

**Dealing with HIV/AIDS and Poverty in Fishing Communities: How  
Risky are Artisanal Marine Fisher-folks at Elmina in Ghana?**

By

Thomas Korankye



**Master's Thesis in International Fisheries Management  
(30 Credit Points)**

Department of Social and Marketing Studies  
Norwegian College of Fishery Science  
University of Tromsø

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A dissertation submitted in partial fulfillment of  
the requirements for the award of MSc in  
International Fisheries Management.

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Thomas Korankye



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Centre for Marine Resource Management  
Norwegian College of Fishery Science  
University of Tromsø



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**Declaration**

With the exception of duly acknowledged citations and references, I declare that this dissertation is a product of my own research intended to provide insight into the livelihood of fisher-folks at Elmina fishing community in Ghana under the supervision of Associate Professor Jahn Petter Johnsen. It has not been produced in part or whole for whatever purpose in any where in the world.

..... May 2008

Thomas Korankye

**Dedication**

I dedicate this work to my: late grand dad Opanin Kwabena Kuma; better half Mrs. Abigail Korankye; son Master Ivan Korankye; family and friends.

## **Abstract**

The work examines the knowledgeability of fisher-folks as well as determines the extent to which their livelihood influences their susceptibility to HIV/AIDS infection. By making specific reference to fisher-folks at Elmina fishing community in the Central Province of the Republic of Ghana, it particularly challenges the hypothesis that fisher-folks are highly vulnerable to HIV/AIDS infection. The analysis thereof draws on elements from risk, social cognition and diffusion of innovation theories that are deemed useful in a study of HIV/AIDS.

The study finds that although awareness level among the fisher-folks is high, their understanding and knowledge of the facts of the epidemic are significantly low. It therefore argues that the prevailing knowledge gap could cause many of the fisher-folks to become victims of the epidemic. Also, irrespective of the fact that the Ministry of Fisheries has a direct oversight responsibility over the fisheries sector in Ghana, it has neither incorporated nor prioritized the fight against the spread of HIV/AIDS in its policy and programs. The study reveals that wide spread of the disease among fisher-folks could significantly deprive the country of fish food as a result of lost of fishers' lives. It could also exacerbate poverty among the fisher-folks owing to increased outflow of funds and reduced funds inflow. As a result of the non-triviality of the epidemic to Ghana's fisheries, this work calls for the development of new institutional structures that make it plausible to integrate the issue of HIV/AIDS in managing Ghana's fisheries.

Finally, the study ascertains that the culture of risk denial does not extend to other dimensions of the lives of fisher-folks at Elmina. They are risk lovers owing to the risky, mobility and hard nature of their job. However, they are risk averse in terms of their social life style. Being risk averse, the study further argues that the fisher-folks at Elmina are highly likely to adopt a positive behavioral change. More so, it becomes easier to reach them with HIV/AIDS preventive measures. As Rosenstock (1974) - one of the health belief model proponents - asserts, people who see themselves to be at risk of contracting diseases are most often than not likely to accept a preventative action.

**Key words:** HIV/AIDS, fisher-folks, poverty.

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**List of Acronyms**

- ABC - Abstain, Be faithful and Condom use  
AIDS – Acquired Immune Deficiency Syndrome  
ARV - Antiretroviral drugs  
CBFMC - Community Based Fisheries Management Committee  
CSO - Civil Society organizations  
DoF - Directorate of Fisheries  
EEZ - Exclusive Economic Zone  
FAO - Food and Agriculture Organization  
GAC - Ghana Aids Commission  
GDP - Gross Domestic Product  
GoG - Government of Ghana  
HIV – Human Immunodeficiency Virus  
ISSER – Institute of Statistical Social and Economic Research  
MDAs - Ministries, Departments and Agencies  
MDG - Millennium Development Goals  
MFRD - Marine Fisheries Research Division  
MoF - Ministry of Fisheries  
NGOs – Non-Governmental Organizations  
PLWA - People Living With Aids  
SCT - Social Cognitive Theory  
SFLP - Sustainable Fisheries Livelihood Programme  
SLT - Social Learning Theory  
STI – Sexually Transmitted Infections  
UNCLOS - United Nations Convention on the Law of the Sea  
VCT - Voluntary Counseling and Testing  
WIAD – Women in Agric Development

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## CHAPTER ONE

### 1.0 Introduction

Globally, it is estimated that fish provides an average of 15.9% of animal protein. In Africa, the proportion of animal protein from fish is above the world's average by 2.7%. For some countries in sub-Saharan Africa, the proportion is even higher by more than 50 percentage points. Also, exports of fish and fishery products generate huge foreign exchange. The export values from world trade went up by 377% from US\$15 billion in 1980 to US\$71.5 billion in 2004 (Food and Agriculture Organization (FAO), 2007). Again, in some countries, contributions from the fishery sector account for more than 20% of Gross Domestic Product (GDP). These underscore the importance of the role fisher-folks play in our society. Inarguably, without fisher-folks there would be no fish for consumption. And without fish, millions of the world's population would be malnourished and the enormous foreign exchange earnings from world trade of fish products would not be available for economic development. Consequently, as efforts are being made to conserve fish resources, it is imperative that we pay attention to the health and wellbeing of the fisher-folks.

In the world today, several obstacles pose a threat to the health and wellbeing of fisher-folks. Not unknown, poverty is one such key obstacle. Among others, income seasonality and uncertainty coupled with dwindling fish stock in the ocean adversely affect their livelihood significantly (FAO, 2004). This notwithstanding, the fisher-folks have not been spared of the scourge of HIV/AIDS<sup>1</sup>. Even though the epidemic is a global humanitarian disaster, fisher-folks are often identified as one of the high risky groups to its infection. Aside this, as observed by FAO (2004:2), the impact of its infection on the fishery sector is profound:

“The effects of long illness and premature death...have profound implications for the agricultural sector, causing acute labour shortages at household and community levels; altering established technical relations between labour, land and capital; causing irreversible depletion of rural household assets; triggering the adoption of adverse, hard-to-reverse response strategies; weakening community structure and straining community safety nets; diminishing the resilience

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<sup>1</sup> HIV – Human Immunodeficiency Virus; AIDS – Acquired Immune Deficiency Syndrome

of farming and livelihood systems; reducing the capacity of household and communities to recover; and intensifying their vulnerability to food shortages”.

Owing to the severity of the effects of the epidemic on fisher-folks, there is the urgent need to execute aggressive efforts to halt its spread in the fisheries sector.

This study is therefore essential as it seeks to examine the knowledgeability of fisher-folks and determine the extent to which their livelihood influences their susceptibility to HIV/AIDS infection. By making specific reference to fisher-folks at Elmina fishing community in the Central Province of the Republic of Ghana, it particularly challenges the hypothesis that fisher-folks are highly vulnerable to HIV/AIDS infection.

The rest of the chapter encapsulates an overview of the problem statement (the issue); research objectives, questions and expectations; and the research outline.

## **1.1 The Issue**

Owing to the nature of their work, there are indications that fisher-folks are too often susceptible to HIV infection. They spend longer days outside their home, engage in risky and hard work, and are also predisposed to unsafe sex and drug addiction. Recently, there have been reported cases of HIV prevalence in certain fishing communities around the world. For instance, 13-20% of marine fishing boat crews in Thailand tested HIV positive in the late 1990s; 8% of adults in 'Garifunda' coastal fishing communities in Honduras are HIV positive; 12% of People Living With Aids (PLWA) in the city of New Bedford in USA during 1990-1995 were fishermen; 24% of fish-folks on Lake Albert in Uganda were affected by HIV in 1992 (Allison and Seeley, 2004).

In Ghana, though information on the prevalence rates in the country as a whole are known, the prevalence rates in our fishing communities are not known. However, as I will describe in chapter 2, the rate of HIV infection in one of our important fishing regions, Central Ghana, is among the highest in the country. As there is a huge tendency for the sector ministry and other stakeholders to sit back and thrown into deceit by thinking that all is well with our fisher-folks as far as HIV is concerned, the information asymmetry can lead to production and market failures, if the opposite is proven. This is because the fishing communities may not be regarded as among high prevalence groups in the country and hence may be excluded from targeted HIV intervention measures in Ghana.

On the contrary, fisher-folks operating in my study area, Elmina fishing community, like their counterparts in the other fishing communities in the country, may be highly vulnerable to HIV infection due to their high mobility level, lack of social cohesion among them and their near neglect by relevant institutions of governance. During the lean season, fishers from Elmina migrate to other landing sites in Senegal, Ivory Coast, Winneba, Sekondi-Takoradi, Tema and the like, all places where it can be assumed that HIV/AIDS might be a problem (Bannerman et al, 2004). Thus fishers from Ghana consequently become heavily exposed to the epidemic during this migratory period. In this thesis, however, I will challenge the hypothesis that fisher-folks in general are highly vulnerable to HIV/AIDS infection due to their life styles and habits.



## 1.2 Research Objectives, Questions and Expectations

This work seeks to examine the knowledgeableability of fisher folks as well as determine the extent to which the livelihood of Ghana's artisanal marine fishing communities<sup>2</sup> influences their susceptibility to the HIV/AIDS pandemic. Specifically, the research aims to:

- a. Examine the awareness of the disease in Elmina fishing community
- b. Identify the efforts that are being made to fight against the spread of the epidemic in my study area
- c. Examine the vulnerability of Elmina fisher-folks to HIV infection

To bring these objects to fruition, the study investigates the ensuing research questions:

- i. What is the level of awareness of HIV/AIDS among artisanal fishery labour force?
- ii. How are the fishing communities being educated about the epidemic?
- iii. To what extent are Elmina fisher-folks at risk of HIV/AIDS infection?

As the study investigates the above questions, the initial anticipation of the research outcome includes:

- a. Consistent with the findings by Ghana Aids Commission, more than 99% of the respondents have heard of HIV/AIDS. However, the study expects their understanding of the causes, effects, symptoms and prevention of the epidemic to be significantly low.
- b. Like other fisher-folks, fisher-folks at Elmina fishing community are highly vulnerable to HIV/AIDS infection.

## 1.3 Research Outline

The work is organized into six chapters. It begins with the introduction chapter and continues with the study background in the second chapter. The third chapter discusses the strategy for the research work. Whiles a discussion of the theoretical underpinning follows in the fourth chapter, chapter five captures the research findings and analysis. The six and final chapter encapsulates the conclusion for the entire thesis work. It also inculcates suggestions for future research.

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<sup>2</sup> As I mentioned earlier, the work focuses on only one of Ghana's artisanal marine fishing communities, Elmina.

## CHAPTER TWO

### STUDY BACKGROUND

#### **2.0 Introduction**

In order to make the study meaningful and useful to all potential users, this chapter briefly presents the background information of my study area. It deals with the socio-economic conditions and fisheries in Ghana generally and Elmina specifically. The chapter also looks at Ghana's HIV/AIDS situation and some of its response strategies. Although most of the information I am presenting come from publications, some of them also come from the data I collected during my field work at Elmina.

#### **2.1 Ghana and its Fisheries**

Ghana, a West African country and formerly called Gold Coast, covers an area of about 238,533 square kilometers (approximately 92,098 square miles) with a coastline of 550 kilometers. The country is surrounded by Togo on the East, Burkina Faso on the North, Ivory Coast on the West and the Atlantic Ocean (Gulf of Guinea) on the South. On the west of Ghana's coastal zone is located Cape Three Points, while Cape St. Paul is located on the east (see appendix 1 and 2). As a signatory to the United Nations Convention on the Law of the Sea (UNCLOS), Ghana has jurisdiction over 200 nautical miles (322 km) of Exclusive Economic Zone (EEZ). In economic terms, Ghana is predominantly an agricultural economy, with about 70% of its workforce employed in the agric sector. By sub-components, the agric sector comprises of fishing; agric and livestock; forestry and logging; and cocoa production and marketing. As important as each of these sub-components are, this work limits itself to the fishery segment.

As it is the case in many countries, Ghana's fishery sector can be broadly grouped into capture fisheries and aquaculture. Again, the work however focuses on the former, which also could be marine or inland. In Ghana, marine fishing activities take place in three regions: Greater Accra, Central and Western. The country also boasts of six landing beaches in these regions, namely: Tema Canoe Basin; Tema Fishing Harbour; Old Sekondi Fishing Harbour; Albert Bosomtwe Sam Fishing Harbour; Takoradi Fish Landing Facility and Elmina Fishing Harbour.

In terms of fishing fleets, industrial; semi-industrial; artisanal and tuna constitute the four main fishing cohorts in Ghana. Of the four, artisanal fishery is the most important and common among fishing communities as it employs a great number of fisher-folks and contributes over 70% of yearly fish production from marine resources (Diei-Ouadi, 2006 and Koranteng et al, 2006). The fishery sector in general contributes about 14% of agriculture Gross Domestic Product (GDP). Comparatively, this is about 4% higher than that of Ghana's main export commodity - cocoa (Figure 2A). It also accounts for 60% of the country's protein intake, employs 3% of Ghana's population generally and 20% of her labour force specifically.

Since 2005, the Ministry of Fisheries (MoF) has being the main body in charge of the fishery sector in Ghana. Until then, the fishery sector had been under the ambit of the Ministry of Food and Agriculture. The MoF works in collaboration with other Ministries, Departments and Agencies (MDAs) to enforce existing fishery laws, regulations and bye-laws. At the moment, the Fisheries Act of 2002 (Act 625) is the main legislative instrument governing the fisheries sector.

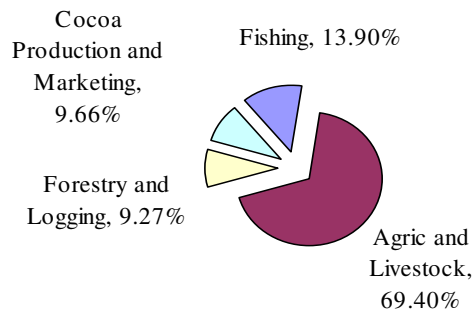


Figure 2A: Agric sector average GDP by sub-components from 1995 to 2004. FAO Databse

## **2.2 Socio-Economic Conditions and HIV/AIDS in Ghana**

Poverty in Ghana stands at 28%, down from 52% in 1992. With real GDP growth of 6% per annum since 2005, inflation and interest rates almost entering into single digits, Ghana is perceived as one of the best performing economies on the African continent (World Bank, 2008). However, about 70% of the poor live in rural communities. Such communities are normally characterized by low earnings and limited social amenities. Poverty is rife in the three Northern provinces, followed by the Central province. More over, the Ghana Poverty Reduction Strategy (GPRS, 2003) identifies traditional fisher-folks; HIV/AIDS infected or affected persons; migrant farm hands and food crop farmers as among the people living at or below the World Bank's international poverty line of \$1 a day.

In the light of extreme poverty in some parts of Ghana, the country has not been spared of the scourge of HIV/AIDS. The epidemic appeared in Ghana in 1986 and by 1994 it had hit 118,000 people. Ten years after, the epidemic had garnered momentum and infected about 404,000 individuals. However, compared with prevalence rates of 7.5% and 1.1% in sub-Sahara Africa and the globe respectively, Ghana's rate dropped from 3.6% in 2004 to 3.1% in 2005. As of 2007, the rate had significantly dropped further from 2.22% in 2006 to 1.9% (Ghana News Agency, 2008; Kates & Leggoe, 2005; Martin & Logan, 2005). Although the country's achievement is remarkable, the prevalence rates in the regions of Central (my study province), Eastern and Ashanti remain high (figure 2B).

To add insult to injury, research indicates that approximately 70% of HIV positive persons in Ghana are within the economic active group. The ramifications of this on the economy are not far fetched: lost of productive hours; increased number of orphans; increased cost to companies in terms of absenteeism, medical care, and hiring and re-training; increased number of street children and social vices among others.

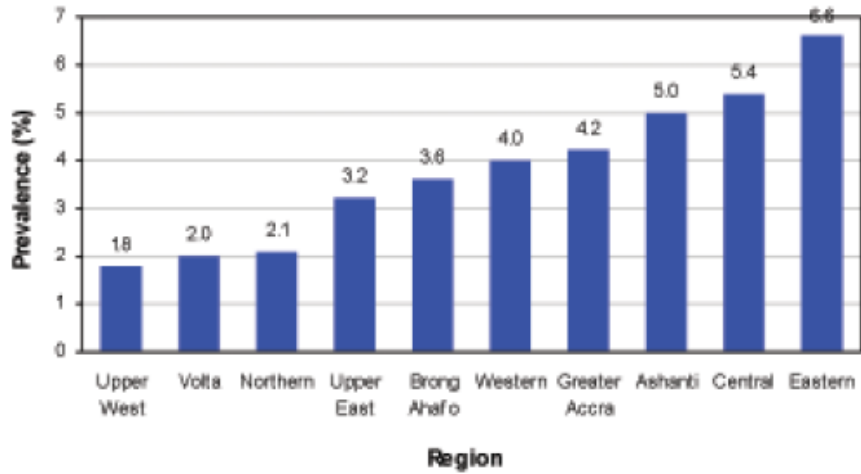


Figure 2B: HIV Prevalence in Ghana by Region. Courtesy: Martin and Logan (2005)

### 2.3 HIV/AIDS Fighting Strategies and Activities in Ghana

This section visits HIV/AIDS strategies and activities which the nation on one hand and the sector ministry on the other side execute.

#### 2.3.1. National Strategies and Activities

Owing to the severity of its adverse impacts on society, HIV/AIDS has been of great concern to the Government of Ghana (GoG). Various legal frameworks and policies which make latent or explicit reference to the epidemic have therefore been enacted and/or enforced. For instance, the 1992 Constitution of the Republic of Ghana, among other things, calls for the protection of the right to life (Act 13); the right to the protection of personal liberty (Act 14); the right to respect for human dignity (Act 15); and the right to equality and freedom. The 1994 Revised Edition of the National Population Policy also makes reference to the harmful effects of STI/HIV/AIDS and calls for the institution of appropriate measures to prevent and control the epidemic.

To practically deal with the epidemic more holistically, the GoG through Act 613 (2002) of the Parliament of the Republic of Ghana established the Ghana Aids Commission. The Commission

is the highest policy making body on HIV/AIDS in Ghana. It charged with the responsibility of providing “effective leadership in the coordination of all programmes and activities of all stakeholders (MDAs, Private Sector, Development Partners and Civil Society) in the fight against HIV/AIDS through advocacy, joint planning, monitoring and evaluation for the prevention and control of the disease<sup>3</sup>”.

Through its technical committee, the Commission works with MDAs development partners, NGOs, and Civil Society organizations (CSO). It carries out several educational activities such as mass-media campaigns and workshops to enlighten the public on ways to reduce high-risk behavior. The Commission also disseminates information through posters, brochures and bill boards to create awareness about the epidemic. Most often, it sensitizes the public on the ABC (Abstain, Be faithful and Condom use) method. It has also instituted Voluntary Counseling and Testing (VCT) centers in most parts of the country. The VCT services offer individuals the opportunity to freely check their HIV status. Whiles encouraging individuals who test negative to adopt positive behavior, the VCT services also offer help to persons who test positive to adopt behavior change necessary to halt further spread of the epidemic. The infected persons are also directed to the appropriate quarters where they can receive regular care and support. Through the assistance of the Ghana Aids Commission, most infected persons also have access to affordable antiretroviral drugs (Ghana Aids Commission, 2004).

### **2.3.2 Strategies and activities to fight HIV/AIDS in MoF**

The mission statement of the Ministry of Fisheries (MoF) in Ghana reads: “The Ministry of Fisheries exists to promote sustainable and thriving fisheries enterprises ... and to fulfill its role in ensuring food security and poverty reduction”. It also has as one of its functions the role to formulate and implement relevant policies aimed at ensuring the survival of the fisheries sector<sup>4</sup>.

Cued from the above, I was curious to know the policies, if any, the MoF has put in place as well as any ongoing projects by the MoF to tackle the spread of HIV/AIDS among fisher-folks. Searches through the database and archives of the ministry for such information yielded null

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<sup>3</sup> [http://www.ghanaims.gov.gh/gac/about\\_us/nshow\\_det.php?recordID=10](http://www.ghanaims.gov.gh/gac/about_us/nshow_det.php?recordID=10)

<sup>4</sup> [http://ghana.gov.gh/ministry\\_of\\_fisheris](http://ghana.gov.gh/ministry_of_fisheris)

results. Owing to this, I personally went to the MoF to carry out further search through interview. At the ministry, I was directed to meet Mrs P.A. Markwei, a Deputy Director with oversight responsibility on HIV/AIDS at the Directorate of Fisheries division of the ministry. When asked to brief me on the activities of the MoF on the epidemic, she said “two officers from fisheries were trained at Prampram (*a local town*) three years ago by Women in Agric Development (WIAD) but nothing has been done”. Is it about financial constraints? I asked. This is how she responded “It’s not about funds, because Ghana AIDS Commission is prepared to finance 95% of the cost. We will soon go to the field. My Chief Director is developing the proposal I have sent to him since January 2006”. Together with the lack of information in the Ministry’s databases and archives, the answers support an assumption that the MoF has no functioning policies on HIV/AIDS for fisher-folks.

Apart from this fact, Mrs Markwei admits that MoF, lacks a work place policy on the epidemic for its staff. However, in Ghana, sister ministries such as education, tourism, road & transport, communication, defence and employment have sectoral HIV/AIDS strategic plans for their staff and workers in the entire nation.

Finally, coupled with the fact that the MoF has no functioning policies on the epidemic, the main legislative instrument, Fisheries Act 2002 (Act 625) is also silent on HIV/AIDS.

## **2.4 Elmina in Perspective**

Having looked at Ghana as a whole, this sub-section similarly outlines some of the above issues. It however limits itself to my study community – Elmina.

### **2.4.1 Elmina and its Fisheries**

The study site of this thesis, Elmina (see map in appendix 1), is the most renowned landing beach located in the Komenda-Edina-Eguafo-Abrem District within the Central Region and the second most important landing site in Ghana. It is sited on a river called Benya; mainly used by inshore vessels and canoes; and surrounded by two landing quays and Mpoben<sup>5</sup> fish market.

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<sup>5</sup> Mpoben is the given name of the fish market at the harbour

Elmina town is a predominantly fishing community, inhabited by over 20,000 people. As of 2004, there were 2,632 fishermen and 231 canoes operating in the town (Bannerman et al, 2006). It is also cosmopolitan<sup>6</sup>, though the indigenous people are “Fantes”. As a heterogeneous community, many people immigrate there to seek job in the fisheries. Similarly, some native fisher-folks of the town also emigrate to other towns and countries during the lean season to work. Indeed, during my field work, the respondents confirmed they could travel for days, weeks and months to other fishing areas interior and exterior to Ghana in search of higher fish catch.

Despite its heterogeneity, the Elmina fisher-folks (including the immigrants) do not lack community initiative. Group membership and participation are not uncommon among the fisher-folks. From my research findings, 62.5% of the respondents are members of at least one of the following associations: Ghana National Canoe Fisheries Council, Ghana Inshore Fisheries Association, Elmina Community Based Fisheries Management Committee, Fish Mongers Association, Religious Organization and Ghana Private Road Transport Union. Only 37.5% are non-members of any group. Statistically, the number of fisher-folks who are active participants in one or more associations is significant. This indicates that fisher-folks at Elmina are interdependent and do not lack social cohesion. By being interdependent, they confirm the words of Herman Melville<sup>7</sup>: “We cannot live only by ourselves. A thousand fibers connect us with our fellow men”. Ultimately, the fisher-folks share values, challenges and opportunities. They also gain the ability to achieve their highest personal and collective aspirations and goals (The European New Towns Platform 2005, Jeannotte & Sharon, 2001, Canda et al, 1998). To sum up, Elmina is a heterogeneous community with mobile people who on one side can be vulnerable to HIV/AIDS. On the other hand community initiatives and social cohesion seem to be important, which can reduce this vulnerability.

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<sup>6</sup> Cosmopolitan/heterogeneity are used synonymously to indicate the diversity of people at Elmina. This diversity is seen in terms of differences in backgrounds and origins. HIV positive persons moving to Elmina could spread the disease in the community; and in a similar fashion, non-HIV positive immigrants could acquire the disease from Elmina and send it to their origin.

<sup>7</sup> <http://www.brainyquote.com/link/index.html>



In another development, the head of the Canoe Fisheries Association in Elmina claims the peak season at Elmina begins from July and ends in September, while the off-peak period spans between January and June each year. During the peak seasons, the fisher-folks are permitted to work everyday except Tuesdays, according to the traditional custom of Elmina. In clarifying this, one of the respondents re-iterated “You can go to fishing on Tuesdays but you cannot land here otherwise you will be arrested”. They use Tuesdays to rest and also to mend their nets. Of the number of respondents interviewed, 75% of them work on full-time as fisher-folks, while the remaining 25% engage in fishing on part-time basis (figure 2C). The 25% part-time fisher-folks carry out other activities including driving and dress making.

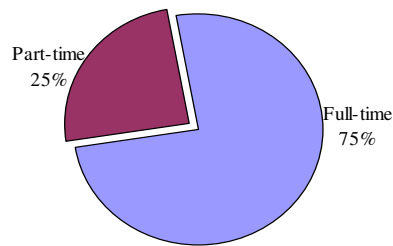


Figure 2C: Working time distribution of fisher-folks

#### 2.4.2 Socio-Economic Conditions

The 60<sup>th</sup> United States Governor of Kentucky, Ernie Fletcher<sup>8</sup>, believes “a government of, for and by the people, requires much from the people”. Similarly, since it is the people who bring government into power and in addition finances its activities through tax payments, I argue that people also should require much from the government. The fishery sector serves as a source of food, employment and income to many Ghanaians. It again contributes to the GDP of the nation. Consequently, fisher-folks have the right to enjoy their part of the national cake.

At Elmina, through observation and responses from the participants, fisher-folks have access to hospital, portable water, good quality road, market, police station, electricity and other facilities. In terms of facilities, the people are not neglected. More over, the fisher-folks are the only work-

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<sup>8</sup> <http://www.brainyquote.com/quotes/quotes/e/ernieflete168395.html>

force category that receives government subsidy on premix fuel. For the small-scale fishers, access to the fishery is also free. There are no licensing fees required.

As in many parts of Ghana, Elmina has not been left out in the poverty trap. As a predominantly fishing community, they are ill affected by the uncertainty and seasonality of incomes. This becomes a huge challenge especially where most of the fisher-folks have no alternative source of livelihood. Consequently, their plights are further worsened in the face of dwindling capture fish stock.

Notwithstanding the above, some interesting developments which occurred during my field trip are worth considering. In fact, this section might not be complete without discussing some of those findings. In Ghana, the minimum monthly salary of a worker stands at \$67<sup>9</sup>. However, from the research findings, the average monthly income of a fisher-folk at Elmina is approximately \$220. Statistically, a fisher-folk earns 6,955 basis points more than the legally stipulated threshold. Indeed, their financial returns are satisfactorily higher in Ghana. Again, compared with World Bank's standard minimum requirement of \$2 a day, the fisher-folks' average earnings exceed that by 7,273 basis points. However, as FAO rightly indicates, the fisher-folks' revenue is irregular, seasonal and dependent on the availability of fish stock.

But, on the basis of income generation, can we really conclude the fisher-folks are poor? Clearly, the response to this question is mixed, since there are different schools of thought. Whereas many previous studies have positively responded to the above question, the response from a fisheries manager is different. In a field work interview with Mrs Markwei (a Deputy Director) at the Fisheries Directorate, she argues that "the people (referring to the fisher-folks) claim to be poor, but it's not true. I think they are not good managers because they make a lot of money during the harvest season. But they are not able to manage it throughout. So they suffer during the lean season". I find the response from the Deputy Director very interesting because it raises salient issues: Who is a manager? What constitutes effective management? What do the fisher-folks know about management?

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<sup>9</sup> This is based on the current minimum daily wage of 2.25 Ghana Cedis converted to \$2.23 using OANDA FXtrade converter on March 1, 2008

In practice, best managers recognize that resources are not unlimited in supply. They do not only work efficiently, but they also strategically get the right things done at the right time. Managers plan, organize, direct and control their activities. While each of these four functions are fundamental in the management process, for the purpose of this discussion; I prefer to focus on the first function a manager performs: planning. Everything begins with planning. It differentiates a successful manager from an unsuccessful manager. The essentiality of this term is also seen in the much used statement: “a person who fails to plan plans to fail”. Through planning, managers forecast future requirements and predicaments, and decide on the appropriate methodology to assuage the crisis. A person therefore needs to know how to plan in order to be successful.

Indeed planning is so vital that King Solomon could not complete his biblical writings without talking about it. In the Scripture, it is written “Go to the ant, you sluggard; consider its ways and be wise! It has no commander, no overseer or ruler, yet it stores its provisions in summer and gathers its food at harvest. ...poverty will come on you like a bandit and scarcity like an armed man” (Proverbs 6:6-11, New International Version). Even the ant knows how to plan. How much more the fisher-folks? Clearly, the seasonal variability of the fisher-folks’ income should not be used as an excuse to be poor. Since they are aware that they do not earn any revenue during the lean season, it behoves them to save a proportion of the income they earn during the peak season for use during the off-peak period. Like the ant, the fisher-folks need to store and gather cash during bumper harvest.

## CHAPTER THREE

### RESEARCH STRATEGY

#### **3.0 Introduction**

This chapter discusses the methodology used in conducting the research. It specifically deals with research population and sampling, data collection methods, analytical tools and study limitations.

#### **3.1 Research Population and Sampling**

The population for this study is the artisanal marine water fishing communities in Ghana. In Ghana, these communities can be found in three out of ten regions: Greater Accra, Western and Central. This study focuses on a major fishing community in the Central Region: Elmina.

#### **3.2 Data Collection Methods**

In carrying out research, some scholars contend that there is no right or wrong method (Silverman, 2005). However, as Miles and Huberman (1984:42) put it, 'knowing what you want to find out leads inexorably to the question of how you will get that information'. Consequently, this work relies fundamentally on primary data sources, although information from secondary sources such as scientific journals and other published and unpublished materials would be used.

As known, there are several ways of collecting data from primary sources. Nonetheless, the methods for this research were selected based upon their appropriateness to the research topic, the degree of success on the field and ethical considerations. Summarily, the techniques of interview and observation were utilized.

Interview is often regarded as a conversational encounter between an interviewer and an interviewee with the ultimate idea of acquiring information from the latter by the former (Silverman, 2005). The interview was executed through questionnaire administration. It consisted of open-ended and close-ended questions which were administered by me with help

from one research assistant. The open-ended questions were framed with the aim of soliciting deeper information which would otherwise be difficult to obtain. To make it helpful, the interviews were conducted in a semi-structured form. Owing to this, I was able to ask further questions based upon the respondents' responses. The close-ended questions were structured. I mainly used this technique to collect the respondents' demographic data.

The research participants were drawn from fishers, canoe owners, fishers associations, fish mongers, Ministry of Fisheries, Marine Fisheries Research Division (MFRD) and Ghana Aids Commission. At the Ministry of Fisheries, my first contact was the Finance and Administration Director. Since my topic does not fall in his area of expertise, he subsequently referred me to the Directorate of Fisheries (DoF). At DoF, I met and interviewed a Deputy Director with an oversight responsibility of this research area. At MFRD also, the Director was not available so my contact person was his Deputy.

Lastly, the observational research tool was used to capture the embodied knowledge as well as to supplement the information I gathered through the interview process. To achieve the above purposes, I observed my core research participants at Elmina as they carried out their routine activities (Funderstanding, 2001).

### **3.3 Data Analysis**

Analysis of the data collected was basically done using elements from risk, social cognition and diffusion of innovation theories that are deemed useful in a study of HIV/AIDS. Histograms, percentages, and pie charts were also deployed to give a clearer picture and understanding of the data gathered.

### **3.4 Validity and Reliability of Data**

Since the analysis relies on the collated research data, the respective findings therefore are affected by the validity and reliability of the research data. Consequently, strenuous efforts were made to ensure the responses from the respondents are as dependable as possible. First, due to

the tendency for them to give misleading responses, the respondents were made aware of the academic intent of the exercise. The introductory part of the interview process read: “This is meant to solicit your view on HIV/AIDS. It has no other purpose than to assist me to write my master degree thesis. All information you provide will be treated with the strictest level of confidentiality. More so, your identity will be held anonymous”. Second, since majority of the respondents are illiterate and therefore do not understand English, it became necessary to interpret the English framed questions in their local language – “Fante”. As I belong to the same tribe – “Akan” - as the respondents, this did not generate any problem. Third, owing to the sensitive nature of some of the interview questions, each respondent was separated from people and interviews conducted in such a fashion that no other person heard the conversation that went on during the interview process. This also contributed to make the respondents give sincere responses as possible.

Finally, irrespective of this, it is not an unknown fact that HIV/AIDS and sexuality are sensitive issues. Thus, some respondents might have been too shy to give the correct answers. While not disputing this possibility, an attempt was made to conduct the interview in a professional manner with the aim of avoiding this setback. When it comes to the issue of sexuality, this is the 4<sup>th</sup> time I have conducted an interview on this in Ghana. My first three interviews under three different research projects were conducted in my capacity as a Research Assistant at University of Ghana’s Institute of Statistical Social and Economic Research (ISSER). Having said this, I could confidently say that based on the interviewer – interviewee discourse at Elmina, the responses given by most of the respondents were as sincere as possible

### **3.5 Limitation of the Study**

Most of the information gathered for this work pertains to Elmina fishing community. Although the information collected from MoF, MFRD and Ghana Aids Commission applies to all the artisanal marine fishing communities in Ghana, it may be treacherous to link the findings of this study to the entire country. The study is therefore limited to and only gives an insight into the prevailing situation in the fishing community in perspective. It is not my intention to generalize the outcome of this work, however, the results may give a fair idea of the situation in artisanal

marine fishing communities in Ghana, since Elmina landing beach is the second largest in the country. This is buttressed by the fact that some of the gathered information applies to the whole fishing communities in the nation.

The study may also be limited by financial and time constraints. With finance as a limiting factor, it was impossible for me to stay on the field for the entire two month period. The cost of staying longer on the research site was unbearable, especially, as no research funding was given. I was therefore prevented from doing extensive observation and interview. With regards to time as a constraint, it is practically difficult to carry-out detailed research like this in just one semester. Although the quality of this study is not jeopardized, the details and level of scientific study thereof are limited by time.

## CHAPTER FOUR

### THEORETICAL FRAMEWORK

#### **4.0 Introduction**

Theories are ideal types, not real versions. They are fundamentally accepted principles that provide explanation to the actions of a particular entity. The premise underlying such actions can be one or several and may at times overlap. However, the type of theory to use is directly correlated with the aim at hand. In lieu of this, this chapter presents a framework built on elements from the theories of risk, social cognition and diffusion of innovation. It ends with a brief theoretical summary.

#### **4.1.0 How to Study Risk**

In our everyday activities, we all face risk in diverse ways. It may occur naturally or arise from our life style. The concept of risk is therefore inevitable in human lives. As Beck (1999, 1998 and 1986) argues, risk and the global economy are alarmingly becoming inseparable. In Elliot (2002:295), Beck (1991:22-23) contends:

“The historically unprecedented possibility, brought about by our own decisions, of the destruction of all life on this planet ... distinguishes our epoch not only from the early phase of the Industrial Revolution but also from all other cultures and social forms, no matter how diverse and contradictory. If a fire breaks out, the fire brigade comes; if a traffic accident occurs, the insurance pays. This interplay between before and after, between security in the here-and-now and security in the future because one took precautions even for the worst imaginable case, has been revoked in the age of nuclear, chemical and genetic technology. In their brilliant perfection, nuclear power plants have suspended the principle of insurance not only in the economic but also in the medical, psychological, cultural, and religious sense. The ‘residual risk society’ is an uninsured society, in which protection, paradoxically, decreases as the threat increases”.

What then is risk? The philosophy of risk has several definitions across several fields. Although some scholars attempt to draw a distinction, the terms risk, uncertainty and hazard are often used interchangeably. In business, risk refers to the uncertainty of future outcomes. That is, the likelihood that future outcomes may not happen as desired. As such, the outcomes can be favorable (called upside exposure or ‘speculative risk’) or unfavorable vis-à-vis expectation (also called downside exposure or ‘pure risk’) (ACCA, 2007 and CFA, 2007). Unlike business which



looks at risk from both the positive and adverse sides, other disciplines view risk only from the angle of negativity. In law, it means ‘possibility of danger’ unlike ‘actual danger’. In health, risk is the chance that an entity may be adversely affected by a hazard<sup>10</sup>. Thus in the context of this work, risk is the possibility that a person may be infected or affected by HIV/AIDS.

In real life, individuals have different tolerance for risks. Some are risk averse, others are risk lovers and there are individuals who are risk avoiders. Risk averse persons prefer to take lower risk. However, such individuals undertake higher risk if they believe the respective expected reward (or return) will be higher to compensate. Cued from this, a person may decide not to use condom during sexual intercourse with a casual partner if s/he believes there is greater excitement in having unprotected sex than protected sex. Risk lovers are also risk takers. These are people who are not afraid to take risk. They do not fear the outcome of their decisions or actions. The opposite of the latter are risk avoiders. Clearly, individuals make a choice with regard to their risk tolerance level. Hence, risks ‘always depend on decisions – that is, they presuppose decisions’ (Beck 1997:30).

As the likelihood of suffering from harm is inescapable in human’s daily lives, there have evolved strategies of managing it. Risk management thus involves the state of understanding and developing practical measures necessary to eliminate or reduce risk (ACCA, 2007). This can however be challenging considering the fact that: first, different people have different value judgements and risk perception; and also, people’s value judgements and risk perception are dynamic and as such keep changing with changes in circumstances (HSE, 2001). Nonetheless, as we live in a world that could destroy itself in theory, Elliot (2002) argues that risk management and monitoring play crucial role in the formulation and calculation of social action. In support, recent studies have shown that mankind has been embedded with inbuilt mechanisms capable of giving it the capability to deal with life’s uncertainties. From this view, it appears however that people naturally develop strategies sufficient in handling risk. As this assertion is rare in reality, it then becomes necessary for institutions to involve themselves in the mechanisms of risk monitoring and control. From its perspective, HSE (2001:7) contends:

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<sup>10</sup> The use of hazard in this context is conceptually different from risk as against the view of many authors who use the two terms interchangeably. In this case, hazard refers to the potential for harm arising from an intrinsic property or disposition of something to cause detriment (HSE, 2001).

“Those who create risks from work activity are responsible for protecting workers and the public from the consequences. Thus, the HSW Act places specific responsibilities on employers, the self-employed, employees, designers, manufacturers, importers, suppliers and people in charge of premises. Associated legislation places additional duties on owners, occupiers, licensees and managers”.

As in any business venture, cost-benefit analysis plays a crucial role in the deployment of risk reduction strategies. As pointed out by HSE, “A prime consideration is the amount of resources (time, money, etc) that should be devoted to introduce measures to control the hazard, relative to the total detriment suffered by society in the event of the hazard being realized”. But, Annan (2001:1) admits “The cost, whether measured in human misery today, or in loss of hope for tomorrow, is simply too high. We have to turn and face it [HIV/AIDS] head on”. In ‘HIV/AIDS and the food crisis in sub-Saharan Africa’, FAO (2004:2) captures the adverse impact of the epidemic clearly:

“It (HIV/AIDS) stands apart from diseases like malaria due to the scale of morbidity and mortality among persons aged between 15 and 50 years, as well as its pattern of contagion. The effects of long illness and premature death amongst these age groups have profound implications for the agricultural sector, causing acute labour shortages at household and community levels; altering established technical relations between labour, land and capital; causing irreversible depletion of rural household assets; triggering the adoption of adverse, hard-to-reverse response strategies; weakening community structure and straining community safety nets; diminishing the resilience of farming and livelihood systems; reducing the capacity of household and communities to recover; and intensifying their vulnerability to food shortages. In aggregate terms, the epidemic produces new mechanisms of impoverishment and thus creates new patterns of poverty and livelihood insecurity. The outcome is the emergence of a new category of poor people”.

It follows then that the gains from reducing the spread of the epidemic is significantly higher than the amount of resources that has to be utilized in the fight against the HIV/AIDS. This calls for intensification of ongoing measures meant to curtail the disease as well as the development of more innovative monitoring and control mechanics.

#### **4.1.1 The Importance of Beliefs and Attitudes**

As part of the risk theory framework, the health belief model was conceived by social psychologists (Hochbaum, Rosenstock and Kegels) in the 1950s. Drawing much inspiration from psychology discipline, the theory aims at providing explanations and postulations to health related behaviors by making reference to individual's attitudes and beliefs (Dheimann, 2003). From the theory's perspective, a person will, for instance, use condoms if s/he is convinced that s/he is protected against the AIDS virus infection. Thus an individual may not use condoms or may decide not to take a health related action if he has ill-conceived idea about the action to take.

For a behavior change to occur, health related attitudes and believes depend on four key variables in the arena of perceived threat and net benefits: perceived susceptibility (the opinion of a person as regards the risk of becoming infected with HIV); perceived severity (one's perception about the seriousness and impacts of contracting the disease); perceived benefits (what a person will get in return if an advice to reduce risk is implemented); and perceived barriers (possible factors that obstruct change, including costs).

In practice, the above four variables are regarded as depicting the preparedness of individuals to act. The added concept – cues to action – is believed to be the activating force to propel people to act on their preparedness. Besides the cues to action concept, an addition to the variables of the health belief model has been the concept of self-efficacy. This refers to a person's confidence in been able to take a positive action successfully. It, for instance, reflects one's easiness in been able to use condom well (University of Twente, 2008).

#### **4.2 Cognition and Behaviour**

Individuals behave differently at different times and circumstances. The quest to elucidate why people behave the way they do gave birth to the Social Learning Theory (SLT)<sup>11</sup>. Realizing the need to enlarge the scope of the SLT, Bandura and Walters incorporated observational learning and vicarious reinforcement principles into the theory in 1963. Subsequently, in 1986, Badura added the principles of self-efficacy and reciprocal determinism among others to the SLT. Owing

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<sup>11</sup> SLT falls under the ambiance of behaviourism psychological theories

to these advancements, Bandura adopted the Social Cognitive Theory (SCT) in place of his SLT concept (University of Twente, 2008; Stone, 2008; Bandura, 1986; Bandura and Walters, 1963).

SCT makes it plausible to construe, predict and design intervention measures for altering people's behaviour. According to the theory, behaviour change revolves around the trio factors: people, environment<sup>12</sup> and behaviour. It further posits that these three variables interact and influence each other (Bandura, 1986; 1987). As Glanz et al (2002) clearly indicates, behaviour is not just caused by the environment and the person, and in a similar fashion, the environment is not just caused by behaviour and the person. In short, "the fact that behaviour varies from situation to situation may not necessarily mean that behaviour is controlled by situations but rather that the person is construing the situations differently and the same set of stimuli may provoke different responses from different people or from the same person at different times" (Jones, 1989).

In the tripartite relationship, the interplay between the person and behaviour encapsulates an individual's thoughts, emotions and biological variables<sup>13</sup> on one side and an individual's actions on the other side. In principle, an individual's beliefs, aspirations and goals in life inform his behaviour. In turn, the behaviour exhibited influences the person's thoughts and emotions. Secondly, the person-environment interrelationship arises when a person's beliefs and cognitive competencies are developed and modified by social influences and physical structures within a person's environment. Finally, in describing the interaction between the environment and behaviour, the brain behind the SCT argues that individuals are the produced as well as the producers of the environment in which they live. In making this statement, Bandura apparently makes reference to the fact that people have the right, among others, to decide which group or associations to belong, whom to interact with, and the kind of activities to be part of. The environment therefore offers wide options for individuals as well as prescribes the kind of behaviour to be developed and stimulate (Bandura, 1989; 1986)

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<sup>12</sup> Environment refers to the social (such as family, friends and co-workers) and physical (such as the ambient temperature) factors that can inform a person's behaviour

<sup>13</sup> the biological variables include sex, ethnicity, temperament and genetic predisposition

The SCT is also based on the construct of vicarious capability. It is often said that “experience is the best teacher”. That is, an individual attains optimal learning through personal experience. However, the vicarious capability construct asserts that, besides learning by experience, a person can equally learn through observation (Bandura, 1986). Observational learning creates room for one to acquire an idea through viewing the behaviour of another person, usually a model. It may take place through television shows, film, drama and comedy. Its merit is evident in the observer’s propensity to save time, avoid trial and error and escape from making pricey bungles.

In observational learning, the processes of attention, retention, production and motivation are crucial. First, one learns by paying attention to what is being shown. One’s level of concentration is however influenced by the performance style of the model. Second, the retention capacity of an individual is seen in the person’s ability to recall, through the formation of symbols, from the action observed and stored in the human memory (Stone, 2008). Third, production connotes the capability of the observer to appropriately utilize what has been learnt through observation. Acquiring and performing behaviour may not occur concurrently (Funderstanding, 2001). For this reason, a person may acquire a certain behaviour today but may model such behaviour tomorrow (referring to the future) when there is the necessity to do so. Finally, motivation underlies the need to provide incentives to compel people to act in a particular way. Individuals are more likely to model a particular behaviour when they are convinced the outcome will be valuable.

#### **4.3.0 Diffusion of Information and Knowledge**

The theory was popularized by Everett Rogers in the 1960s. It examines the manner in which a new idea (an innovation) reaches a target group in a social system. Within a particular time frame, it assesses change by determining the number of people who respond positively to a new idea or process. Diffusion of innovation is modeled on the assumption that an innovation is capable of modifying the nature of social settings. It also postulates that communication is indispensable in the spread of a fresh idea (Anderson, 2003).

Diffusion of ideas thrives on several variables. Researchers categorize these variables into four key components: characteristics of the innovation; communication channels; time dimensions and nature of social systems.

As mentioned earlier, an innovation is a new idea or way of carrying out an activity. In the field of HIV/AIDS, it may be a new intervention method or process of educating a group of people. An innovation that is seen to be relevant by a target group diffuses quickly and easily, yielding the desired results. Features of innovation such as the way people understand and can rely on it and its compatibility with existing local beliefs, norms or culture are crucial and contribute to the success or failure of the diffusion process.

The second component, Communication, is the transmission of a message from one person to another (through space and time) in such a fashion that is mutually understood. Among the elements that are crucial in the communication process is the channel used. It may be non-interpersonal or interpersonal. Non-interpersonal media include pictures, film, radio, television, posters, billboards et cetera. Here it is vital to consider the literacy level and the language differentials of the target population. On the interpersonal level, researchers make reference to the distinctiveness of information disseminators. The point is that certain individuals, such as opinion leaders and professionals, are considered influential and trustworthy in a given society and therefore it is imperative to make them a pivotal force in spreading a new idea.

The third component is time factor. This element relies on the fact that people adopt an innovation at different time intervals. Contributors of this theory categorize adopters of a new idea into: innovators (2.5%), early adopters (13.5%), early majority (34%), late majority (34%) and laggards (16%) (The Presbyterian Polis, 2006). Innovators are educated, have access to diverse sources of information and are also risk lovers. Early adopters are also educated, renowned and social leaders. While the early majority group relies on diverse informal contacts, the late majority group belongs to a lower economic class system. Finally, laggards obtain information mainly from friends, are afraid to take risk, and are often disadvantaged and marginalized.

In the end, social systems are complex, dynamic and unique. As such, diffusion of ideas has to consider the distinct environment and culture of the target population.

#### **4.3.1 Empowerment**

As it focuses on the community level, empowerment is closely related to the diffusion of innovation model. To empower means to give power or authority to enable an entity achieve set goal(s). Empowerment is therefore “a process by which individuals and groups gain power, access to resources and control over their own lives. ... they again the ability to achieve their highest personal and collective aspirations and goals” (Canda et al, 1998:91). It is centered in the local community, encompassing mutual respect, critical reflection, caring and group participation (Cornell Empowerment Group, 1989). Individuals in the community consequently tend to appreciate and understand the environment in which they live (Checkoway et al, 1992).

As community members come together to discuss issues of common interest, collective decisions, which set the pace for a particular course of action, can be reached. Through empowerment, participants gain the opportunity to enhance their knowledge and skills. They become self conscious, assume personal responsibility, build self-efficacy and are able to educate and inform the general public about societal ills.

The concept of empowerment functions effectively through individuals association with groups such as Community Based Fisheries Management Committees, Fishmongers Association, Inshore Fishers Association, and Canoe Fishers Association.

#### **4.4 Theoretical Summary**

This chapter has presented elements from risk, social cognition and diffusion of innovation theories that are deemed useful in a study of HIV/AIDS. First, elements from the risk theory help us to understand or predict how individuals with different risk tolerance levels are likely to behave at a particular time, place and circumstance. The health belief model, discussed as a subset of risk theory, relies on people's attitudes and beliefs to postulate their health related behavior. Second, the social cognitive theory views behaviour change to revolve around the trio interdependent factors: people, environment and behaviour. Finally, elements from the diffusion of innovation model examine the manner in which a new idea (an innovation) reaches a target group in a social system. The indispensable variables in this theory are: characteristics of the innovation; communication channels; time dimensions and nature of social systems. The empowerment theory together with the diffusion of innovation model pertains to the community level.





## CHAPTER 5

### RESEARCH FINDINGS AND DISCUSSION

#### **5.0 Introduction**

Having discussed the theoretical underpinning in the previous chapter, chapter 5 details the main research findings from the field work conducted at Elmina fishing community in Ghana. Thereafter, the findings are discussed in relation to the theoretical elements presented in the fourth chapter.

#### **5.1 Research Findings**

The data gathered from the field work at Elmina are packaged into demographic profile of respondents, awareness and education.

##### **5.1.1 Demographic Characteristics of Respondents**

As chapter two elucidates, the research participants were drawn from fishers, canoe owners, fishers associations, fish mongers, Ministry of Fisheries, Marine Fisheries Research Division (MFRD) and Ghana Aids Commission (GAC). In all, thirty-five people participated directly in the research interview. A participant each was drawn from MoF, MFRD and GAC. Fisher-folks (representing the first four categories above) were my core participants, and in all, thirty-two of them were interviewed. Of the total number of thirty-two core respondents, 25% were females with the rest been males. Whilst the fisher-folks were aged from 25 to 57 years, the average age was 45 years. Approximately 38% of the fisher-folks had married before but were now separated, while the remaining 62% were currently married to one partner. Among the fisher-folks interviewed, 25% had dependants ranging from 1 to 3. However, the 75% remaining had dependants between the range of 4 and 12 inclusive. Where as the average monthly income of the interviewees is \$220, only twenty-five percent of the core respondents have an alternative source of income.

### 5.1.2 Awareness

Questions were asked in order to determine the knowledgeable and the level of understandability of HIV/AIDS issue among the fisher-folks. These questions spanned from sexually transmitted infections (STIs), relationship between HIV and AIDS, symptoms, causes, preventability/curability of the epidemic and one's HIV status.

All the participants interviewed admitted they have heard of HIV/AIDS. Indeed, when asked to mention examples of STIs, each of them included HIV among the list of STIs mentioned. Other STIs mentioned include gonorrhoea and syphilis. However, non-STIs such as tuberculosis, stroke, hypertension and diabetes were mentioned.

With regards to the relationship between HIV and AIDS, 12.5% of the respondents admitted there is a difference, 37.5% said they do not know, while a majority of 50% said HIV and AIDS are the same (see figure 4A beneath).

In finding out participants knowledge about attitudes and habits which could make a person contract the disease, all the respondents mentioned sex with an infected person. They mentioned other factors such as blood transfusion, using contaminated blade, biting, and injection with an infected needle.

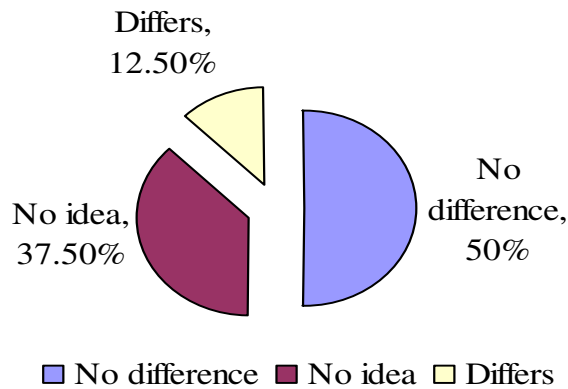


Figure 4A: Participants knowledge of the relationship between HIV & AIDS

On preventability/curability, all the participants admitted the epidemic can be avoided. However, 25% of them said it can be cured. When probed further about preventive measures, their responses centered on behavioral change towards condom use instead of having unprotected sex with an unknown partner, avoiding casual sex, abstinence, having a single partner, marriage, having HIV test before marriage and using one's own blade. Irrespective of this, 12% of the respondents could not mention a single way of preventing oneself from getting the disease, while 50% were only able to mention 1 to 2 preventive mechanisms. Among those who had some ideas about the preventive measures, the use of condom and having one sexual partner appeared most in their responses.

As shown in figure 4B, 37.5% of the respondents confirmed they have had HIV test at least once. However, a greater percentage of 62.5% of them said they have never had HIV test before. For those who have had the test before, one respondent explained why: 'I was suffering from hernia problem so I had to check if it was AIDS'. But, these are what some of those who have not had the test before had to say:

- "I have not done the test before because I am not a womanizer"
- "I just don't want to do it because I am with my wife"
- "You are the one who's telling me. I didn't even know there's something like that"
- "I don't have time for it"
- "There has been no signs"

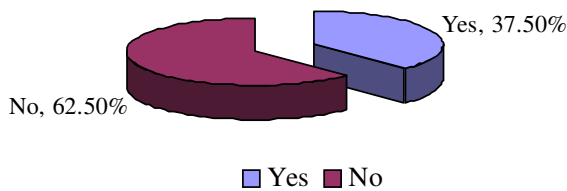


Figure 4B: Participants' knowledge of HIV status

### 5.1.3 Education

Education leads to the attainment of earthly wisdom and positive life's skills. It also has the propensity to prolong and prosper a person's life. The Oxford Pocket School Dictionary (2005:217) concurs: education is "the process of training people's minds and abilities so that they acquire knowledge and develop skills". Educating individuals about the epidemic may take the form of film shows, inspirational talks, songs, and story telling. As information dissemination revolves around the above means, questions were developed to ascertain the diverse sources from which the fisher-folks receive such educational information.

From figure 5C, the common avenue from which the fisher-folks receive information on the epidemic is through the radio (31%), followed by the television (25%). The district assembly, friends, mobile van, religious groups and newspapers are the least available sources to them. Through observation, there were no bill boards or posters (such as shown in figure 5D) containing information on the epidemic in Elmina, although there were countless number of them depicting and/or advertising corporate names and products.

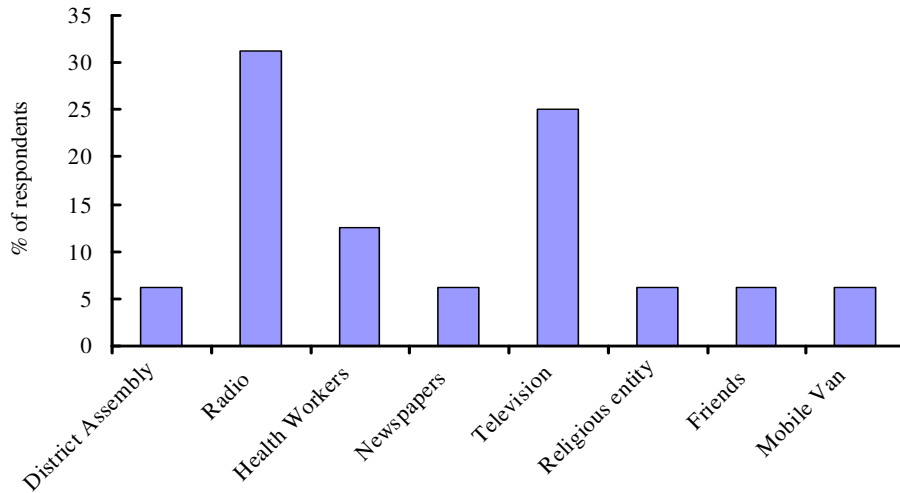


Figure 5C: Histogram showing percent of respondents and the different sources from which they receive HIV/AIDS education



Figure 5D: Samples of HIV/AIDS billboard. Sources: [http://www.positive-action.org/img/poster18\\_300.jpg](http://www.positive-action.org/img/poster18_300.jpg) and <http://www.fm/psdhs/images/billboard.jpg>

On the issue of effectiveness, most of the respondents were of the view that the campaign against the epidemic would be much more effective if it includes, as one of the respondents puts it, ‘the show of an infected person’. This is what another respondent also has to say: “...They have to give prior notice to the public so that people will attend. They also have to bring someone with the disease so that it will be real”. Commenting on ways of making the education reach majority of fisher-folks, one respondent contends: “the Ministry of Fisheries should meet the people during fishing days so that there will be mass education and also during market days”.

As the saying goes, “united we stand, divided we fall”, individuals who join associations have the unique opportunity of sharing their knowledge and experience with others. They support each other and in the end better their lives. Consequently, participants were asked to indicate any association (s) for which they belong. It was found that 62.5% of the participants belong to at least one association, while the remainder (37.5%) are not members of any association whatsoever. For those who belong to an association, 80% of them said they receive information on HIV/AIDS from their association, the other 20% however responded in the negative. The associations mentioned include: Ghana National Canoe Fisheries Council, Ghana Inshore

Fisheries Association, Elmina Community Based Fisheries Management Committee (CBFMC),  
Fish Mongers Association, Religious Organization and Ghana Private Road Transport Union.

## **5.2 Discussion of Findings**

Besides having in mind the objects of the thesis, this sub-section attempts to answer the key questions raised in the introductory chapter. The relevant issues analyzed embrace awareness, education, vulnerability and poverty.

### **5.2.1 Awareness**

With Beck's (1999, 1998 & 1986) admission that risk and the global economy are alarmingly becoming inseparable; and as it is evident from recent global developments, it has become clearer that humans are inescapable from risk. Indeed HIV/AIDS does not discriminate. All persons, whether black/white; male/female; professor/student; specialist/labourer; fisher-folk/non-fisher-folk, are at risk of getting infected if they expose themselves to the risk. As noted from theory, although recent studies have shown that humans have been embedded with inbuilt mechanisms which pave way for mankind to deal with the uncertainties in life, Elliot (2002) posits that risk management and monitoring play critical roles in the formulation and calculation of social action. What makes the difference therefore is one's willingness and ability to adopt a positive behavioral change. But how can behavior change occur without the accumulation of wealth of knowledge? As the Good Book says, knowledge is power; people therefore perish for lack of it. This section therefore discusses the knowledgeability and awareness of HIV/AIDS issues among Elmina fisher-folks.

From the data gathered, all the respondents said they have heard of HIV/AIDS before. This is consistent with the Ghana AIDS Commission's findings about the awareness level in Ghana. However, knowledge goes beyond mere hearing. Traditionally, knowledge connotes "justified true belief". It is also described as "the sum or range of what has been perceived, discovered, or learned" (Farlex, 2008:1). So which facts and principles about the epidemic are known to the respondents?



#### **δ. Knowledge of STIs**

It has been established that STIs and HIV/AIDS have some bearing. An individual's ability to identify STIs is therefore important. Clearly, from the findings; HIV, gonorrhoea and syphilis ran through the examples of STIs given by the participants. However, the inclusion of other health problems such as tuberculosis, stroke, hypertension and diabetes among the list of STIs undermines their know-how about diseases that can be transmitted sexually.

#### **ψ. Dichotomy between HIV and AIDS**

Although HIV and AIDS are often mentioned together in our every day speech and writing, medical research dichotomizes the two terms. The former is a subset of retroviruses. It gets access to the human body through the mucous membranes<sup>14</sup>, attacks and destroys the immune system until the system is no longer able to fight infections. The latter is therefore the aftermath of this lengthy process. The process is lengthy and perilous in the sense that it can take between 5 to ten years before an HIV positive person will start to exhibit signs of AIDS. Owing to this, I tried to ascertain the participants' orientation about the dichotomy between HIV and AIDS. With the responses (see research findings) ranging from "I do not know" (37.5%) to "they are the same" (50%), the findings portray the naivety of the respondents on this subject matter. This naivety significantly increases the probability at which the fisher-folks might assume individuals without signs of AIDS are HIV negative also.

#### **λ. Knowledge of the causes, symptoms and prevention methods**

Not unknowingly, blood to blood contact is the only path through which people get infected. The causes of this are however varied. The participants' ability to mention causative factors such as: sex with an infected person, blood transfusion, using contaminated blade, and injection with an infected needle show they have ideas about how one can get infected. More than half of them, however, have limited information with respect to this subject in that they could only mention the first causative element.

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<sup>14</sup> blood to blood contact

It is believed that the causes and prevention of the epidemic are related. Knowing what causes the epidemic obviously helps a person to know how to prevent it. On the contrary, as evident from the research findings, half of the respondents could mention only 1 to 2 preventive mechanisms, whereas 12% of the respondents could not mention a single way of preventing oneself from getting the disease. While this is a stub at the back, the participants' admission that the epidemic is avoidable is laudable. By this, they perceive themselves to be susceptible and with some understanding about the severity of getting infected, the fisher-folks can adopt a positive attitude. Nonetheless, the cruciality of self-efficacy cannot be ignored. As noted from theory, Bandura (1994:1) defines it as "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Self-efficacy beliefs determine how people feel, think, motivate themselves and behave". It thus reflects a person's confidence in being able to take a positive action successfully. Although fisher-folks can build self confidence through experience and modeling, social persuasion is one vital source through which they can develop a can-do-attitudinal spirit. Through a positive social persuasion, they can receive morale boost that they can succeed in getting un-infected. The fisher-folks will also develop requisite skills and a sense of personal efficacy.

### **5.2.2 Education**

How are the fisher-folks being educated about the epidemic? From whom and where do they receive HIV/AIDS information? Are these sources effective? Which strategy suits them most?

In the corporate world, communication is widely characterized as the 'life blood' of every organization. Intuitively, firms will cease to function effectively without communication. This situation is not much different in HIV/AIDS education. As information delivery passes through a medium, the channel used is equally important. As mentioned in chapter 4, Everett Rogers' diffusion of innovation model examines the manner in which a new idea (called an innovation) reaches a particular group in the social milieu. Under the model, certain key variables are essential to the diffusion of ideas: communication channels, features of the innovation, time

dimensions and nature of social systems. This model has inspired my approach to the above mentioned questions.

From the research findings, the modes of information diffusion are radio and television. Indeed, with more than 4 television stations and over 25 radio channels, the Ghana AIDS Commission and similar other organizations consistently carry out adverts on the epidemic in different languages. The message basically revolve around the ABC (Abstain, Be faithful, Condom use) methods, with emphasis, most often, on the latter method. Since almost every home has access to at least a television or a radio set, it becomes easier to reach out to many of the fisher-folks. Again, the dissemination of information through different languages makes it plausible for majority of the people to understand the message been carried across.

Although there are more than twenty different types of newspapers, most of which carry information on the epidemic, it is one of the least patronized sources among the respondents. One possible reason could be that it is expensive. Another reason could be that they do not have time to read. However, with particular reference to my research area, the well-known reason is language barrier. In the newspapers, the queen's language is mainly used all the time. Owing to the high illiteracy rate among the fisher-folks, it becomes impossible for them to patronize the newspaper source. This buttresses the fact that literacy level is a critical factor to consider in HIV/AIDS education at Elmina.

Further, billboards are one of the widest used outdoor tools in spreading information throughout the world. It is particularly good for those who do not have time to listen to radio, read newspapers or watch television. Unlike radio and television (TV), it is not time bound. Therefore, one can have access to it most of the time. Researchers have however found that a combination of radio, TV, and billboard are very much effective in idea diffusion. Through observation, there was not a single billboard capturing information on the epidemic at Elmina. On the contrary, billboards advertising different products such as Guinness, Coca-cola, hotels, herbal products, et cetera were available. In this regard, Elmina fishing community seems derelict because an observation through the principal streets of Cape Coast, Accra, Kumasi and other major towns and cities reveal the presence of HIV/AIDS billboards.

On the issue of effectiveness and preference, as envisaged from the data gathering, most of the respondents called for the use of HIV/AIDS positive persons in the campaign. Since learning by experience is illogical in this case, through his vicarious capability construct, Badura (1986) emphasizes the use of observational learning in such a scenario. Sometimes, campaign messages become too theoretical. As one says “seeing is believing”, the show of infected persons make the epidemic real. Since more than 60% of the respondents claim not to have seen an infected person before, their call for the use of People Living With Aids (PLWA) in the campaign is not out of place. This will pave way for the people to better understand and know that HIV/AIDS is real, non-fiction, and non-respecter of persons.

To sum up, even though the use of radio and TV as communication channels is vital due to its wider coverage and patronage, the non-availability of HIV/AIDS bill boards in Elmina creates a loophole in the dissemination of information on the epidemic. A combination of the three channels would be expeditious. It is also expedient that PLWA are involved in the campaign process.

### **5.2.3 Vulnerability**

The Sustainable Fisheries Livelihood Programme (SFLP, 2005) defines vulnerability as “people’s exposure to risks, the sensitivity of their livelihood systems to these risks and limited assets to cope with and adapt to them”. Fisher-folks are perceived to be susceptible to HIV/AIDS infection owing to three key factors: high degree of mobility, risky and hard job; near neglect by relevant institutions of governance; and lack of social cohesion (Tanzam & Bishop-Sambrook, 2003). While this section discusses the first factor mentioned above vis-à-vis the research findings from Elmina fishing community, the last two factors were briefly discussed in the background chapter owing to data inadequacy.

#### **δ. Mobility, Risky and Hard Job**

Due to the nature of their work, fisher-folks are exposed to health hazards. Some scholars have consequently characterized them as risk lovers. In theory, risk lovers are also risk tolerant. Individuals with such characteristics are not afraid to take risks. So, is there a link between the dangerousness of fisher-folks' job and their susceptibility to HIV/AIDS? Indeed, in Uganda, Tanzarn & Bishop-Sambrook (2003:6) asserts that owing to the hazardous and physically unpleasant nature of their work, fishing crews indulge in sex:

“We cast the nets in the night and collect the catch very early in the morning. Throughout the night, the wind is blowing and the water is very cold. We have no warm clothing and yet the kind of fishing gear and boats we use necessitate that we stand in the water for long periods. By the time we leave the lake, we are freezing and the alternatives to warm up in order of preference are a woman, alcohol or a fire”

However, as it is well known, the causes of the epidemic include having unprotected sex with a casual partner and multiple sexual partners. If a person stays faithful with one sexual partner and refuses to have unprotected sex, then, all things being equal, that person is not likely to get infected. As the social cognitive theory postulates, an individual's aspirations and goals in life inform his behavior. Again, supporters of the health belief model contend that for a behavior change to occur, an individual's attitudes depends on such factors as perceived susceptibility (the opinion of a person as regards the risk of becoming infected with HIV) and perceived severity (one's perception about the seriousness and impacts of contracting the disease).

From the research findings, 100% of the respondents claimed they do not have multiple sexual partners<sup>15</sup>. Again, although 25% of the participants said they have used condom at least once during the past one year, the 75% majority said no because they have being staying with one partner or have abstained from sex. Among the 25% who have used condom during the last one year, some said they used condom “out of fear” and others said “because of the health of children”. Clearly, although the fisher-folks at Elmina choose to take higher risks in their work, they claim not to extend the same risk attitude to their social life. Agreeing with Beck (1997),

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<sup>15</sup> This is merely a claim. There are actually good reasons to doubt this. For detailed discussion, see section 3.4 in the research strategy chapter.

risks always depend on decisions. As such, an individual might make a decision to take higher risk in say “scenario A” but that same person might be a risk avoider in “scenario B”. Therefore, contrary to expectations and based upon the respondents’ responses, I argue that fisher-folks at Elmina are risk averse and not risk lovers. That is, they undertake higher risk if they believe the respective expected reward (or return) will be higher to compensate.

Unlike the prevailing situation in other fishing communities (Gordon, 2005), the culture of risk denial does not extend to other dimensions of the lives of fisher-folks at Elmina. Using similar methodology, Tanzarn & Bishop-Sambrook (2003) and IRIN PlusNews (2008) opine that fisher-folks in Uganda see their job on the lake to be riskier than HIV. The fisher-folks therefore rubbish HIV/AIDS campaigns and frequently indulge in casual sex with commercial sex workers. Clearly, the Ugandan fisher-folks are risk lovers, while their Ghanaian counterparts at Elmina are risk averse. Although my data was collated from a smaller sample size as compared with those of Tanzarn & Bishop-Sambrook (2003), that could not necessarily adversely influence the findings thereof. However, as discussed in chapter 3, the veracity of the respondents’ responses could account for the divergence between the two scenarios. At present, there seems to be no statistics or other sources that actually point in another direction. As a matter of fact, we need further information before we can be quite sure that this conclusion can be drawn. I will return to this issue in the chapter 6, to try to explain why we have this difference.

Being risk averse, the fisher-folks at Elmina are significantly likely to adopt a positive behavioral change. It also becomes easier to reach them with HIV/AIDS preventive measures. As one of the health belief model proponents asserts, people who see themselves to be at risk of contracting diseases are most often than not likely to accept a preventative action (Rosenstock, 1974).

#### **5.2.4 What Happens to a Household When HIV/AIDS Strikes?**

Be that as it may, what happens if HIV/AIDS strikes a fisher-folk at Elmina? It is well known that HIV/AIDS not only increases expenditure, but also reduces income of the affected household. As figure 5F shows, increases in expenditure arise from increases in health and funeral expenses. Whereas reduction in hours worked, unemployment resulting from illness and stigma eventually affects the affected households' income adversely. Martin and Logan (2005) estimate that with the availability of antiretroviral drugs (ARVs), the affected households' income is likely to decrease between 26 and 60 percentage points. Relating this to the research findings, where a fisher-folk earns an average monthly income of \$220, an affected fisher-folk will experience a decline in income between \$162.80 and \$88. Again, from the data gathered, the average number of dependents per fisher-folk is 5 persons. Altogether, when a fisher-folk acquires HIV/AIDS, the average daily income available to each member of his/her household (including the respective fisher-folk) diminishes drastically to the range of \$0.90 and \$0.49. At Elmina, most of the fisher-folks do not live in rented apartments, so the basic expense items at the household level are food, clothing, transportation, electricity and water. Collectively, I estimate the expenditure for these items to be approximately \$3 per day averagely. Comparing the daily income with the daily expenditure, deficits between \$2.10 and \$2.51 accrue. How would this deficit be financed? Clearly, this affirms that HIV/AIDS worsens the plight of fisher-folks.

Eventually, when the affected fisher-folk dies, the dependants (who are mainly children and the aged) will have no one to depend on. Children who are in school may be compelled to drop out and will grow without having any skills. The society then bears the burden due to the tendency for such individuals to enter into arm robbery (could be for both sexes) and prostitution (in the case of girls). Eventually, the cycle replicates itself as these cumulatively accentuate the predicament.

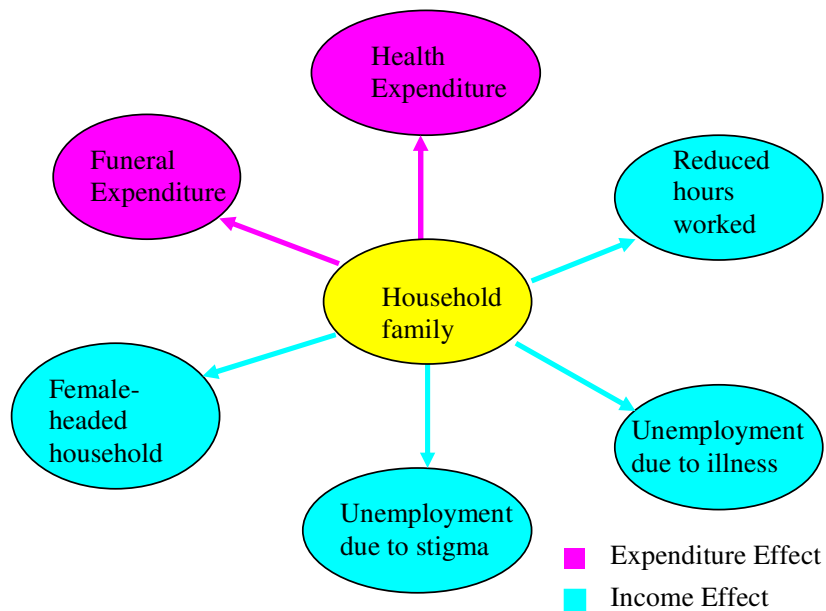


Figure 5E: The Medical Poverty Trap. Courtesy: Martin & Logan (2005).





## CHAPTER 6

### CONCLUSION

#### **6.1 Conclusion**

As the immediate preceding chapter dealt with research findings and analysis; this chapter summarizes the significant issues and findings encapsulated in the thesis work. As clearly stipulated in the initial chapter, the main object of this work was to challenge the hypothesis that fisher-folks has a risky behavior and also to examine the knowledgeability of fisher-folks as well as determine the extent to which their livelihood influences their susceptibility to HIV/AIDS infection. The study mainly focused on, and therefore is limited to, small-scale marine fisher-folks at Elmina fishing community in Ghana. The analysis of the research findings was done by drawing on elements from risk, social cognition and diffusion of innovation theories that are deemed useful in a study of HIV/AIDS.

In concordance with Ghana AIDS Commission's claim, the study finds that all the participating fisher-folks have heard that there is a disease called HIV/AIDS. However, their understanding and knowledge of the facts of the epidemic are significantly low. The fisher-folks did not only mention gonorrhoea, syphilis and HIV as examples of STI, but they also mentioned other health problems such as tuberculosis, stroke, hypertension and diabetes as infections transmitted sexually. The participants are also naïve in terms of the dichotomy between HIV and AIDS. This naivety significantly increases the probability at which the fisher-folks might assume individuals without signs of AIDS are HIV negative also. The results also show that more than half of the fisher-folks know very little about the different causes of HIV. With majority of them knowing only one causal factor: having unprotected sex with an infected person, the findings show that the fisher-folks are ignorant about other causes such as blood transfusion, injection with an infected needle and using contaminated blade. This further exposes their knowledge gap. As the power of knowledge is indispensable in the fight against the epidemic, its lack thereof could cause many of the fisher-folks to become victims of the epidemic.

Still on knowledgeability, although the fisher-folks admitted that HIV is avoidable, some of the participants could not mention at least one way of preventing oneself from getting infected. For

those who did, more than half could mention only 1 or 2 preventive measures. This is a stub at the back because knowing that HIV is avoidable without having a thorough conception of how to avoid it is tantamount to failure. Again, this clearly shows that the Abstinence, Be faithful and Condom use (ABC) campaign strategy has not stuck in the minds of some of the fisher-folks. It follows that a more proactive strategy that would create a niche in the minds of the fisher-folks has to be developed.

In terms of HIV education, training the minds and capabilities of people helps them to attain wisdom and acquire positive life skills. On the sources of receiving educational information about the epidemic, the results show that the common channels through which the fisher-folks receive HIV/AIDS information and education are radio and television. The least available sources to them are the district assembly, friends, mobile van, religious groups and newspapers. Despite the merit of billboards and posters, the research shows that Elmina fishing community can not boast of a single billboard or poster spreading information on the pandemic. Instead, all the billboards in the community show the advertisement of corporate names and products. In this regard, Elmina fishing community seems derelict because an observation through the principal streets of Cape Coast, Accra, Kumasi and other major towns and cities reveal the presence of HIV/AIDS billboards. On the subject of effectiveness, the results again show that the fisher-folks are more enthused when HIV positive character is involved in its campaign. Intuitively, including a HIV/AIDS positive person in campaigns will pave way for the fisher-folks to better understand and know that HIV/AIDS is real, non-fiction, and non-respecter of persons. Knowing that the epidemic is real could compel them to positively alter their behavior. As the situation stand now, the cumulative effectiveness of HIV/AIDS education in Elmina is doubtful. This is owed to the non-availability of bill boards, non-usage of infected persons and non-targeted intervention measures.

With respect to group membership and participation, a significant proportion of the fisher-folks belonged to at least one association: Ghana National Canoe Fisheries Council, Ghana Inshore Fisheries Association, Elmina Community Based Fisheries Management Committee, Fish Mongers Association, Religious Organization and Ghana Private Road Transport Union. Again, the findings reveal that majority of those with association memberships receive HIV/AIDS

information from their respective associations. This could possibly account for the risk averseness of the Elmina fisher-folks<sup>16</sup>. Since the receipt of HIV/AIDS information from community associations has a greater chance of boosting the awareness level of the fisher-folks, it is likely to positively influence their risk perception about the epidemic. This position is buttressed by Zoe et al (2001) who find that there is a link between awareness and risk perception. The issue in contention could have been further strengthened if the correlation between membership and disease rate are known. But since this is beyond the scope of this work, the corresponding data was unavailable. Notwithstanding this, the contrasting phenomenon in Uganda's fisheries adds more fresh to my findings. In Uganda where the fisher-folks are risk tolerance, Tanzarn & Bishop-Sambrook (2003) find that fisher-folks on Lake Victoria lacks community initiatives and are independent of each other. Thus group participation and empowerment are vital and have the chance of influencing fisher-folks' risk level. This is consistent with the empowerment theory which asserts that by been a group member, a person gains power, access to resources and control over his/her own life (Canda et al, 1998). It stresses further that through caring and participation, the members discuss issues of common interest and also get the opportunity to enhance their knowledge and skills to the disadvantage of non-group members.

Besides the above findings, the study further shows that the Ministry of Fisheries has neither incorporated nor prioritized the fight against the spread of HIV/AIDS in its policy and programs. Although the ministry is mandated to ensure food security, poverty reduction and survival of the fisheries sector, the research shows that it has not shown the need to take the epidemic seriously. Whiles not been polemic, it appears the MoF is currently pre-occupied with other activities so much so that it does not have interest in the issue at present<sup>17</sup>. Perhaps unknown to the ministry, the study reveals that wide spread of the disease among fisher-folks could significantly deprive the country of fish food as a result of lost of fishers' lives as well as exacerbate poverty among fisher-folks owing to increased outflow of funds and reduced funds inflow. As if it is sitting on

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<sup>16</sup> In the preceding chapter, it was found that fisher-folks at Elmina are not risk lovers, but are rather risk averse. That is, the culture of risk denial does not extend to other dimensions of their lives. This part attempts to provide possible elucidation to their risk averseness.

<sup>17</sup> For detailed discussion on this matter, kindly refer to the 2<sup>nd</sup> chapter.

deaf ears, the results further reveal that the ministry has no work place policy on HIV/AIDS for its workers.

On vulnerability, the initial research expectation was that fisher-folks at Elmina are highly susceptible to HIV/AIDS infection. However, the evidence collated does not comprehensively corroborate this. First, in respect of mobility, risky and hard job, the study shows that although the fisher-folks choose to take higher risks on their job, they do not extend the same risk attitude to their social life. More so, irrespective of their high mobility level, a significant number of them claim not to indulge in multiple sexual relationships. This is however subject to data validity as pointed out in the research strategy chapter. Second, with regard to near neglect by relevant institutions of governance, the research outcome is mixed. To begin with, the grave weak points are that the main legislative instrument, Fisheries Act 2002 (Act 625), governing the fishery sector and the sector ministry do not address HIV/AIDS among fisher-folks. Although Ghana AIDS Commission is the legislative body responsible for HIV/AIDS education, the non-triviality of the epidemic in Ghana's fisheries calls for the development of new institutional structures that make it plausible to integrate the issue in managing Ghana's fisheries.

Contrary to the aforementioned weak points, the study finds that the people have access to hospital, portable water, good quality road, market, police station, electricity and other facilities. Again, the fisher-folks are the only work-force category that receives government subsidy on premix fuel. For the small-scale fishers, access to the fishery is also free – there are no licensing fees required. Thus, the people are neglected as pertains to the former. But, in terms of the latter, they are cared for by government and the service sector.

Finally, using the World Bank's minimum daily income requirement of \$2 and Ghana's minimum daily wage of \$2.23 (the dollar equivalent of 2.25 Ghana Cedis at the time of writing this paper) as standards, the fisher-folks at Elmina are not living in poverty<sup>18</sup>. Instead, the study finds that the fisher-folks are poor managers. Their inability to plan for the future adversely affects their financial situation. Even though the fisher-folks are not poor, the research further shows that HIV/AIDS infection creates a new category of poor fisher-folks. Their income

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<sup>18</sup> This is only true in the advent of non-HIV infection. For detailed discussion refer to the background chapter

dwindles sharply, while their expenditure accentuates. When the epidemic strikes, the study argues that majority of them will enter into abject poverty.

## **6.2 Suggestions for future research**

For future studies of this nature, it is vital to increase the research sample size to make it representative of small-scale marine fishing communities in Ghana. This will make it plausible to generalize the findings pertaining to education, awareness and vulnerability. Also it is important to include fisher-folks who are HIV negative in the number of participants. This will pave way for the researcher to get to the bottom of the financial distress such people might be experiencing.



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[http://www.positive-action.org/img/poster18\\_300.jpg](http://www.positive-action.org/img/poster18_300.jpg)

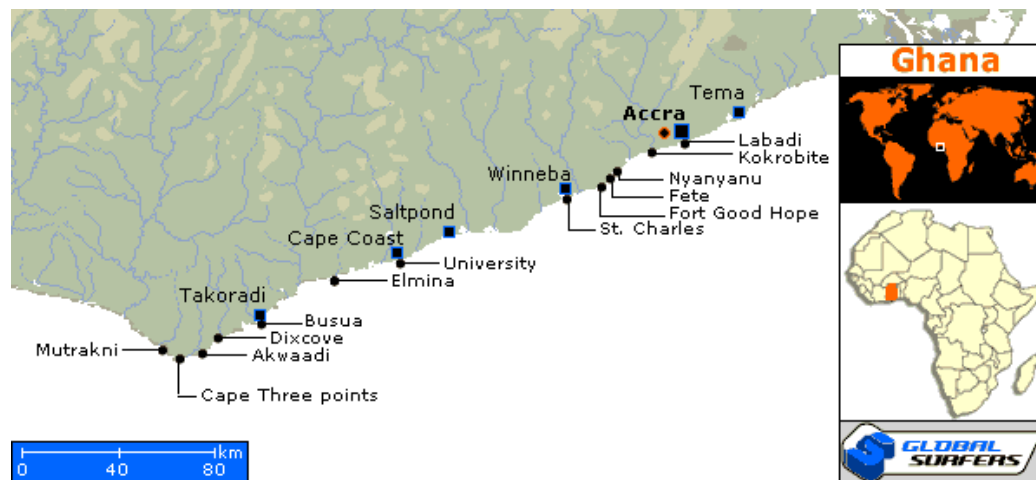
[http://ghana.gov.gh/ministry\\_of\\_fisheris](http://ghana.gov.gh/ministry_of_fisheris)

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## Appendix



1. Coastal map of Ghana. Source: <http://www.globalsurfers.com/maps/ghana.gif>



2. Map of Ghana. Source: <http://www.travelblog.org/Maps/map-of-ghana-gh.gif>