (30.0 percent).

In this study, the majority (69 percent) of the respondents who claimed not to have used condoms in FFS sexual encounters adduced it to trust for partner. The explanation derived from the qualitative results was that most people engaged in FFS transactional relationships perceive it as a primary relationship which involves intimacy and not a causal relationship. This finding confirms that of Opio et al., (2011) in an earlier FFS study in selected fishing communities in Uganda.

8.2.3 Strategies for carrying out HIV education in study area

The study results indicate that the majority of participants of the study were not aware of any institution that have carried out any HIV and AIDS education programmes in the study area in the last 12 months. From the results, Local Radio stations are the most popular education agencies that respondents were aware of. The other agencies reported were the Municipal Health Directorate, the Ghana AIDS Commission, NGOs, and the Fisheries Department. The results suggest that most respondents prefer listening to HIV programmes broadcast on local radios to fora that seek to gather people at one place to listen to HIV and AIDS messages

The study results show that the majority of participants did not take part in any HIV education programmes in the last 12 months. Participation in HIV programmes is higher in females than in males. Reasons for non-participation in HIV and AIDS programmes include lack of interest, respondents not having time or not been available due to busy or travel schedules, and venue of programmes not suitable for participation. From the results, lack of interest account for the main reason why respondents do not participate in HIV programmes, which supports earlier findings that some mobile workers fail to participate in HIV educational programmes due their lack of interest (IOM/UNAIDS, 2005).

The results show there are both government and non-government institutions in the study which carry out HIV education. The main strategies used for carrying out HIV and AIDS education include public and community education programmes (community durbars, town hall gatherings etc.), radio and TV communication, film production, and distribution of IEC materials. Inadequate funding constitutes the major constraints faced by all the agencies engaged in HIV education programmes in the study area. The other constraints reported were delays in the release of budgetary allocation from the Central government, and inadequate IEC materials for carrying out community outreach programmes.

8.3 Conclusions

A large percentage of the respondents travelled outside their current place of residence and engaged in fishing related activities during the last 12 months preceding the study, with higher mobility being reported amongst males than females over the same period. The decision to move or not to move depended on a set of push and pull, personal and intervening factors (Lee, 1966). The desire to increase their catch by fishing in other waters, the quest to increase the amount of fish they trade in for more profit, the desire to serve as fish potters as well as participate in other fishing-related activities, such as boat maintenance services, net mending etc., are the main factors found to induce movements among the fishers to other fishing destinations. Mobility constitutes an integral and important aspect of fulfilling the occupational goal of fishing and this explains why the majority of the respondents in the current study are mobile.

Though mobility seems to be a livelihood strategy of improving living conditions of fishers, it also elevates HIV risks among them. Compared to males, mobile female fishers are exploited for sex in fishing destinations due to lack of accommodation

arrangements. Two main reasons account for this. The first relates to the cost of accommodation which is significantly high when the length of stay at the destination extends into longer periods and requires that more money be spent on accommodation by the mobile fisher. The second reason relates to convenience regarding the sleeping arrangements in place. The study results show that the few lodging facilities at the fishing destination points lack basic amenities such as water and toilets, and so lodging in places that have these facilities appears more convenient to mobile fishers when local colleagues offer them. The study revealed that in order to avoid paying and also to be sure to have a secure a convenient place to lodge, female fishers have had to exchange sex in the course of their mobility. During this however they are not able to negotiate for the use of condoms because of the fear of losing a comfortable sleeping place. The Health Belief Model elaborates that is important for ensuring safe sex to have the self-efficacy to communicate and negotiate condom use as it means having the confidence to bargain for safer sex in such circumstances. Incidentally, the Theory of Gender and Power also emphasizes the inability to negotiate safer sex particularly in difficult circumstances where the women feel that their partner is doing them a favour, and that by refusing they might not get a place to lodge or may have to pay for their own accommodation to the detriment of their trading capital. In conclusion, as long as the mobile female fishers need places to sleep during their travels and the male fishers have absolute control over the sleeping places in fishing communities, women will have very little basis to negotiate for, not only about where to sleep, but also the use of condoms.

Mobility influences sexual behaviours through loneliness, weakened familial attachments and increases the probability of engagements in risky sexual behaviours that elevates HIV risks among the mobile fishers. The qualitative results show that most mobile fishers do not carry their spouses or close relatives along during their travels to other

fishing communities. Longer stay away from home makes the mobile fishers lonely and many of them crave for companionship or social contact, which in turn influence decisions on the sexual conduct of some fishers, as expressed in the female FGD. The qualitative results further show that during their lonely moments, they find ways of killing boredom and loneliness, by engaging in socializing and alcohol drinking and in the process some end up engaging in casual sexual behaviours at the fishing destination point. This finding supports Hirschi's (1969) Social Control theory, which argues that the tendency of individual is to engage in risky sexual behaviours when social bonds weaken as a result of familial detachment from home during their travels.

The results show that nine in every ten respondents was aware of AIDS and more than half of the respondents have good comprehensive knowledge about the disease, suggesting that the majority of the study participants were knowledgeable about HIV and AIDS. However, awareness of HIV prevention methods is slightly higher among non-mobile fishers than mobile fishers. This is explained with results from the qualitative aspects that non-mobile fishers get more time to participate in HIV education programmes because compared to the mobile fishers they are able to have more time to participate in HIV and AIDS education. In effect, the high mobility of the mobile fishers accounts for their inability to participate actively in HIV education resulting in their lower knowledge on AIDS prevention methods.

Additionally, the study reveals that there are specific ways of packaging HIV and AIDS information to reach intended targets. For example, whereas male respondents preferred to listen to radio for HIV information, the females indicated the radio and television as their preferred source of HIV information. In terms of age, the use of radio as source of HIV information was common amongst older respondents, while the younger respondents cited the Internet. Whiles the non-mobile fishers cited TV and radio as their

preferred source, the mobile fishers mentioned radio on the basis that it is much easier to access radio when people travel. This finding indicates that in order to reach the fishers with the right information on HIV and AIDS, there is the need to identify sub-groups with the most suited source of information that will capture more interest. The Health Belief Model acknowledges this notion that individual risks or protective behaviors depend on how accessible and effective systems in place for educating people on HIV and AIDS are.

Through a binary logistic regression, the study reveals that the younger a person, the less likely the use of condoms, and being Christian makes it more likely to use condoms. Again, the binary regression results show that having higher education increases the likelihood of non-use of condoms compared to those with lower or no education. On the whole, condom use among respondents is very low, but lower in females than males, confirming findings in other studies in Africa which have shown lower condoms use among females when compared to males (Opio et al., 2011; Bauni and Obonyo, 2000). In sum, the low use of condoms in the current study suggest that many people in the study area are engaged in unprotected sex likely to expose them to sexually transmitted diseases such as HIV.

Results of this study suggest a link between mobility and number of casual sexual partners of the respondents. The findings indicate that the respondents reporting to be mobile in the last 12 months had more casual sexual partners than those who were non-mobile. The explanation gathered during the qualitative aspects is that mobile fishers have more partners because they change partners at different fishing destinations during their travels. Against the background of the low rate of condom use and high rate of mobility of the study participants, mobile fishers having multiple casual partners constitute high HIV infection risks to themselves. There is also the possibility of

transmitting the virus to their casual partners at the destination points, and their regular partners back home upon returning from their trips. Even though individual behaviours play a part in the sexual conduct of people in HIV risk exposures, the context and settings within which such actions occur are equally important determinants of risk. Frequent travels, long stay away from home without regular partners, loneliness, loss of social supports and exposure to permissive sexual behaviours in fishing destinations are factors that influence mobile fishers to engage in multiple sexual behaviours. This finding tend to give credibility to the argument that the Social Control Theory espouses, which is that individuals are more likely to engage in delinquent behavior, including multiple casual sexual engagements when their "social bond" to society is weakened.

Another risk factor constituting HIV risks among the respondents of this study is the engagement in FFS transactional sex relationships, and the low condoms use in this phenomenon. The study found that almost fourteen percent of respondents had actually engaged in FFS in the last 12 months preceding the study, and only a little above three in ten respondents used condoms in FFS sexual encounters. The study also found lower condom use amongst females. From the qualitative results, the low use of condoms stems from women's inability to negotiate for the use of condoms. From the qualitative results, the vulnerability of female fishers is driven by the economic power vested in male fishers in the fishing communities over the control they have over supply of fish. Since most women lack capital and depend on their male counterparts many of them are pushed into subservience and as a result become less efficacious with very little or no power when it comes to issues related to sexual relations, including the decision to insist on condom use when their male counterparts propose not to use them. This finding supports the arguments raised in the Theory of Gender and Power, which emphasizes that vulnerabilities and HIV risks among females in society arise from existing socio-

economic inequities and disparities that prevail in certain social settings such as fishing communities. As long as women lack capital for their fish trade and depend on men for the supply of fish, the inequities and disparities espoused by the theory will always prevail, and HIV risks will constitute an ever present phenomenon in fishing destinations.

The study also reveals that sixty-nine percent of all participants who did not utilize condoms in FFS relationships in the last 12 months did so because they claimed to trust their partners to be disease-free. The qualitative results indicate that most fishers engaged in FFS relationships perceive it as a primary relationship involving intimacy and not casual, and so explains the low condoms use in FFS relations. The issue of trust comes with a lot of sexual risks as the FFS partners may also be engaged in other non-regular relations and elevates HIV risks in FFS relationships. Again, not using a condom with a FFS partner is risky as it exposes both partners to HIV risk if any of the parties is already infected with the virus. It is problematic and signifies that people in FFS relations, according to the results, do not perceive to be at risk even when they do not use condoms with their partners. This finding is in line with the Health Based Model construct of perceived threat to a health condition, where individuals will take decisions to protect themselves when they feel a threat of a health condition. In FFS relationships, where fishers are not the least perturbed to use condoms because they perceive that they are not at risk, it might constitute danger that places most fishers at elevated risks to HIV infection.

The results show that there are both government and non-government agencies running HIV and AIDS programmes in the study area. From the result, though both the government and non-government agencies reported funding challenges, the government agencies have additional constraints of facing untimely release of limited funds allocated

by the central government for activities concerning HIV and AIDS. The inadequate and untimely releases of funds affect consistency and effective implementation of planned activities in the fishing communities.

The study found that most IE&C materials cannot be read and deciphered by a segment of the fisher population in the study area because they are produced in English and need to be translated. In a highly illiterate fishing community, where people cannot read IE&C materials, there is a high likelihood of many fisher folks not understanding the messages in the IE&C materials and are therefore not practicing the messages conveyed. The Health Belief Model emphasize the importance of using appropriate strategies to activate readiness for people to take the necessary actions to protect themselves from a disease condition. Using IE&C materials that cannot be comprehended or utilized by target groups of an intervention is counterproductive. Hence, the need and importance of providing suitable IE&C materials that have the capacity to provide reminders and promote the necessary awareness to effect changes in the sexual behaviours of the intended targets.

8.4 Recommendations

Based on the findings and conclusions, the study proposes a number of recommendations in for improving the conditions of the fishers and HIV risk-related related to their mobility. In the context of the study finding that mobility makes fishers lonely, weakens social and family bonds, leading to greater risk of acquiring HIV, special efforts are required from the agencies engaged in HIV education in the study area to intensify education on safe sex practices through the use of condoms. Emphasis should also be on attitudinal change since education alone may not be enough to address risky behaviours that emanate from loneliness and/or instances where some female fish traders willingly exchange sex for fish. Ongoing and future programs need to explore ways of supplying

free condoms to fishers and also condom consistency use among them and fisher communities. Services such as the distribution of condoms could also be extended to fishing destination points, using outreach or mobile HIV service outlets. Both male and female fishers should be encouraged to carry along condoms, and utilize them any time the need arises when they embark on their travels to other fishing communities.

Generally, the control of fish is vested in male fishers, and they use it often to exploit women for sex. There is the urgent need for the KEEA Municipal Assembly to collaborate with the Ministry of Gender, Children and Social Protection and its partners to carry out programmes that seek to increase women's self-efficacy in negotiating for condom use as a highly effective HIV prevention approach for female fishers, and this will need involvement and active cooperation and participation of the male fishers. Furthermore, most suitable way of addressing sexual exploitation of women in the fishing destinations is to empower the women to have their own capital to buy fish from the men. This can be done through the establishment of women's cooperatives that can advance soft loans to fish traders and reduce the control men have over the supply of fish. If women have the means to buy, they will not have to buy on credit and be indebted to the males and engage in FFS transactional relationships that elevate their risk to HIV infection.

Planners of HIV and AIDS education programmes need to find more suitable ways of reaching population groups who due to the highly mobile nature of their job schedules are limited in participating in HIV education interventions. Since their busy schedules take them outside their current place of residence continuously, the right strategy is to look for them by designing programme interventions that will be taken to them, instead of fishers looking for such programmes. One of the most striking factors to emerge from the study as being the most common perceived barrier in the participation of the

respondents in HIV and AIDS programmes, was the lack the of interest of the fishers for participating in HIV programmes. Given that the lack of interest was adduced to programme contents and packaging, it is proposed that on-going and future HIV and AIDS education programmes should be innovative and stimulate and create greater attendance by the fisher folks. Programme organizers are urged to include entertainment education through drama and role play, and documentaries that relate to the ordinary lives of fisher folks. This may prove to be more attractive to fishers than to use contents that are far from the real lifestyles of fishers. Again, since radio and TV constitute the most media channel patronized by the fishers, an intensification of radio and TV programmes on HIV and AIDS will be more suitable in getting messages across to a wider target of fisher populations. Other strategies such as peer education, and the development of local content IEC materials could also be used for the dissemination of key messages to promote risk reduction approaches amongst the target populations. Due to the mobile nature of fishers, innovative communication technology such as mobile phones, text messaging, which can be accessed whilst mobile, could serve as important strategies for HIV and AIDS campaign among the subgroup of mobile population.

Currently, the Department of Fisheries does not have any programme that seeks to educate fisheries workers on HIV and other STIs. Having a programme in place to hold periodic sensitization and orientation on HIV and AIDS is urgent and of great importance, and therefore requires the need for the Department to have in place HIV and AIDS education programmes, which target fishing communities. The programmes should feature in the annual plans with annual budget allocated to allow for them to be implemented on a periodic and consistent basis in the annual work calendar of the Department. The lack of funds and untimely release of government funds affect effective and consistent implementation of projects on HIV and AIDS. It is

recommended that government increases its funding and ensure that funds are released in full and on time to enable agencies such as the GAC, the MMDAs and other government departments whose mandates relate to HIV and AIDS interventions, carry out the projects timely and fully.

It was observed that most IE&C materials used are those produced by the Ghana Social Marketing Foundation (GSMF), which are in English and cannot be read and deciphered by a wide section of the fishers, as most cannot read English. It is proposed that ways be found to develop IE&C materials in the local languages to enable fishers who cannot read in English but can read the local languages, take advantage of them.

With regard to the accommodation challenge faced by fishers during their travels, District Assemblies in the Greater Accra, Volta, Central and Western regions that have fishing communities must partner private housing developers to put up low-cost hostels that have basic household amenities such as water, toilets and baths in the fishing destination points. These could be rented out to fishers when they embark on their travels to fishing destinations when the need arises for them to pass the night at another fishing destination point. This might curtail the sexual exploitation that arises due to the overreliance of female fishers on their male counterparts for accommodation. The KEEA Municipal Assembly should be responsible in initiating such an intervention in the study area,

8.5 Emerging Issues for Further Research

This study examined the mobility and HIV risks among fishers in Elmina. Earlier studies have established a strong link between alcohol abuse and HIV risks among fishers in many fishing communities. Though this is predicted as a strong driver of HIV risks among fishers and also emerged strongly during the FGDs,, the current study did not

examine the phenomenon. This study therefore recommends further examination into alcohol abuse and the link with HIV risks among fishers, which was not addressed in this study.

The issue of Commercial Sex work (CSW) also came up strongly during the FGDs. It was gathered that many of the male fishers engage the services of CSWs, because they consider their services more convenient as they are readily available as long as they are ready to pay for their services. It was also gathered that some fishers patronize CSWs but do not use condoms, thus elevating themselves to HIV risks. Though the current study defined non-regular sex to include sex with CSWs, the dynamics involved in the interconnectedness between mobility and patronage of CSWs services will need in-depth assessments in the future.

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APPENDICES

APPENDIX A: QUESTIONNAIRE FOR FISHERS

Thank you for agreeing to be interviewed today, I appreciate it. My name is *Sylvester Kyei-Gyamfi*. I am a PhD student of the Centre for Migration Studies, University of Ghana, Legon – Accra. I am carrying out this field research work as part of academic work for my Doctorate Degree. The research topic is on "*Mobility and HIV Risk among Fishers in Elmina Fishing Community in the Central Region of Ghana'*. This is will be a question and answer session concerning your movement from your work, movements, settlement conditions, knowledge, attitudes and practices concerning HIV. I will be grateful if you allow me to take a few minutes of your time to engage you in this session. You are assured that any information provided will be treated confidential and used solely for academic purposes only. Please answer all questions openly and honestly. Remember there is right or wrong answer. I am interested in your own personal experiences and opinions. If you want to skip any questions you are free to do so but it is really important that you answer as many as possible. If you do not understand any of the questions just let me know and I will try to explain. Thank you.

IDENTIFICATION

ID1	Questionnaire ID Number:……..	Place of interview……	
ID2	Telephone number:.....	Whatsapp number……	

SECTION A: SOCIO-DEMOGRAPHIC BACKGROUND

To start I would like to ask some questions about yourself:

DB1	How old are you today?	1. <25□ 2. 25-34□ 3.45-54□4.55-64□5.65-74□ 6.75+□99. Don't Know□	
DB2	What is your sex?	1. Male□ 2. Female□	
DB3	What is your highest educational level achieved?	1.Never been to school □2. Primary□3. JSS/JHS□ 4.Middle School□ 5.SSS/SHS□ 5. Vocational/ Technical/ Commercial□ 6.Post-Middle/Post-Secondary Cert□ 7. Post-Secondary Diploma □ 8.Post Graduate □9. Other □	
DB4	What is your religion?	1. Islam□ 2.African Traditionalist□3. No religion□ 4. Christianity□ 5. Other (Specify) □	
DB5	Marital status	1.Single □ 2.Cohabiting/informal/Consensual □ 3. Married □ 4. Divorced □ 5. Separated□ 6.Widowed □	
DB6	Which type of fishing activity do you engagein?	1. Fish Catching □2. Post-harvesting □3. Maintenance and Repair □ 4.Porters and Errands □ 5. Other (Specify) □	
DB7	How long have you being engaged in this activity in this community?	…….	
DB8	Nationality	1.Ghanaian □ 2. Nigerian □ 3. Other ECOWAS states (specify) □…… 4.Africa, other than ECOWAS States (specify) □…….. 5. European (specify) □…….. 6.Asian □…… 7. Americas (North, South Caribbean) (specify) □…….. 8. Oceania (specify) □ ……	»→ DB9 »→ MS1 »→ MS1 »→ MS1 »→ MS1 »→ MS1 »→ MS1 »→ MS1
DB9	Which ethnic group do you belong to?	1.Fante □2.Other Akan □ 3.Ga Adangbe □ 4.Mole Dagbani □5.Ewe □ 6.Guan □ 7.Other (specify) □…… 99. Don't know □	

SECTION 2: MOBILITY AND SETTLEMENT PATTERNS AND HIV RISKS

Now I would like to ask you some questions about mobility and settlement patterns. This will involve questions on the reasons that account for your mobility to other fishing community, and the conditions your settlement in the fishing destination points you visited in the last 12 months

MS1	Where is your current place of residence?	……	
MS2	How long have you lived/been in this fishing community?	……	
MS3	Do you travel to other fishing destinations to engage in fishing related activities	1.Yes □ 2. No □	IF 'NO' »→ AK1
MS4	In the last 12 months have travelled to other fishing destination to engage in any fishing related activity?	1.Yes □ 2. No □	IF 'NO' »→ MS7
MS5	If yes, what was the main reason for travelling to other fishing destinations	1.To buy or sell fish□ 2.To serve as fish potter□ 3. To assist Family member's fishing activity□ 4. To track fish in other fishing communities □ 5. To do repair or maintenance work on boats□ 6. Other {Specify}..□	
MS6	How many times have you travelled away fro m this village in the last 12 months?	1.Once □ 2.Twice □ 3.Three times □ 4. Four times 5. Five times □ 6. More than five times□	
MS7	How long do you usually stay when you are in other fishing communities?	1. Day□ 2. Week □3. Month □4. More than a month □5. Other {Specify}… □	
MS8	What are the reasons for staying (keeping you) in this/these communities?	……	
MS9	Does staying away from home affect you in any way?	1.Yes □ 2. No □	IF 'NO' »→ MS11
MS10	How does staying away from home affect you?	1. Influences non-regular sexual behaviours □ 2. Leads to loneliness and isolation □ 3. Leads to the indulgence in alcohol abuse □ 4. Other {Specify}… □	
MS11	Where do you normally reside in the other destinations they travel to?	1. Makeshift wooden structures□ 2.In friends/relatives home □3. Rented rooms around the fish village□ 4.Guest house 5.On the boats/canoe□	
MS12	Do you face any other challenges settling in these other fishing communities?	1.Yes □ 2. No □	IF 'NO' »→ AK1
MS13	If yes, what are these challenges?	…… ..	

SECTION 4: HIV AND AIDS RELATED KNOWLEDGE AND ATTITUDES OF FISHERS

I would like to you some few questions about your awareness and knowledge on HIV/STI, and remember there is no right or wrong answer.

AK1	Are you aware of Sexually Transmitted Infections (STIs)?	1.Yes □ 2. No □	
AK2	Have you ever heard of HIV and/or AIDS?	1.Yes □ 2. No □	IF 'NO' »→ RF1
Knowledge of HIV Prevention Methods			
AK3	Is there a particular way of protecting oneself from HIV?	1.Yes □ 2. No □	IF 'NO' »→ RF1
AK4	Indicate the protective method of HIV	A. Using condoms 1.Yes □ 2. No □ B. Abstinence/ Being faithful 1.Yes □ 2. No □ C. Limiting sex to one uninfected partner1.Yes □ 2. No □ D. Avoiding sharing of sharp/piercing objects1.Yes □ 2. No □	Multiple Response
Sources of Knowledge on HIV and AIDS			
AK5	What is your source of information on HIV and/or AIDS?	A.Television1.Yes □ 2. No □ B. Radio1.Yes □ 2. No □ C. Newspaper1.Yes □ 2. No □ D. Pamphlet/posters1.Yes □ 2. No □ E. Health Care workers1.Yes □ 2. No □ F. Religious leader1.Yes □ 2. No □ G. Traditional leader1.Yes □ 2. No □ H. Campaign1.Yes □ 2. No □ I. Family member1.Yes □ 2. No □ J. Friend1.Yes □ 2. No □ K. Workplace 1.Yes □ 2. No □ L. Sexual partner 1.Yes □ 2. No □	Multiple Response
AK6	What is your main source of information on HIV and AIDS?	1.Television □2.Radio□ 3. Newspaper□ 4. Pamphlet/ posters□ 5. Health Care workers □ 6. Religious/Traditional leader □ 7. Community Durbar/Townhall gathering □ 8. Family member □ 9. Friend□10. Workplace □.	
Comprehensive Knowledge of HIV and AIDS			
AK7	Can a healthy looking person have HIV?	1.Yes □ 2. No □	
AK8	Can you become infected with HIV and AIDS having sexual intercourse without a condom?	1.Yes □ 2. No □	
AK9	Can you become infected with HIV and AIDS from mosquito bites?	1.Yes □ 2. No □	
AK10	Can you become infected with HIV and AIDS through witchcraft?	1.Yes □ 2. No □	
AK11	Can the risk of HIV infection be reduced by having sexual intercourse with only one faithful uninfected partner?	1.Yes □ 2. No □	
AK12	Is AIDS a dangerous disease?	1.Yes □ 2. No □	
AK13	Explain your answer in ???	……	
AK1	Are you afraid of AIDS?	1.Yes □ 2. No □	

4			
AK15	Explain your answer	…….	
AK16	Have you ever had an HIV test?	1.Yes □ 2. No □	
AK17	Would you like to have an HIV test?	1.Yes □ 2. No □	IF 'YES' »→ AK19
AK18	If no, why would you not want to be tested?	…… …	
AK19	If yes, do you know where to have an HIV test?	1.Yes □ 2. No □	

SECTION 5: RISKY SEXUAL BEHAVIOURS THAT EXPOSE FISHERS TO HIV

Now I want us to talk about your sexual activity in the last 12 months; whether you have had sex, whether you have had any sexual encounter (s) with any non-regular partner and the number of such partners. I would also ask you questions about condoms use in your sexual encounters within the period.

RF1	Have you had sex in the last 12 months?	1.Yes □ 2. No	
RF2	Have you had sexual intercourse with any non-regular partner in the last 12 months?	1.Yes □ 2. No □	IF 'NO' »→ RF4
RF3	If yes, about how many non-regular partners have you had intercourse with in the last 12 months	1. One partner 2. Two partners 3. Three partners or more	
RF4	Have you been using condoms in the last 12 months during sexual intercourse?	1.Yes □ 2. No □	IF 'NO' »→ RF7
RF5	Was condom used the last time you had sex with a non-regular partner?	1.Yes □ 2. No □	
RF6	If yes, how often?	1. Always 2. Not always 3. Occasionally 4. Never	
RF7	IF no what was the main reason for not using a condom the last time you had sex with a non-regular partner?	1. Partner objected to the use of condoms 2. Condom was not available 3. Trust partner/Didn't think it was necessary 4. Attractiveness of partner	
RF8	Have you heard of Fish-for-sex (FFS) transactional relationship?	1.Yes □ 2. No □	IF 'NO' »→ IP1
RF9	Have you ever engaged in Fish for sex?	1.Yes □ 2. No □	
RF10	In the last 12 months have you engaged in FFS?	1.Yes □ 2. No □	
RF11	Do you use a condom when you have FFS sex?	1.Yes □ 2. No □	
RF12	If yes, what is the main reason for using a condom in FFS sex?	1.Condom reduces pleasure of sex 2. My partner does not like to use condoms 3. Trust for partner/Didn't think it was necessary 4. Condom not available	
RF13	Did you use a condom the last time you had a FFS sex?	1.Yes □ 2. No □	
RF14	If yes what was the main reason for not using a condom the last time you had FFS sex?	…… …….	
RF15	Why do you engage in FFS transactional relationship?	…… …….	

SECTION 6: STRATEGIES FOR CARRYING OUT HIV EDUCATION IN STUDY AREA

Here I will ask you questions regarding your participation in HIV and AIDS education programmes, reasons for non-participation, the kinds of HIV and AIDS educational interventions currently on-going in the Elmina fishing community and other fishing communities you visited in the last 12 months. This will be very short.

IP1	Are you aware of any HIV education in this community?	1.Yes □ 2. No □	IF 'NO' »→ IP3
IP2	If yes, which agency/organisation is implementing this HIV education programme?	……..	
IP3	Have you participated in any HIV programmes in the last 12 months**?**	1.Yes □ 2. No □	
IP4	If you no, why not		
IP5	Have there been any changes in your sexual behaviour due to your participation in any HIV programmes?	1.Yes □ 2. No □ 99. Don't Know	IF 'NO' **END**
IP6	If yes, what changes have occurred in your sexual behaviour due to being part of the HIV program?		

Thank you!

APPENDIX B: MALE & FEMALE FOCUS GROUP DISCUSSION (FGD) TOOL

A. BACKGROUND INFORMATION

1. Physical aspects
   - i. How are the areas in the neighborhood different from others?
   - ii. What are the patterns of settlement?
   - iii. Do both fisher migrants and non-migrants, male and female fishers live in same settlement?
   - iv. How do you access water in Elmina and other fishing communities you travel to?
   - v. What kind of toilet facilities do you use in Elmina and in the other places you travel to?
   - vi. What are your challenges with water, toilet and other sanitation facilities in the fishing communities you know of?
   - vii. Generally what are the states of infrastructure and amenities in the fishing communities that you have visited? What are the key challenges that fishers face in fishing communities?
2. Demographic profile of the population
   - i. Who makes up the community? Age, gender, ethnicity, marital status etc.
3. Social structure
   - i. Community leaders - formal and informal, Community culture, formal and informal, existing groups, existing institutions. Attitudes and values.
4. Economics (*probe to find out ways in which people earn their living in this community*)
   - i. What is the main economic activity? What alternative economic activities exist? What do men and women do for a living? What are the gender roles assigned to both male and female in the fishing activity? Are there inequalities? Please explain
   - ii. What is the main economic activity? What alternative economic activities exist? What do men and women do for a living? What are the gender roles assigned to both male and female in the fishing activity? Are there inequalities? Please explain

B. MOBILITY

- i. How do female/male fishers organize their mobility to the fishing destinations?
- ii. Do they travel alone or with other members of their families or close relatives?
- iii. What are the situations that keep female/male fishers in other fishing destinations?
- iv. What are the settlement patterns (meals, sleeping arrangements and sanitation issues etc.)
- v. What risky lifestyles do female/male fishers engage in the fishing community?
- vi. Have you heard of fish-for-sex sexual exchanges?
- vii. Do fishers in Elmina engage in FFS transactions? If yes, what are men/women's subjective position regarding 'fish for sex' exchange?
- viii. How do members of the community see women and men engaged in FFS?
- ix. Why do male/female fishers engage in FFS?
- x. Do you think FFS can cause HIV among fishers? If yes, why do you say so?
- xi. Generally, what are the main challenges of male/female fishers in this community?

C. Knowledge, Attitudes and Practices Regarding HIV

- i. Is there anyone here who has not heard of HIV?
- ii. What do you know about HIV and AIDS?
- iii. What do you think causes AIDS?
- iv. How do you know if someone has the virus that causes AIDS?
- v. How do people get infected?
- vi. Who is at risk of getting infected with HIV, the virus that causes AIDS? Who is not at risk?

vii. In your opinion, what are some of the risky lifestyles in Elmina and the other fishing communities you have visited that might expose fishers to HIV?
viii. How important do you think HIV is compared to other diseases people have?
ix. What can the people in this community do to keep from getting infected?
x. How easy or difficult is it to do these things?
xi. How would people in this area feel if someone in their family or community were infected with HIV?
xii. What or who do you think could be good sources of information about AIDS that people would really listen to? Why?
xiii. What can fisherfolks do to help prevent HIV and AIDS in this community?
xiv. What can fisherfolks do to help people and the families of people who are already HIV-infected or have AIDS?
xv. What sorts of information/training/materials/other support do you need to prevent people from getting infected with HIV and to support people with AIDS and their families?

Are there any other areas you would like to comment on that we haven't covered today that you think should be included? If not, then I would say thank you for taking part in the focus group discussion.

APPENDIX C.: INTERVIEW GUIDE FOR GOVERNMENT INSTITUTIONS (GAC, MHA, FD, DEVELOPMENT AND THE MUNICIPAL ASSEMBLY, DEPARTMENT OF GENDER, AND DEPARTMENT OF COMMUNITY DEVELOPMENT

GHANA AIDS COMMISSION (GAC)

a. Introductory Questions

I would like to start off with some general questions about your involvement with issues on fishers.

i. Is the Ghana Decentralized? Do you have offices in the Districts?
ii. To what extent is GAC involved in community outreach and public education?
iii. What are your methods for engaging with the public on HIV and other STIs?
iv. How effective are your methods and strategies for carrying out HIV education?
v. What are the major steps taken by the Ghana AIDS Commission to improve HIV prevention in the fishing sector?
vi. Does the GAC have any programme that seeks to enhance HIV prevention among fishers?
vii. Does the GAC have any programme that seeks to enhance HIV prevention among fishers the community? Can you provide details on this project or programme?
    a. When did you first start with this project? What is the duration of the project?
    b. How is it related to fisher mobility and HIV exposure?
    c. Are you working in only Elmina fishing community or other communities?
    d. If you are working in other communities, please briefly share some of your experiences in respect to knowledge, attitudes and practices of fishers regarding HIV.
    e. What are your methods for carrying our HIV information to fishers and the fisher community, if any?
    f. What are the challenges you face regarding HIV education in the community?
    g. How is the project financed

b. Achievement and challenges

i. What has been the biggest achievement of your engagement with fishers concerning HIV education to date? Why did you select that achievement?
ii. What has been the biggest challenge your engagement with fishers concerning HIV education to date?
    a. Why did you select that challenge?
    b. How have you coped with the challenges?
iii. What do you propose to be done to improve knowledge, attitudes and practices of fishers regarding HIV and other risky behaviours that increase fishers' exposure to HIV?

Now I would like to talk about human rights, legislations and regulations on HIV.

i. Does the country have laws and regulations that protect people living with HIV against discrimination? (*Such as general non-discrimination provisions or provisions that specifically mention HIV, focus on schooling, housing, employment, health care etc*.)
ii. Does the country have non-discrimination laws or regulations which specify protections for vulnerable sub-populations such as fishers?
iii. Has the Government, through political and financial support, involved most at-risk populations in governmental HIV-policy design and programme implementation?
iv. At present the HIV prevalence rates in fishing communities in Ghana is known. Does the GAC or government have any future plans to improve data on HIV among high prevalent HIV sub-populations such as fishers? Briefly give an account of any such intentions
v. Are there programmes to change societal attitudes of stigmatization associated with HIV and AIDS to understanding and acceptance? If Yes, what types of programmes.

FISHERIES DEPARTMENT (FD)

a. Introductory Questions

I would like to start off with some general questions about your involvement with issues on HIV among fishers.

i. Is HIV having any effects on the fisheries sector? What are the effects and how has it impacted on fisheries management and development?
ii. What are the major steps taken by the Fisheries Department to improve Fisheries management and development?
iii. Does the Department have any programme that seeks to enhance HIV prevention among fishers? Can you provide details on this project or programme?
    a. When did you first start with this project? What is the duration of the project?
    b. How is it related to fisher mobility and HIV exposure?
    c. Are you working in only Elmina fishing community or other communities?
    d. If you are working in other communities, please briefly share some of your experiences in respect to knowledge, attitudes and practices of fishers regarding HIV.
    e. What are your methods for carrying our HIV information to fishers and the fisher community, if any?
    f. What are the challenges you face regarding HIV education in the community?
    g. How is the project financed

b. Achievement and challenges

i. What has been the biggest achievement of your engagement with fishers concerning HIV education to date? Why did you select that achievement?
ii. What has been the biggest challenge your engagement with fishers concerning HIV education to date?

a. Why did you select that challenge?
b. How have you coped with the challenges?

iii. What do you propose to be done to improve knowledge, attitudes and practices of fishers regarding HIV and other risky behaviours that increase fishers' exposure to HIV?

MUNICIPAL HEALTH ADMINISTRATION (MHA)

a. Introductory Questions

I would like to start off with some general questions about your involvement with issues on fishers.

b. Awareness, knowledge, attitudes and practices of fishers regarding HIV

i. Is HIV risk a major concern among fishers in Elmina?
    a. Do the fisherfolks in Elmina consider HIV as a major risk and threat to their development? Please share your thoughts on this.
    b. How would you describe the level of awareness and knowledge of fishers regarding HIV?
    c. What are your observations on the attitudes and practices of fishers regarding HIV in this community and the fishing communities you operate in?
ii. What are the major concerns regarding HIV risk behaviours?
    a. Is HIV risk denial an issue here?
    b. Are fishers engaged in excessive alcohol drinking?
    c. Do fishers engage in drugs?
    d. What are the issues concerning fishers and sex networking (casual sex, multiple sexual relationships, Sex with sex workers and fish-for-sex transactions) – (*Take the issues one after the other and probe for details*).

iii. Is the Health Directorate currently working on any project concerning the protection of fishers against HIV and other STIs? Is the project offered in this community/and or other communities? Can you provide details on this project or programme?
    a. When did you first start with this project? What is the duration of the project?
    b. How is it related to fisher mobility and HIV exposure?
    c. Are you working in only Elmina fishing community or in other fishing communities?
    d. If you are working in other communities, please briefly share some of your experiences in respect to knowledge, attitudes and practices of fishers regarding HIV.

e. What are your methods for carrying our HIV information to fishers and the fisher community, if any?
f. Do fishers from the community visit your service? How accessible are your services (very easy, easy, very difficult, difficult, impossible). What do fishers use your facility for?
g. What are the challenges you face regarding HIV education in the community?
h. How is the project financed

iv. Do you have incentives in place to ensure safe sex among fishers?
   a. Do you distribute free condoms, or provide free counselling on HIV and STIs.
   b. Do you, or any other local service, provide voluntary counselling and testing services (VCT) in the community? If yes what is the name of the organisation?

c. Achievement and challenges

i. What are the key strengths of your organisation and the service it provides?
ii. What difficulties does the institution experience in delivering services or what stops it from meeting the needs of the community? (*Probe: lack of resources, inaccessibility, loss of staff, poverty etc*.)
iii. What has been the biggest achievement of your engagement with fishers concerning HIV education to date? Why did you select that achievement?
iv. What has been the biggest challenge your engagement with fishers concerning HIV education to date?

a. Why did you select that challenge?
b. How have you coped with the challenges?
c. Is there anything else you would like to tell me about the HIV and AIDS related services you provide in relation to fishing communities, or about the groups of people from fishing communities who use your service and how they are being affected by HIV/AIDS?

v. What do you propose to be done to improve knowledge, attitudes and practices of fishers regarding HIV and other risky behaviours that increase fishers' exposure to HIV?

KOMENDA EDINA EGUAFO ABIREM (KEEA) MUNICIPAL ASSEMBLY

a. Introductory Questions

I would like to start off with some general questions about your involvement with issues on HIV among fishers.

i. Is HIV a major concern in the Elmina fishing community? Please share your thoughts on it.
ii. Do you feel HIV is having any effects on the fisheries sector? What are the effects and how has it impacted on fisheries management and development?
iii. Does the Assembly have any programme that seeks to enhance HIV prevention among fishers? Can you provide details on this project or programme?
    a. When did you first start with this project? What is the duration of the project?
    b. How is it related to fisher mobility and HIV exposure?
    c. What are your methods and strategies used by the Assembly for carrying our HIV information to fishers and the fisher community, if any?
    d. What are the challenges you face regarding HIV education in the community?
    e. Does the Assembly make budgetary provision for HIV programmes in the Assemblies budget? What are your sources of funding for HIV interventions? What percentage of the budget is allocated for HIV programmes? What are the specific activities captured in the budget of the Assembly?

b. Achievement and challenges

i. What has been the biggest achievement of the Assembly's engagement with fishers concerning HIV education to date? Why did you select that achievement?
ii. What has been the biggest challenge your engagement with fishers concerning HIV education to date?

a. Why did you select that challenge?
b. How have you coped with the challenges?

iii. What do you propose to be done to improve knowledge, attitudes and practices of fishers regarding HIV and other risky behaviours that increase fishers' exposure to HIV in the KEEA Municipality?

DEPARTMENT OF COMMUNITY DEVELOPMENT AND DEPARTMENT OF GENDER

a. Introductory Questions

I would like to start off with some general questions about your involvement with issues on fishers.

b. Awareness, knowledge, attitudes and practices of fishers regarding HIV

i. Is HIV risk a major concern among fishers in Elmina?
    a. Do the fisherfolks in Elmina consider HIV as a major risk and threat to their development? Please share your thoughts on this.
    b. How would you describe the level of awareness and knowledge of fishers regarding HIV?
    c. What are your observations on the attitudes and practices of fishers regarding HIV in this community and the fishing communities you operate in?

ii. Is the Department of Community Development/Department of Gender currently working on any project concerning the protection of fishers against HIV and other STIs? Is the project offered in this community/and or other communities? Can you provide details on this project or programme?
    a. When did you first start with this project? What is the duration of the project?
    b. How is it related to fisher mobility and HIV exposure?
    c. Are you working in only Elmina fishing community or in other fishing communities?
    d. If you are working in other communities, please briefly share some of your experiences in respect to knowledge, attitudes and practices of fishers regarding HIV.
    e. What are your methods for carrying our HIV information to fishers and the fisher communities, if any?
    f. What are the challenges you face regarding HIV education in the community?

g. How is the project financed

c. Achievement and challenges

i. What are the key strengths of your organisation and the service it provides?

ii. What difficulties does the institution experience in delivering services or what stops it from meeting the needs of the community? (*Probe: lack of resources, inaccessibility, loss of staff, poverty etc*.)

iii. What has been the biggest achievement of your engagement with fishers concerning HIV education to date? Why did you select that achievement?

iv. What has been the biggest challenge your engagement with fishers concerning HIV education to date?

v. What do you propose to be done to improve knowledge, attitudes and practices of fishers regarding HIV and other risky behaviours that increase fishers' exposure to HIV?

APPENDIX D.: INTERVIEW GUIDE FOR NON-GOVERNMENTAL ORGANISATIONS (FOUNDATION FOR BUILDERS AND KIDS CLUBS & HUMAN SERVICE TRUST FOUNDATION)

a. Introductory Questions

i. Are you working on any project concerning movements of fishers and their protection against HIV and other STIs? Can you provide details on this project or programme?
   a. When did you first start with this project?
   b. How is it related to fisher mobility and HIV exposure?
   c. Are you operating in only Elmina fishing community or in other fishing communities?
   d. If you are working in other fishing communities, please briefly share some of your experiences in respect to knowledge, attitudes and practices of fishers regarding HIV.

b. Awareness, knowledge, attitudes and practices of fishers regarding HIV

ii. Is HIV risk a major concern among fishers in Elmina?
   a. Do the fisherfolks in Elmina consider HIV as a major risk and threat to their development? Please share your thoughts on this.
   b. How would you describe the level of awareness and knowledge of fishers regarding HIV?
   c. What are your observations on the attitudes and practices of fishers regarding HIV in this community?

iii. What are the major concerns regarding HIV risk behaviours?
   a. Is HIV risk denial an issue here?
   b. Are fishers engaged in excessive alcohol drinking?
   c. Do fishers engage in drugs?
   d. What are the issues concerning fishers and sex networking (casual sex, multiple sexual relationships, Sex with sex workers and fish-for-sex transactions) – (*Take the issues one after the other and probe for details*).

iv. What are your methods for carrying our HIV information to fishers and the fisher community, if any?
   a. What are the challenges you face regarding HIV education in the community?
   b. How have you coped with the challenges?
   c. What have been your success stories in your work with the fishers?
   d. What will you recommend to enhance your work?

v. Do you have incentives in place to ensure safe sex among fishers?
   a. Do you distribute free condoms, or provide free counselling on HIV and STIs.
   b. What other incentives do you have?

c. Achievement and challenges

i. What has been the biggest achievement of your engagement with fishers concerning HIV education to date? Why did you select that achievement?
ii. What has been the biggest challenge your engagement with fishers concerning HIV education to date? Why did you select that challenge?
iii. What do you propose to be done to improve knowledge, attitudes and practices of fishers regarding HIV and other risky behaviours that increase fishers' exposure to HIV?

APPENDIX E: INTERVIEW GUIDE FOR KEY INFORMANT INTERVIEWS

COMMUNITY LEADERS (OPINION LEADERS)

1. **Fisher mobility and settlement**
   i. How long have you lived in this community? Please kindly tell me about the fishing activity in this area?
   ii. Why do fishers move to fish in this area, and where from?
      a. Why do they leave and where do they go to?
      b. Since when have they been migrating to this community?
      c. How is their migration organised? Do they migrate alone, with families or in groups?
      d. What position do they have in the receiving settlement?
      e. How do they get permission to stay and access to the fishing grounds?

Now I will like us to talk about fishers in this community and their knowledge, attitudes and practices regarding HIV.

2. **Awareness, knowledge, attitudes and practices of fishers regarding HIV**
   iii. Is HIV risk a major concern among fishers in Elmina?
      a. Do the fisherfolks in Elmina consider HIV as a major risk and threat to their development? Please share your thoughts on this.
      b. How would you describe the level of awareness and knowledge of fishers regarding HIV?
      c. What are your observations on the attitudes and practices of fishers regarding HIV in this community?
      d. How do fisherfolks and members of this community get their information on HIV? Are these sources effective in providing adequate information on the disease?
      e. What have been your overall impressions of HIV education in the community?
      f. Has your own knowledge, attitudes or practices on HIV changed since you heard of HIV? If yes:
         i. What has changed in terms of your knowledge, attitudes or practices?
         ii. What do you think caused these changes to happen?
         iii. Can you say same of other members of the community?

   iv. What are the major concerns regarding HIV risk behaviours?
      a. Is HIV risk denial an issue here? Do you think fishers ignore the danger posed by HIV due to the daily dangers they face at sea?
      b. Are fishers engaged in excessive alcohol drinking? Do fishers engage in drugs?
      c. What are the issues concerning fishers and sex networking (casual sex, multiple sexual relationships, Sex with sex workers and fish-for-sex transactions) – (*Take the issues one after the other and probe for details*)
      d. What are people's subjective position regarding 'fish for sex' exchange? What do community members feel about FFS practice? How do members of the community see women and men engaged in FFS? Is it likely women who engage in FFS could face social exclusion or stigmatization?
      e. Have you observed any changes in sexual behaviours since the outbreak of HIV?
      f. Is HIV one of the factors that have contributed to the changes?
      g. What changes in sexual behaviours have you observed in the community since the outbreak of HIV? What actions caused these changes?