



PROJECT REPORT

Assessment of access to health services and vulnerabilities of female fish traders in the Kafue Flats, Zambia

Analysis Report

Lungu, A. and Hüsken, S.M.C.



*Assessment of access to health services and vulnerabilities
of female fish traders in the Kafue Flats, Zambia.*

Analysis Report

Lungu, A. and Hüsken, S.M.C.

May 2010

Fisheries and HIV/AIDS in Africa: Investing in Sustainable Solutions



This report was produced under the Regional Programme "Fisheries and HIV/AIDS in Africa: Investing in Sustainable Solutions" by the WorldFish Center and the Food and Agriculture Organization of the United Nations (FAO), with financial assistance from the Swedish International Development Cooperation Agency (Sida) and the Norwegian Ministry of Foreign Affairs.

This publication should be cited as:

Lungu, A. and Hüsken, S.M.C. (2010). Assessment of access to health services and vulnerabilities of female fish traders in the Kafue Flats, Zambia. Analysis report. Regional Programme Fisheries and HIV/AIDS in Africa: Investing in Sustainable Solutions. Project report. The WorldFish Center.

Authors' affiliation:

A. Lungu and S.M.C. Hüsken: The WorldFish Center Zambia.

Cover design: Vizual Solution

© 2010 The WorldFish Center

All rights reserved. This publication may be reproduced in whole or in part for educational or non-profit purposes without permission of, but with acknowledgment to the author(s) and The WorldFish Center. This publication may not be reproduced for profit or other commercial purposes without prior written permission from The WorldFish Center. To obtain permission, contact the Business Development and Communications Division at worldfishcenter@cgiar.org

Acronyms

AIDS:	Acquired Immune Deficiency Syndrome
ART:	Anti-Retroviral Therapy
CSO:	Central Statistical Office (Zambia)
DHMT:	District Health Management Team
DoF:	Department of Fisheries
FAO:	Food and Agriculture Organisation of the United Nations
FGD:	Focus Group Discussion
GMA:	Game Management Area
HIV:	Human Immunodeficiency Syndrome
NAC:	National HIV/AIDS/STI/TB Council (Zambia)
PEPFAR:	President Emergency Plan for AIDS Relief
SPSS:	Statistical Package for Social Sciences
STI:	Sexually Transmitted Infection
ZAWA:	Zambia Wildlife Authority
ZDHS:	Zambia Demographic and Health Survey

Acknowledgements

On behalf of the WorldFish Center Zambia, the authors wish to express their sincere gratitude to all that contributed to this study on Assessment of Access to Health Services and Vulnerabilities of Female Fish Traders in the Kafue Flats, Zambia. This study took place under the Regional Programme *“Fisheries and HIV/AIDS in Africa: Investing in Sustainable Solutions”*.

The authors further acknowledge the support from the Ministry of Livestock and Fisheries through the Department of Fisheries, the District Fisheries Officers, the Ministry of Health, Monze Mission Hospital, and the Zambia Wildlife Authority (ZAWA) and its staff at Lochinvar National Park for their collaboration and contributions to this work. A special thanks goes to His Royal Highnesses Chief Hamusonde, Chief Nalubamba and Chief Choongo for their support to the study. The headmen and fish camp chairmen played a key role in facilitating the implementation of the study in the Kafue Flats floodplains.

Particular appreciation for the local data collectors; Mr. Defent Shikapande, Mr. Cosmus Holo, Mrs. Winnie Kazoka and Mrs. Mutinta Joko for their assistance and persistence to administer the questionnaires, to conduct interviews and to assist and translate during the numerous focus group discussions. This work would not have been possible without the full participation of the fisher folk and fish traders in the target communities. Thank you for dedicating your time to provide insights and explanations about your lives and the challenges you are facing.

Finally, the authors would like to acknowledge the support, insights and perspectives into this work by the late Dr. Isaac Malasha.

Table of contents

Acronyms	i
Acknowledgements.....	ii
Table of contents.....	iii
List of tables	v
List of figures.....	v
Chapter 1: Introduction	1
Chapter 2: Methodology	3
2.1 Research objectives and questions.....	3
2.2 Study area and population	3
2.2.1 The unit of inquiry.....	5
2.2.2 Sampling and selection of participants	5
2.3 Research tools.....	6
2.3.1 Questionnaires and FGDs	6
2.3.2 Data collection	7
2.4 Data analysis	7
2.4.1 Qualitative data processing and analysis	7
2.4.2 Quantitative data processing and analysis.....	7
2.5 Literature review.....	8
2.5.1 HIV/AIDS in fishing communities of Zambia	8
2.5.2 HIV/AIDS, fish and nutrition.....	9
Chapter 3: Profile and livelihood of fisher folk	10
3.1 Ethnicity.....	10
3.2 Livelihood options.....	11
3.3 Age profile	13
3.4 Marital status.....	14
3.5 Education levels among fisher folk.....	15
Chapter 4: HIV/AIDS in the Kafue Flats:	17
4.1 High rates of mobility and migration	19
4.1.1 Fishermen and fish traders.....	19
4.1.2 Seasonal workers and fish transporters	21

4.1.3	Pastoralist and herders.....	22
4.2	Changing dynamics of prostitution and transactional sex.....	22
4.2.1	Prostitution: a risky survival strategy.....	22
4.2.2	Transactional sex and risky behaviour.....	23
4.3	Poor water quality, sanitation and hygiene.....	27
4.4	Lack of services and poor infrastructure	29
4.4.1	Limited access to health care and services	29
4.4.2	Lack of education	30
4.4.3	Poor infrastructure.....	31
4.4.4	Lack of adequate accommodation.....	32
4.5	Alcohol abuse and availability of cash.....	32
4.6	Low levels of condom use among fishermen.....	34
4.7	HIV knowledge and risk perception	37
4.7.1	HIV information and misconceptions.....	37
4.7.2	Stigma and discrimination.....	39
4.8	Illiteracy and power imbalances	39
4.8.1	Illiteracy.....	39
4.8.2	Gender power imbalances and HIV/AIDS.....	40
4.9	Lack of support services and access to loans.....	41
Chapter 5: Conclusion and recommendations		43
Bibliography		46

List of tables

Table 1:	Sample distribution
Table 2:	Respondents' employment status
Table 3:	Age distribution by fish camp
Table 4:	Marital status per target group
Table 5:	Extramarital relations
Table 6:	Education attainment among fisher folk
Table 7:	Summary of key factors of vulnerability to HIV/AIDS in fishing communities in Zambia

List of figures

Figure 1:	Ethnic distribution – Kafue Flats
Figure 2:	Crop distribution – Kafue Flats
Figure 3:	Age of participants by gender
Figure 4:	Education attainment by gender
Figure 5:	Age most at risk to HIV/AIDS
Figure 6:	Age variation in condom use among fisher folk
Figure 7:	Gender influence in decision-making regarding condom use
Figure 8:	HIV/AIDS perceptions and misconceptions among fisher folk
Figure 9:	Main sources of HIV/AIDS information in fishing communities

Chapter 1: Introduction

HIV/AIDS continues to be the major cause of death in Zambia with the national prevalence rate among adults of age 15 – 49 years at 14%. At the end of 2007 there were 1.1 million people living with HIV/AIDS among the diagnosed cases, representing more than 20 per cent of those who know their HIV status from a population of at least 12 million people. There were 56,000 AIDS related deaths, and 600,000 orphans and vulnerable children affected by the disease end 2007. HIV prevalence is significantly higher among women 16% compared to men 12% (ZDHS, 2007; PEPFAR, 2008). While infection rates are two times higher in urban areas than in rural areas, certain sub-populations, including fisher folk, are particularly vulnerable to the disease. AIDS does not only change the demographic structure of fishing communities but the epidemic has tremendous socio-economic impacts on the livelihoods of fisher folk, fish traders and fishing communities at large. At the same time, food security is threatened, as fish provides one of the cheapest sources of animal protein to the poor, including those living with HIV/AIDS.

Fisheries depend on a healthy and empowered human resource base to deliver sustainable economic and food security benefits for national development. An estimated 300,000 people are directly employed in the sector in Zambia through fishing, processing and trade, and an even larger number of people find income opportunities in ancillary sectors (FAO 2006; Musumali et. al. 2009). Taking into account their families and dependents, probably more than 2 million people in Zambia derive their livelihoods mainly from fisheries. The fisheries sector is one of Zambia's major employers though fishing and associated small scale enterprise are largely informal and unregulated. On the other hand, this informality has enabled the sector to absorb populations that have become marginalized in other sectors. There are no formal structures that regulate fish-marketing in Zambia which makes it difficult to design policies aimed at improving the welfare of people involved in fishing and fish marketing. Empirical evidence suggests that fish marketing is dominated by females who obtain their start-up capital from various sources. The nature of the fish trade, including travelling to remote fishing camps and transactional sex to obtain their fish, is increasing women fish trader's vulnerability to HIV and other diseases.

At the same time, the fisheries sector is facing major challenges in safeguarding health, work and social welfare in fishing communities and along fish market chains. Among the main problems are high rates of disease (including HIV/AIDS, malaria, dysentery, diarrhoea, cholera), poor water quality, and poor sanitation and hygiene. Incidences of child labour, violence and abuse are not uncommon in fishing communities, and conventional approaches to address these constraints in the fisheries sector have not been implemented across the sector. The reasons for this include; lack of policy and strategic response to HIV/AIDS in the fisheries sector, limited outreach of social services and formal institutional infrastructure to fishing communities, limited funding mechanisms operational in the sector, and poor understanding of the economic and social dynamics in small scale fisheries. The general remoteness of fishing populations, their mobility and seasonality, and the transient nature of the enterprise pose potential risk to HIV infection.

Fisheries are an important commodity traded within Zambia and across national borders into the region, and the demand for fish and fish products is still growing due to population growth. At the same time, the people supplying the fish, fisher men and female fish traders, are among the sub-populations most vulnerable to the disease. Although the prevalence rates among men and women living and working in fishing communities has not been captured to date, it is likely to be higher than other sub-populations in Zambia, due to the nature of fishing and the subordinate economic and social position of women in the sector.

Research from other parts of Africa indicate that factors increasing HIV susceptibility among the general population tend to combine in the fishery sector, contributing to a high-risk environment. Besides HIV/AIDS, other contributing environmental and health issues are present in fishing communities, including Sexually Transmitted Infections (STIs), cholera, dysentery, diarrhoea, poor water quality, and poor sanitation and hygiene. In addition, more hidden features such as gender inequality, income disparity, poverty, stigma and discrimination are severely hampering development and often play right in the hands of the AIDS virus. The general isolation and remoteness of fishing communities coupled with a highly mobile population and limited access to health care services renders fisher folk increasingly vulnerable.

Under the regional programme *Fisheries and HIV/AIDS in Africa: Investing in Sustainable Solutions*, the WorldFish Center conducted this study on access to health services and vulnerabilities of female fish traders in the Kafue Flats floodplains in Zambia. This report outlines and analyses the particular vulnerabilities of female fish traders in the Kafue Flats fishery and formulates recommendations to facilitate stakeholder uptake of strategic responses to tackle the drivers of the epidemic in fishing communities and improve the livelihoods of fisher folk and fish traders in the Kafue Flats and other fisheries in Zambia.

Chapter 2: Methodology

This chapter discusses the various methodologies used in the collection and analysis of data. The study used a combination of quantitative and qualitative methods of data collection and analysis to enable triangulation of findings and thus provide more reliable data in understanding the risk factors influencing fisher folk's vulnerability to HIV/AIDS in the Kafue Flats fishery.

2.1 Research objectives and questions

In order to understand the various socio-economic factors, health access and HIV/AIDS dynamics and how these factors impacts on fisher folk and fish traders in the Kafue Flats, the following objectives were central to the study and in providing answers to the research questions:

- a) To identify factors influencing susceptibility and vulnerabilities to HIV/AIDS among fisher folk and fish traders in the Kafue Flats;
- b) To understand socio-economic relationships and gender differences in vulnerabilities in the fish marketing chain in Zambia and how these patterns impact on HIV/AIDS.

Analysis from literature and case studies elsewhere in Africa show that fishing communities are hardly reached by health services, education, and business services, on the one hand because it is too costly and on the other hand because of lack of efficient strategies to reach out to these often remote areas. At the same time however, business people, especially women, regularly travel to remote fishing communities to purchase fish. While these female fish traders are exposed to HIV, violence and abuse in their interactions with fishermen, it is economic necessity and lack of alternatives that keeps them in this trade. Men and women living and working in the same communities are often linked through complex social and sexual networks and are facing comparable risk factors. As elsewhere in (rural) African settings, women are more disadvantaged due to their lower status vis-a-vis men. To understand the vulnerability factors affecting fisher folk, and in particular female fish traders, the following research questions are at the basis of this study:

- ❖ What are the migration and mobility patterns of people residing and trading in the Kafue Flats?
- ❖ How do migration and mobility affect people's access to health services in the Kafue Flats?
- ❖ What are the key HIV/AIDS risk factors for female fish traders in the Kafue Flats?
- ❖ What business based innovations might reduce their vulnerability to some of these risk factors?

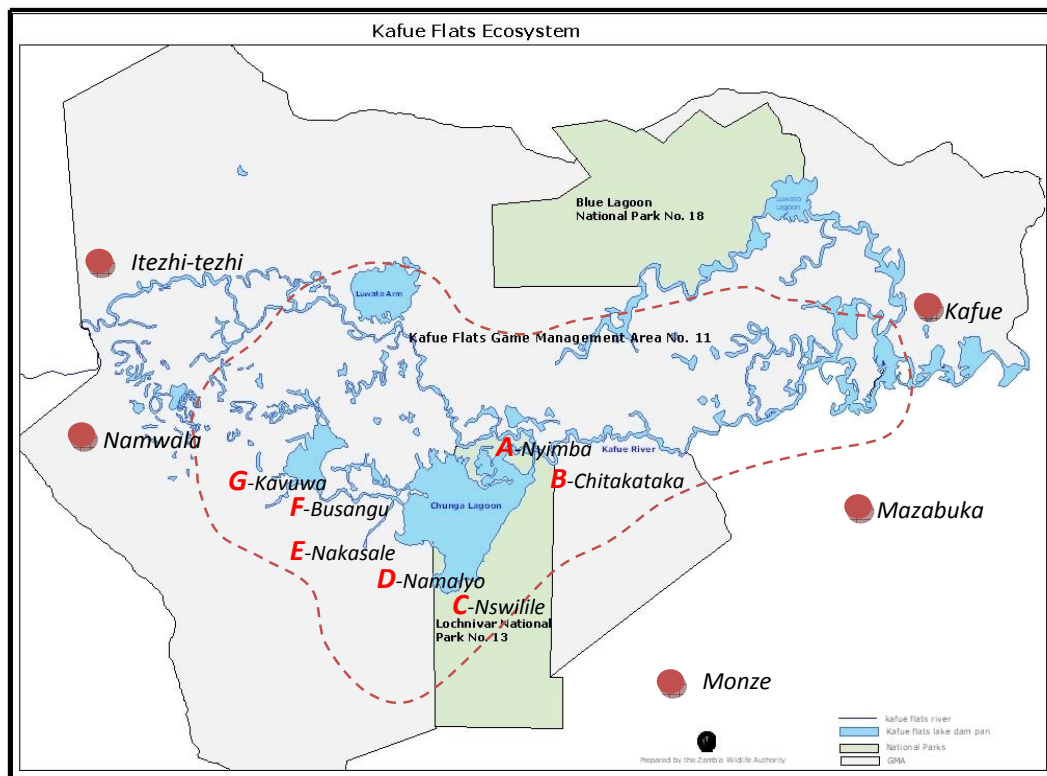
2.2 Study area and population

The study involved selected fishing communities in the Kafue Flats; particularly those along the Kafue River (see Map 1 below, A-G). The Kafue Flats, a low lying

savannah floodplain, lies within the Kafue River Basin and covers a wide area of approximately 6,500 km². Centrally located between the Itezhi-tezhi hydroelectric reservoir in the West and the Kafue Gorge Power Station in the East, the Kafue floodplains are shared by the vast Chunga and Blue Lagoon with a system of National Parks and Game Management Areas (GMAs) as depicted on Map 1 below. The periodically inundated floodplains host a diversity of wildlife and are home to a population of around 12,000 people who depend on the fresh water fishery as farmers, fishers, fish traders and auxiliary service providers.

The wetland ecosystem and regular inundation have made fishing the dominant livelihood option. Fishing communities are scattered along the banks of the Kafue River comprising more than 16 permanent fishing communities and 48 semi-permanent fishing camps loosely connected by water and dry land. The Kafue Flats floodplains serve thousands of people with fish and its proximity to the urban centres, including urban markets in Lusaka, has exposed the fishery to an intensive fishing pressure. Estimates indicate that the fishery supports over 1, 262 fishermen harvesting over 7,000 tonnes of fish annually (CSO and DoF, 2006). Much of the fishing activities are carried out around the vast Chunga Lagoon.

Map 1: Kafue Flats Ecosystem (adapted from ZAWA, 2009).



The Kafue Flats fisheries have also attracted a great number of immigrant fishermen, fish traders and transporters in the last decade. Fishers fall in two categories; permanent and migrant fishers. Migrant fishers can be divided into two categories; those who have lost employment in the formal sector and seek alternative means of livelihoods, and those who have migrated to the area in search of better catches or

to escape the institutionalization of new management systems in other fisheries. For instance, when co-management was introduced in Lake Kariba the majority of fishermen migrated to the Kafue Flats, as they had lost their fishing rights and could not resist intense pressure on fishery management from the authorities.

2.2.1 *The unit of inquiry*

The units of inquiry of this study include fishermen, migrant fish traders (both male and female) including the local women fish traders, and fish processors. The local authorities (i.e., chiefs, headmen and fish camp chairmen) and stakeholders at district and national level (e.g. District Health Board, DHMT and Fisheries Officers) were key informants to the study. Target fishing units were essentially fishing communities along the Kafue River and across the Chunga Lagoon in the Lonchivar National Park. The respondents provided socio-demographic and socio-cultural information about themselves, including their place of origin. Due to limited time, funds and human resources a selected number of fishing communities were included in the study. Therefore, the findings in this report are based on the views and experiences of those interviewed, but the analyses have been generalised to the entire Kafue Flats fishery.

2.2.2 *Sampling and selection of participants*

The criteria for sampling in the study was purposive. The most important criteria for selection of communities were 1) fishing to be the main economy, and 2) fish to be the commodity through which fisher folk earn a living. Pre-testing of the questionnaires during the field visit in selected fishing communities in the Kafue Flats indicated an average interview duration of 15 minutes per questionnaire. A sample size of 400 respondents was equally distributed across two fishing communities – Nyimba and Namalyo respectively - with due regard to gender balance. Some fishing communities were not accessible due to the floods during the period of the study and certain fish camps were surrounded by water and occupied only by fishermen. This resulted in some variation in gender balance in the sample. Taking into account variations in population size per fish camp and the scale and frequency of mobility and migration of fish traders and fishers, it was decided to sample a broad range of fishing communities. Instead of an even distribution, sampling was redirected in which varying numbers of respondents were sampled in the target fishing communities, depending on: (a) the size and geographical location, (b) scale and frequency of mobility and migration of fish traders, fish processors and fishermen; (c) the economy and scale of fishing, (d) access to and availability of health services and proximity to other infrastructures (e.g., schools, roads, & markets). This resulted in the following number of respondents distributed across 7 fishing communities:

Table 1: Sample distribution

Sample distribution across 7 fishing communities									
Proportionate sample		Name of Fishing Community							Total Sample
		<i>Nyimba</i>	<i>Namalyo</i>	<i>Nswilile</i>	<i>Nakasale</i>	<i>Busangu</i>	<i>Kavuwa</i>	<i>Chitakataka</i>	
Gender	Male	82	55	7	16	11	10	20	201
	Female	76	79	27	9	4	3	1	199
Total		158	134	34	25	15	13	21	400

These participants were involved in responding to questionnaires and some of them participated in the Focus Group Discussions (FGD). Balance in number of males and females' participating was carefully monitored, and depended on occupational status: fisherman, fish trader or fish processor. Other service providers such as shop keepers and bar owners were interviewed separately as key informants. However, variation in gender by fish camp reflects the scale and frequency of fish trading and gendered patterns in employment can be analysed.

Participants for the FGDs were purposively and randomly selected with the help of the fishing camp chairmen and included fish traders (male and female), fishermen and a few community members who trade fish and reside in the fishing camps. Informed consent was obtained from all participants and the discussions were held in a neutral place without any interference from outsiders. Local leaders with authority such as chiefs, headmen and camp chairmen were not allowed to participate in the FGDs to avoid them influencing the discussions or the views of the FGD participants. Their views were captured on one-on-one interviews as key informants.

2.3 Research tools

2.3.1 Questionnaires and FGDs

Quantitative research methodologies focused on the mobility and migration patterns and access to health care and other services influencing fisher folk vulnerability to HIV/AIDS. Questionnaires were designed to meet this purpose. However, in order to capture the more difficult to measure aspects of HIV/AIDS vulnerabilities such as perceived knowledge base, HIV risks and behaviour of fisher folk, additional qualitative methods were applied and interview guides were developed. The combination of methods used in this study included:

- Direct observations (narratives and field notes);
- Semi-structured and open interviews with key informants;
- Focus Group Discussions (FGDs) with selected target groups;
- Questionnaires.

For each research question, thematic areas were identified, with specific interview questions, to be asked during open or semi-structured interviews and FGDs. Quantitative data on the same thematic areas were gathered through structured questionnaires. Qualitative data were gathered using the FGDs and observation methods. The purpose of the FGDs was to:

- (a) Provide participants an opportunity to express their "life experiences" regarding HIV/AIDS and risk behaviour,
- (b) Allow participants express their opinions and perceptions about themselves, other people, and their environment, and
- (c) Gain insights into participant's knowledge and perceptions regarding different aspects of HIV/AIDS, STIs and other diseases.

The designed questionnaire and FGD guide were piloted in the target fishing communities, using a sample of local female fish traders, and was adapted where necessary.

2.3.2 Data collection

Data collection was divided into two phases. Data collection took place from mid November 2008 to April 2009; with an interruption of three months due to the yearly fishing ban (1st December to 1st March). Data collection methods included open interviews with key informants, questionnaires and FGDs. At least six FGDs were held in selected fishing communities. Mixed FGDs involving men and women did not involve people who had already taken part in the other FGDs; instead new participants were then interviewed. The purpose of the mixed FGD was to capture gender differences in the responses, to facilitate dialogue between the sexes and to get a different dimension of responses from people who would hear the questions for the first time in the discussion rather than repeating questions with people who had already participated in previous FGDs. As a matter of confidentiality, all discussants in the FGDs were asked not to share with outsiders what was discussed. Informal discussions were held with various individual key informants (Chiefs, headmen, fish camp chairmen and their assistants, and government officials from Health and Fisheries).

The research team comprised of four trained local data collectors – two males and two females, who all have research experience, are competent in English and the local languages spoken in the Kafue Flats, and have a sound understanding of the culture of the people interviewed (Lungu and Hüsken, 2008). However, some challenges encountered during the data collection process include lack of cooperation between the researchers and fishermen, floods which made access to the target groups difficult or impossible, and limited access to health data, particularly HIV data, from health centres in the area.

2.4 Data analysis

2.4.1 Qualitative data processing and analysis

The recordings through FGDs were transcribed verbatim, providing referential adequacy. To ensure reliability of the transcription phase, a method of credibility checking was adopted. This involved the researchers to listen to the recordings and type them up. Besides analysis of the recordings, this report contains quotes from FGD participants, without altering the verbatim text, with use of square brackets to provide translation and clarification of any ambiguous phrases. Additionally, information resulting from informal interviews, field notes and observations made by the researchers and data collectors were further analysed, some of which was coded and reanalysed statistically based on the number of respondents. Some verbatim extracts from the transcribed data have been included in this report to contribute to a complete analysis of the situation of the selected target groups in the Kafue Flats. For a detailed description of the analysis and methodologies used, see Lungu and Hüsken (2008).

2.4.2 Quantitative data processing and analysis

The raw data obtained was checked for credibility, accuracy and consistent responses by the researchers after the interviews and were subsequently coded. This required carefully reviewing data points, such as questionnaire responses, and

isolating unintentional or un-useful responses. Coded questionnaires and field notes were analysed using several combined methods of data analysis. Coded questionnaires were then entered in a database utilising the software SPSS 17.0, Spreadsheet and Excel. Methods used for verification and analysis of the quantitative data include frequency tables, cross tabulation and measures of variability. Central in the analysis was the quantification of the different variables (e.g., mobility, migration, access to services) and identification of factors of female fish traders' vulnerability to HIV through statistical description of results in order to understand patterns and relationships between specific factors of vulnerability.

2.5 Literature review

2.5.1 HIV/AIDS in fishing communities of Zambia

Although HIV/AIDS is a generalised epidemic in Zambia, some populations are more vulnerable to the disease than others. These include high mobility sub-population groups such as long distance truckers, refugees, seasonal workers, migrant miners and cross boarder traders. Other at risk sub-populations in the country are uninformed personnel, prisoners and sex workers, fishermen and fish traders (NAC, 2004). However, little is currently known about fisher folk and fish traders and their susceptibility and vulnerability to HIV/AIDS in the Zambian fisheries sector. Studies on transactional sex in the sector have identified a number of factors influencing susceptibility and vulnerability to the disease, including mobility and migration for business ventures, economic dynamics of transactional sex, and alcohol abuse (Byron, et. al. 2006; Petersen, 2006). Studies on transactional sex in the Kafue flats show that female fish traders are linked to fishers both occupationally and sexually through transactional "fish for sex", where informal contracts are developed between fishermen and female fish traders which include the exchange of sexual services for fish (Merten and Haller, 2007; Merten and Haller, 2008). Such deals are made in an environment of gender power imbalance, where fishermen are better placed as they have the fish at their disposal, so they are able to dictate the terms and conditions of sexual relationship such as "no sex - no fish" (Béné and Merten, 2008).

Fish traders, particularly women, are not able to negotiate the terms and conditions of the transaction and have often been known to agree to arrangements which put them at risk to HIV and other infections. Additionally, the general high levels of poverty and high volume of daily interactions through trade and markets create situations of increased vulnerability. For the general population, but applicable to female fish traders in particular, inadequate access to HIV information on prevention, low levels of negotiating skills, and gender power imbalances in a context of unequal protection of women in the statutory and customary laws and traditions have been recognized as contributing factors to the spread of HIV in Zambia (NAC, 2004).

Evidence from other countries in Africa suggests that fisher folk and fish traders are being severely affected by the disease. Several case studies have documented that fisher folk are highly susceptible and vulnerable to HIV/AIDS (Kissling et al., 2005, Seeley, 2004a; Seeley, 2005b). Besides mobility and migration, factors that make fisher folk vulnerable to HIV include access to cash incomes within a broader context of poverty, long periods of time spent away from home, demographic profiles of fisher folk, availability of commercial and transactional sex in fishing ports and lakes,

and high levels of drug and alcohol abuse (Gordon, 2005). The nature of fishing and the demographic characteristics of the population where the majority is single potentially place fisher folk among those at risk of being infected with HIV/AIDS due to risk behaviour (Grellier et. al., 2004; WorldFish Center, 2006).

Despite the identification of HIV/AIDS as a factor reducing resilience and impacting negatively on fisher folk and fish traders, there have been no clear policies or guidelines in terms of health and service delivery systems targeting fishing communities in the sector in Zambia. Most of these risk factors were relevant in the design and implementation of the study, but the analysis focused on identifying the most important factors, how exactly they manifest themselves, and which segments of the population were most affected in which ways.

2.5.2 HIV/AIDS, fish and nutrition

Fisheries support the livelihoods of thousands of poor people in Zambia as fish provides food and nutrition security and income for the poor including those living with HIV/AIDS. HIV infection progressively destroys the immune system, leading to recurrent opportunistic infections, debilitation, and eventually death. HIV infection combined with pre-existing malnutrition places a tremendous burden on people's ability to remain healthy and economically productive. Malnutrition reduces overall immunity and increases the risk of disease and infection, including HIV. Additionally, poor nutritional status expedites the progression of HIV into AIDS. Good nutrition is therefore crucial for people living with HIV/AIDS to meet their nutritional needs and enhance the utilization of ARVs.

Fish contains a wide variety of nutrients that are essential for various body functions and processes which can help prevent weight loss and strengthen the immune system. Fish is easy to digest and provides valuable proteins and micronutrients. Conditions associated with AIDS affect food intake, digestion, and absorption. Many of the symptoms of these conditions (e.g. diarrhoea, weight loss, sore mouth and throat, nausea, or vomiting) are manageable with appropriate nutrition. Fish can significantly contribute to reducing the nutritional problems affecting people living with HIV/AIDS because it contains high quality protein, fats, vitamins and minerals (Nyirenda et. al., 2009). Good nutrition can complement and enhance the effectiveness of any medication taken including ARVs. While at risk of infection themselves, fisher folk and fish traders play an important role in the fish marketing chain and are supplying affordable fish to the wider society, including people living with HIV/AIDS. It is vital to recognise the potential benefits of fish and develop sustainable solutions to enhance the contribution of fish and fisheries in responses to HIV/AIDS. Insights into the vulnerability of fisher folk and fish traders, and formulating recommendations for reducing these vulnerabilities, is key to ensure a healthy work force in the fisheries sector in Zambia.

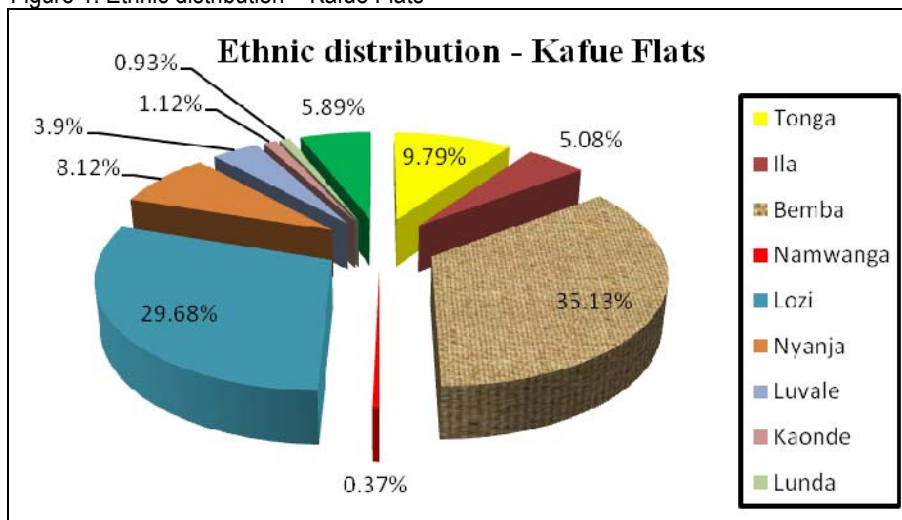
Chapter 3: Profile and livelihood of fisher folk

This chapter discusses socio-economic characteristics of fisher folk, including fishing as a livelihood, the length of stay in the Kafue floodplains, youth involvement in fisheries, age profile and education attainment levels among fisher folk and fish traders. Factors facilitating the spread of HIV/AIDS in fishing communities are discussed, with reference to education and awareness. Due to migration and changes in composition of fishing communities, it is not easy to get a stable picture of the demographic developments in the Kafue Flats. The report therefore discusses general patterns and trends, with a note that the picture might look completely different the next fishing season.

3.1 Ethnicity

The people who live in the Kafue Flats belong mainly to the Tonga tribe, and intermarriages occur with both Batwa and Ila tribes. People from other ethnicities, who originally do not belong to the area, have also settled in the Kafue Flats through kinships and employment opportunities. Among them are the Bemba; skilled immigrant fishers originating from Luapula and Northern provinces of Zambia. Other immigrant tribes include; the Lozi, Luvale, Kaonde, and the Nyanja from Eastern province of Zambia and Malawi (see Figure 1 below).

Figure 1: Ethnic distribution – Kafue Flats



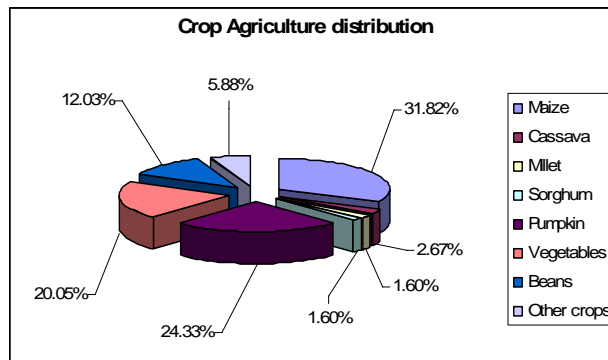
Source: Adapted from DoF/CSO 2006

Tonga and Ila are the common languages, although Bemba and Nyanja are mainly used in fish transactions. The people in the target area live in small villages or fishing camps which are separated from each other by culture and tribe. Families are mainly headed by men who fish, although female-headed households also exist. There are also young fishers, most of them boys who live by themselves. They are orphans or have left their parents' house due to conflict or because they were considered mature and were forced to earn their own income. Both older fishers and youths are mobile; they often shift to new fish camps or to locations where catches are higher.

3.2 Livelihood options

Traditionally, the majority of people of the Kafue Flats earn a living through cattle herding, fishing and small-scale agriculture. The indigenous local people – the Tonga and the Ila – rarely fish, but are small-scale farmers. Farming is traditionally practiced outside fishing communities away from flood zones in areas rich in soil; a mixture of clay and loam fertile for agriculture production outside the Game Management Area (GMA). Farming is limited to a variety of crops, with maize being the most common crop grown in the rain season (see Figure 2 below). Maize contains high proportions of carbohydrates and is eaten (fresh or grinded into mealie-meal) with fish, meat, beans and a variety of vegetables. Animal rearing is a sign of wealth and prestige among the Tonga and cattle is rarely slaughtered for food, but used for agricultural purposes including ploughing and manure as well as for transport. Whenever money is needed urgently, an animal may be sold to provide the household with income.

Figure 2: Crop distribution – Kafue Flats



Adapted from DoF/CSO 2006

Price instability and lack of access to proper markets for agricultural produce over the years has made the local farmers to attach great value to livestock production. Cattle rearing is considered a means of livelihood and those without cattle are regarded as very poor. To have cattle, one must buy from these pastoralist farmers or have to work for the farmer for a period of three to four years in return of a female cow or calf depending on the contract. Most poor parents force their children into such contracts at an early age and such children tend to be illiterate because they miss out on education. Cattle density is high in much of the Kafue Flats area and involves seasonal movement of cattle and herders to the floodplain catchment areas each dry season. Herders have to camp in the floodplain for several months, away from their home, spouse, and family. They also migrate to new places where pasture is available for weeks. Agricultural activities are carried out in areas prone to floods, causing failure of crop harvest, which results in food insecurity around the Kafue floodplains and surrounding fishing communities. To avoid dependency on crops that fail, with food insecurity and poverty as a result, communities increasingly rely on fishing for income and food security. Part of the profits from the catch is invested in agricultural production for the next season.

The fishery plays the role of a buffer stock whenever poverty, drought, floods and unemployment strike. Current trends in population movements show that a lot of

tribes have flocked to the Kafue Flats, which is due to increasing demand for fish and fish products. The fishing practised in the Kafue Flats fishery is entirely artisanal and operated by individuals, with a few working together as a group and sharing the profits. However, the poorest and most marginalized rely to a large extent on fisheries-related activities such as processing and trading as a safety net to sustain their livelihoods and improve their food and nutrition security. As shown in table 2 below there is a division of labour according to gender; fishing is the main occupation among males (83.6%) while fish trading is mainly done by women (97.5%). Unlike fishing were only 5% of women are involved, men make up 15.9% fish traders. Apart from fishing, some fishermen also mentioned other livelihoods options whenever they don't fish, such as carpentry and farming. Some men derive a livelihood out of taking their fish to urban markets as fish traders, which is mainly a female occupancy. Transporter and owning a shop in the fishing camps are other sources of livelihood mentioned. For female fish traders, additional sources of income include taking groceries, other food items or second hand clothes to fishing communities to sell while waiting for their supplies of fish.

Table 2: Respondents' employment status

Gender	Respondent's main occupation						Total (N)
	Fishing		Farming		Fish trading		
	n	%	n	%	n	%	
Male	168	83.6	1	0.5	32	15.9	201
Female	5	2.5	-	-	194	97.5	199
Total	173	43.3	1	0.3	226	56.5	400

Other fishers without fishing gear are engaged in fishing as piece workers or are employed by gear owners. Their income is most often paid cash and the agreement determines whether this is on a daily basis or weekly. Approximately, there are more than 1,800 fishers in the Kafue Flats, including women, who own fishing gears and employ fishermen to work for them. Fish exploitation is high during periods of droughts and poor harvest. This peak in fishing activity is even higher due to the influx of unlicensed fishers from village communities and other fisheries in Zambia, who migrate to the Kafue Flats in search of employment or settlement. Because of the heavy pressure on fish resources, catches are declining with increase in fishers. This forces many fishers and fish traders to migrate to other fishing communities where catches are higher.

Our study found that fish marketing is dominated by women who obtain their start-up capital from various sources. In the recent past, fish trading was perceived as a job for women only, but due to increases in unemployment in Zambia, men have also joined in fish trading. Fish traders buy fish from the fishers and most often have to travel or shift to other fisheries where catches and / or prices are better. There is an increase of investment in fish trade by urban semi-employed traders. With their long experience in fish trade, and their established positions among traders in market places in Lusaka and elsewhere, the frequency of travels by fresh fish traders to and from the Kafue Flats has increased in the recent years. The high demand for fish in urban markets means there is increased pressure on the resource, which causes fish traders to spend weeks or months in the fishing camps in order to secure sufficient supply of fish. Fishermen increasingly sell their fish directly to fresh fish

traders, which means that processing of fish is no longer required, which has a negative impact on household income. Since the majority of fish caught is meant for sale (41.5%), fish used for direct household consumption (1.49%) is limited (CSO and DoF, 2006).

Fish is a medium of exchange for food, clothes and other necessities such as firewood, charcoal, clothes, groceries and grains, but also for alcohol and labour in kind whenever cash is not available. Women generally do not fish themselves, except for basket and rod fishing for household consumption, but women are nevertheless invaluable actors in the chain of fish distribution. Currently, the major impediment for women to participate in fish trading in Zambia is limited access to formal sources of credit to secure their business. Unlike in crop production where formal credit is available from various agencies including the government, credit facilities for fish trading and fish processing in Zambia are absent to date.

3.3 Age profile

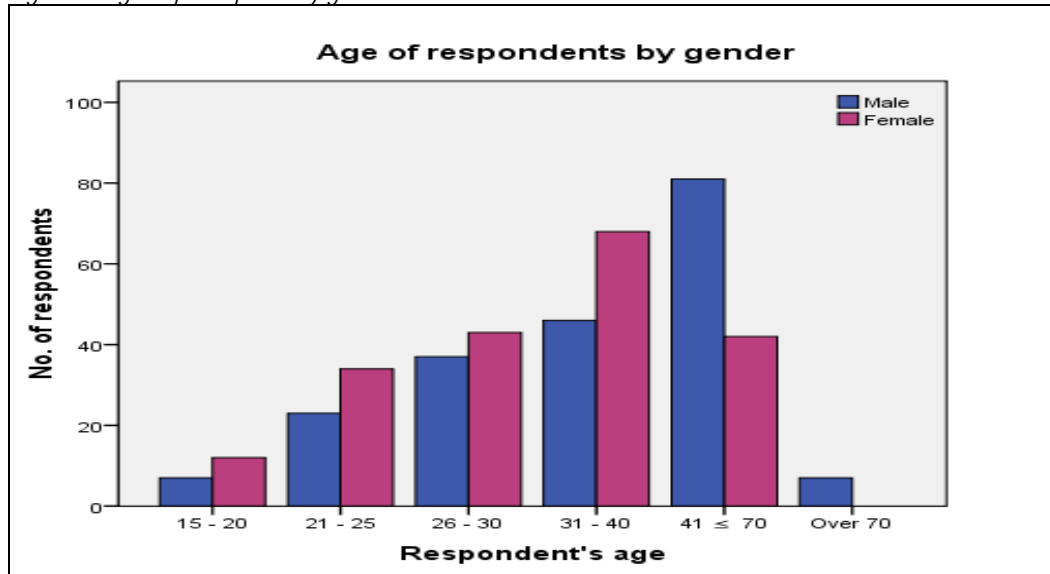
The majority of respondents in the study were aged between 21 – 41 years across fishing camps. As can be seen in table 3 below, there are significant variations in the age structure, with few people aged 15 – 20 and over 70 years in the different fishing camps included in this study.

Table 3: Age distribution by fish camp (male and female)

Age range (years)	Name of fishing camp							Total
	Nyimba	Namalyo	Nswilile	Nakasale	Busangu	Kavuwa	Chitakataka	
15 - 20	8	2	4	2	2	1	0	19
21 - 25	26	19	6	5	1	0	0	57
26 - 30	33	29	6	5	4	2	1	80
31 - 40	46	45	10	4	3	4	2	114
41 ≤ 70	44	37	8	6	5	5	18	123
Over 70	1	2	0	3	0	1	0	7
Total	158	134	34	25	15	13	21	400

For men and women alike, the age of entry into fisheries related investments is 15 – 20 years on average, with more women than men between 15 - 40 years (figure 3 below). Women’s involvement in fisheries as traders or processors increases as they get older (26-30 and 31-40 years) and their participation declines drastically beyond the age of 50. On the contrary, men become actively involved in fisheries from 40 years onwards and become inactive only beyond 70 years. Youths (15 – 30 yrs) involved in fisheries as fishermen, traders and processors represent only 39.1%. The majority are adults: 61.1% aged 31 – 69 years.

Figure 3: Age of participants by gender



3.4 Marital status

The marital status among inhabitants of the seven fishing camps which the study focused on indicates that the majority (298) respondents were married, representing 74.5%. Among mobile fishermen and fish traders only 10.8% were single. However, divorce rates are on the increase among fishers and fish traders at 7.5% and 8.8% respectively. Some of the respondents indicated that they were on marital separation due to various reasons including violence and marital conflicts, which turned out to be a common response among women fish traders (table 4 below).

Table 4: Marital status per target group

Means of livelihood	Respondent's marital status										Total n
	Married		Single, never married		Divorced		Separation		Widow/widower		
	n	%	n	%	n	%	n	%	n	%	
Fishing	123	71.1	33	19.1	13	7.5	3	1.7	1	0.6	173
Farming	1	100	0	0	0	0	0	0	0	0	1
Fish trading	174	77	10	4.4	20	8.8	11	4.9	11	4.9	226
Total	298	74.5	43	10.8	33	8.3	14	3.5	12	3.0	400

The influx of traders in fresh fish has been encouraging for fishermen's incomes, and may even have increased the frequency of their fishing trips, but this trend has also resulted in conflicts in many households due to transactions that involve fish for sex. Married women feel that their men are at liberty to engage in sexual relationships with other women:

*"ubuchende wa mwaume tautobe ng'anda [the prostitution of a man does not break the house]... us women are to blame for bringing conflict and divorce into our friends' houses. Key is us women who should make sure that we don't accept sexual relationships with other men than our husbands."
[Woman fish trader in Namalyo fish camp – Kafue Flats]*

Local women in fishing communities stated that their marriages are at risk of divorce or separation due to the presence, scale and frequency of mobile women fish traders in fishing communities. They stated that local women could not compete with the fish traders from urban areas due to lack of financial and material support from their spouse, including new clothes, soaps and body lotions. Fishermen often develop new sexual relationships with female fish traders; 56.6% of fishermen admitted having girl friends as sexual partners (table 5 below). Reliability on fish and fish trade as a single source of food and income for most of the women has forced them to invest in social relationships that put them at risk of HIV and opportunistic infections such as STIs.

Table 5: Extramarital relations

Main means of livelihood	Do you have a girlfriend / boyfriend?						Total n
	Yes		No		Never		
	n	%	n	%	n	%	
Fishing	98	56.6	75	43.4	0	0	173
Farming	1	100	0	0	0	0	1
Fish trading	66	29.2	159	70.4	1	0.4	226
Total	165	41.3	234	58.5	1	0.3	400

3.5 Education levels among fisher folk

When it comes to education, fisher folk are among the sub-populations with lower levels of education in Zambia, particularly among women from within fishing communities. Only 54.5% of fisher folk and fish traders had attained primary education grade 1 – 7 as highest level of education (table 6 below). The primary education system in Zambia consists of 7 years of schooling and subsequently, one may continue into grade 8 - 9 as junior secondary education. Secondary education continues from grade 10 - 12 to prepare for tertiary education either at college or university.

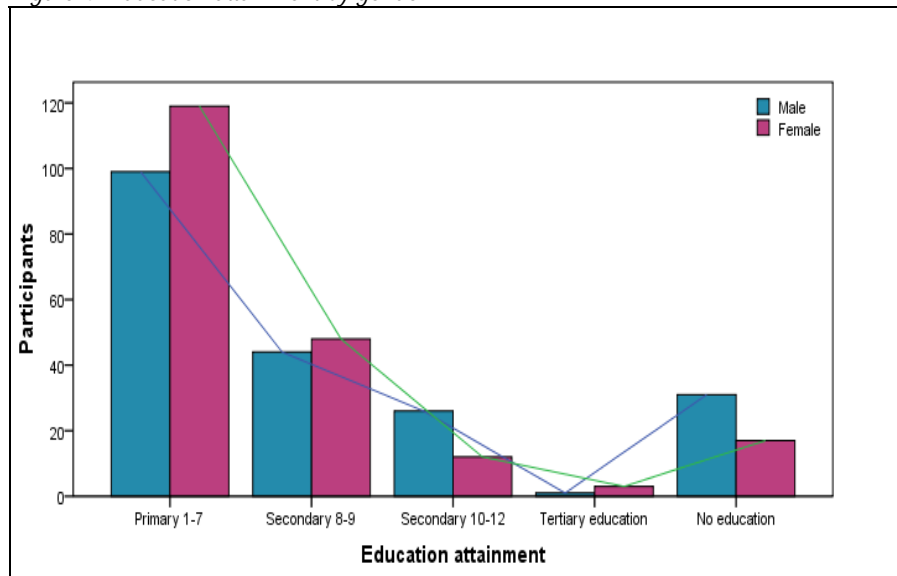
Table 6: Education attainment among fisher folk

Means of livelihood	Respondent's highest level of education attained										Total n
	Primary grade 1-7		Secondary grade 8-9		Secondary grade 10-12		Tertiary education		No education		
	n	%	n	%	n	%	n	%	n	%	
Fishing	87	50.3	40	23.1	17	9.8	0	0	29	16.8	173
Farming	0	0	1	100	0	0	0	0	0	0	1
Fish trading	131	58	51	22.6	21	9.3	4	1.8	19	8.4	226
Total	218	54.5	92	23.0	38	9.5	4	1.0	48	12.0	400

The majority of female respondents involved in fisheries through fish trading, processing and other services attained only primary education, with the exception of a few (23%) who attained secondary (8-9 junior secondary education). Gender dimension in education attainment shows that across all levels of education, more women than men have attained some level of education, with more men than women to be completely without education (figure 5 below). Among the people interviewed at least 119 women had attained primary education compared to 99 men. The same

trend can be observed for secondary education (8-9), with 48 women and 44 men respectively. Of the 48 respondents without education, 64.6% were fishers while 35.4% were fish traders.

Figure 4: Education attainment by gender



The trends in low education can be explained by two reasons: firstly, fishing communities are generally isolated and marginalised with limited or no access to education services. Available government schools are very far, at least 30 to 40 kilometres away. Additionally, regular flooding and threats from hostile crocodiles and hippos are other reasons for parents not to send their children to school. Another important factor, given that fishing is the main economic activity, is that children are often assimilated into the fishing industry at an early age by having to help their parents or guardians in fishing and fish processing. These children are born and brought up in remote fishing communities with limited or no access to education. Due to the mobility of their parents, these children often abandon school if they had a chance to attend one. Boys are expected to assist with the fishing, while girls have to cook for the fishermen. Limited or no education coupled with the dangers of fish trading, these girls are vulnerable to sexual abuse and exploitation from an early age, and are often forced to enter into early marriages with fishers.

Chapter 4: HIV/AIDS in the Kafue Flats:

Key findings

From the above analysis of fisher folk and fish trader's profiles, it is evident that they are at increased risk of HIV/AIDS and other diseases. National statistics indicate that in provinces where fishing is a major source of livelihood, such as Luapula, Western and Central Provinces, HIV prevalence rates are rising (NAC 2009). As in other countries in the region, prevalence rates among fisher folk are likely to be higher than among the general population. The HIV and health crises in fishing communities emanate beyond the fisheries sector through mobile and part-time fishing and the high volume of daily interactions through markets and trade. Poor work environment and the demographic set up of fishing communities, with many single and mobile people, place fisher folk at increased risk of HIV. Cases of death from preventable diseases such as cholera and diarrhoea due to poor water quality, sanitation and hygiene have robbed fishing communities of productive human resources. Most service providers, for various reasons, are unable to meet their health needs.

This chapter presents the main findings of the study on HIV/AIDS vulnerability factors in fishing communities in the Kafue Flats. Various socio-economic factors that facilitate the spread of HIV/AIDS are being discussed, especially those that make fisher folk vulnerable and susceptible to the disease.

"HIV was first thought as the disease of urban populations, but today I have seen many people in my chieftom die from the same disease. When you visit these fishing communities you would see many graves of people who have died of different diseases, some of them include HIV. There are many factors causing this..."

[HRH Chief Hamusonde, Monze District, Kafue Flats].

Drivers of vulnerability and susceptibility to HIV/AIDS in the fisheries sector in Zambia

The table below gives a summary of the various demographic, socio-economic, cultural and environmental factors influencing vulnerability and susceptibility to HIV/AIDS among fisher folk and fish traders in the fishery sector in Zambia, with a special focus on the Kafue Flats. Drivers of the epidemic that occur among the general population, all seem to occur in fishing communities at the same time, contributing to a high risk environment.

Table 7: Summary of key factors of vulnerability to HIV/AIDS in fishing communities in Zambia

<i>Most vulnerable groups</i>	<i>Nature of vulnerability</i>	<i>Factors influencing vulnerability & susceptibility to HIV/AIDS among fisher folk and fish traders</i>
<ul style="list-style-type: none"> • <i>Fishermen</i> • <i>Local women in fishing communities</i> • <i>Female fish traders</i> • <i>Seasonal workers</i> • <i>Commercial sex workers</i> • <i>Transporters</i> • <i>Shop owners and bar operators in fish camps</i> • <i>Pastoralists</i> 	<i>Demographic</i>	<ul style="list-style-type: none"> • <i>High rates of mobility and migration: Mobility of workers & fisher folk without spouses increases risky behaviour. Mobility makes outreach and mitigation efforts difficult.</i> • <i>Demographic set up with high rates of single men in the active age group.</i>
	<i>Socio-economic</i>	<ul style="list-style-type: none"> • <i>Prostitution & transactional sex due to inadequate income, lack of resources and competition over fish among women.</i> • <i>Availability of large amounts of cash without planned investment may lead to risky behaviour.</i> • <i>Alcohol abuse.</i> • <i>Inadequate health facilities and poor infrastructure lead to self treatment.</i> • <i>Low levels of condom use</i> • <i>Stigma and discrimination</i> • <i>High risk profession of fishing coupled with fatalistic attitude.</i> • <i>Cohabitation due to limited accommodation facilities results in temporal marriages and risk behaviour.</i> • <i>Gender inequality and power imbalances influence women's rights and ability to make decisions about safer sex.</i> • <i>High incidences of STIs.</i> • <i>Poor sanitation and hygiene.</i>
	<i>Cultural</i>	<ul style="list-style-type: none"> • <i>Early marriages.</i> • <i>Polygamy and multiple concurrent sexual relationships.</i> • <i>Harmful practices such as sexual cleansing and widow inheritance.</i>
	<i>Environmental</i>	<ul style="list-style-type: none"> • <i>Seasonal flooding creates food insecurity and perpetuates poverty in the fish ban period.</i> • <i>High prevalence of malaria, cholera and diarrhoea due to floods.</i>

4.1 High rates of mobility and migration

Mobility and migration by fishers and traders from other fisheries, and the high demand and perishability of the commodity result in frequent interactions between different actors within and between fishing communities in the Kafue Flats, and with actors at local, national and regional markets. These extensive trade networks contribute to high vulnerability and susceptibility of the fishers and traders involved.

4.1.1 Fishermen and fish traders

The fisheries sector in Zambia comprises various actors; men, women and children who depend on fish and fish products for food and income. Youths, many of them unemployed, make up 40% of the fishing population. Because the sector does not have many restrictions, many find fishing an easily accessed sector whenever the formal sector contracts. The demographic data show that the sector absorbs more men than women, and there is a gendered division of labour. Historically, fishing is predominantly perceived as the work of men. In the Kafue Flats 95% of fishers are men and less than 5% are women. These women mainly own gear and employ men to fish for them; profits are shared based on informal agreements. Women are typically responsible for fish processing, distribution and marketing. Men sometimes assist in the processing and marketing of fish at lading sites.

Fishermen prefer to sell their catch fresh, because fuel wood is very scarce in the open floodplain of the Kafue flats. To get hold of good quality, fresh catches at better prices, female fish traders have been forced to camp in fishing villages to buy and process their fish on the spot. During the day, these women travel and visit several fishing camps looking for fishermen to supply them with fish, because there are no designated lading sites in most fishing communities. Fishermen are highly mobile and regularly travel long distances on water to look for better catches. This forces the women who trade in fish to follow the fishermen in search for fresh fish. For example, when the volume of fish catches in the vicinity of fish camps declines, most fishermen migrate to other fish camps or spend most of the day fishing in deep waters away from the community. Due to lack of refrigeration and proper storage facilities, fishermen have to sell their fish as soon as possible to avoid the catch to spoil, meaning they sell it at different places, many of them not recognised landing sites, whenever a fish trader is around. The nature of their job forces both fishermen and female fish traders to leave their spouse and family behind in more permanent communities, increasing their vulnerability to HIV/AIDS.

Women, who make up 80% of fish traders, have to travel and search for fishermen to get affordable fish from multiple suppliers at better prices. To avoid congestion and competition over fish whenever the catch are made available at the harbour or unrecognised landing sites, some women give out cash in advance to the fishermen to ensure their deal is sealed. This kind of arrangement has been reported to result in conflict, which arises when a fisherman fails to bring the fish he promised or when a female fish trader does not have cash and promises to pay in kind. These “fish-for-sex” transactions occur frequently and are a main cause of the spread of HIV/AIDS. Away from home, without their spouse and the social support and control from family members, many fishermen and fish traders engage in sexual relationships with multiple partners, which put them at risk of HIV/AIDS and STIs. Fishermen may stay

away for weeks, months or even years without going back to the villages to see their spouses. To have sex, they engage in temporal marriages or transactional fish-for-sex with female fish traders. These are mainly local women (89%) and women from other parts of Zambia, but also women from Tanzania (3%) and DRC (8%). Most fishermen practice unprotected sex since they believe that using condoms might negatively influence the benefits of giving out fish for free in return for sex. Migration without spouse increases the chances of engaging in risk behaviour as one fisherman stated:

“Some fishermen came here for work and left the entire family, wife and children back home..., because fishermen are hunters of women light in complexion, sometimes I have stayed for a long time without sex, truly we just go for these women”

[Fisherman]

This was added onto by another fisherman:

“When we come here, this is our home...we have to build it, we have to start a new life, so if I have stayed for many months without going back home, where can I relieve my emotions? I have to find a partner among the fish traders.”

Such sentiments were very common among fishermen in this study. Some women who refuse to have sex with some fishermen are sometimes coerced for sex (see Box 1). If not raped, they are often denied access to fish, with large consequences for their livelihoods and that of their children. One woman fish traders in a FGD complained that:

“The problem here is that fishermen are so organised, when you deny one fisherman sex and they master you...tomorrow you won't be sold fish at the harbour. For prostitutes this is what they want; they give fishermen sex and disease and get free fish,”

Fishermen are ignorant that such relationships are increasingly placing them at higher risk of HIV and STIs in an environment without access to health services. Sometimes fishers pretend that fish is scarce to prompt women into sexual relationships or to tease out those who refuse sexual relationships. Such women are denied access to fish and fish is only sold those they share sexual relationships with. This does not imply that every woman who trades in fish is engaging in transactional sex, but such arrangements were reported during the research as a common practice among fishermen. A

Box 1:

If am to give an example on what happened to me here in Namalyo fishing camp, I arrived here one week and a day ago. I stay with my friend (Bana Mwaba) when I slept in the shelter, in the night a man came into the shelter I was sleeping, without a shirt and half naked putting on Bombasa [Underwear]. He came into the house and started lying on me, shaking my legs trying to wake me up, I screamed and shouted ...Bana Mwaba, Bana Mwaba, Bana Mwaba, are you shaking me? Then I just heard the voice of Bana Mwaba from where she had slept saying, “you, am here” and when the man heard the voice of my colleague he then ran away. Now what does that mean? Off course he wanted me to go outside and have sex with him.

[Female fish trader, Kafue Flats fishery]

common saying in the Kafue Flats is: “No sex, non bafa/jubidi¹” meaning; no sex, no fish. These practices place women in a dependent position which increases their vulnerability to HIV/AIDS. Mobility connected to fishing and trading results in the spread of disease from one fishing community to the other, and probably beyond to the urban markets where the fish is further traded for consumption of urban populations.

4.1.2 *Seasonal workers and fish transporters*

The study found that fishermen and fish traders are not the only sub-populations highly mobile in the Kafue Flats. Other mobile populations are seasonal workers working in the Sugar Plantations in Mazabuka, an industrial town in southern province of Zambia. Although the study did not focus on seasonal workers such as cane cutters, they were frequently mentioned by participants as populations highly vulnerable to HIV/AIDS and STD infections. Whenever, the harvest season approaches around April/June up to September, many people from within and around the Kafue Flats area migrate to Mazabuka to look for temporarily employment as cane cutters at the different sugar plantations. Many of these seasonal workers leave their spouse and children behind because the job is temporal and accommodation is a challenge. Away from home without spouse with disposable cash income, many engage in risky unprotected sexual relationships that put them at risk of HIV infection. When they travel back home at the end of their seasonal contract, many return without income, as most of it was used for food, accommodation, alcohol and prostitutes, but with the HIV infection, likely infecting their spouse or boy/girl friend upon return.

Fish transporters are also likely conduits facilitating the spread of HIV to remote areas like fishing communities. Fish transporter or transport workers are not a target group of this study, but they are considered as “bridge” between the fisher folk and the general population. As part of their trade, they tend to have multiple sexual partners on their routes between home and various fishing communities they frequent, potentially transmitting HIV and STIs to their wives and female fish traders with whom they have sexual relationships. Again, mobility, long absence from home and loneliness makes these sexually active fish transporters vulnerable to HIV infection.

When they travel between fish camps and urban markets, transporters stop at several places and often pick up travellers, many of whom women from whom they ask for sex. In the fishing camps, depending on the catches and availability of fish traders wanting to take their fish to the markets, transporters are forced to camp in fishing communities for days or sometimes weeks, being away from their spouse or regular sexual partner. In fishing communities, they engage in alcohol abuse and unprotected sex with female fish traders and prostitutes. Key informants also reported that women without sufficient income for travel or transporting their fish to the markets negotiate with transporters and promise to pay when they sell their fish at the markets. This often leads to transactional sex, putting both female fish traders and transporters at risk, when the women don't make (enough) profit to pay their debts, and are hence forced to pay the transporters in kind through unprotected sex.

¹ A small open metallic or plastic basin approximately 15 litres used for washing, drawing or holding water. In fishing communities it is uniformly used as a scale to measure the quantity of fish for sale due to lack of scales.

4.1.3 Pastoralist and herders

The seasonal flood plains of the Kafue Flats serve thousands of cattle with fresh pastures and local cattle farmers from surrounding non-fishing communities who camp in the flood plains for several months a year, between April and November. Following their cattle, these pastoralists and herders move around and often encounter fishermen and fish traders from the fishing communities. Besides the fact that these herders depend on fishing communities for fish which is bartered with milk from their cattle, they also turn to fishing communities for social contacts. Combined with high alcohol abuse, herders engage in sexual relations with fish traders, prostitutes and local women who have multiple sexual partners, often without the use of condoms. In view of their mobility, these pastoralists and herders are likely among the drivers of the epidemic within and beyond the Kafue Flats.

Despite numerous NGOs working on HIV/AIDS prevention and mitigation in the country, very few have prioritised fishing communities for interventions. Due to fisher folk's mobility, they are often unable to access regular health services as they often don't reside in one place all year round. Besides distance, health services are also found not to meet the needs of fisher folk, and since monitoring and follow up are difficult, they often do not receive the treatment they require, including ART. Access to creative messages on HIV/AIDS and reproductive health tailored to their needs and cultures is essential in addressing health problems in fishing communities.

4.2 Changing dynamics of prostitution and transactional sex

4.2.1 Prostitution: a risky survival strategy

For female headed households that lack food, income and other basic needs, prostitution is often a coping strategy with HIV infection as likely result. By trying to feed themselves and their children, some female fish traders engage in sexual activities. This is common among women and young girls who do not earn a regular income, and cannot support themselves or their children. Although prostitution has a bad name, some women have adopted it as part of their livelihood.

Many young women and widows live in poverty and engage in fish trading as last resort to earn an income. Due to their dependent situation, female fish traders are particularly vulnerable to sexual exploitation and abuse by fisher men. One of the participants in a FGD illustrated some of the reasons for prostitution in fish trade;

“Some women engage in prostitution to gain some capital to feed the children. You find that young women have children, sometimes she is a widow the husband died and so if she does not have any means of finding food for the children or capital all what she does is to engage in prostitution.”

Women in fishing communities are not likely to negotiate condom use because if they insist, they fear to be given less fish, food or money, or to be rejected completely. In addition, the study found that many women underestimate the risk of unprotected sex, which puts them at high risk of HIV infection. Findings reveal that 17.5% of economically disadvantaged female fish traders engage in prostitution and

exchange sex for fish or money each time they travel to fishing camps. While 15% of women reported being coerced for sex by some fishermen in return for fish, 2.5% of women admitted having voluntarily requested for sex in return for fish due to poverty and lack of food. A significant proportion of female fish traders in the study reported engaging in risky sexual behaviour with fishermen in order to secure their supplies of fish, food and income: 82% had unprotected sex with fishermen because they said not having been prepared for sex when they travelled to fishing camps.

While the study found that these women are economically and socially disadvantaged, it also became apparent that they often choose their strategies and negotiate for sex as a means to increase their profits. Several women believe that prostitution is a business and a coping strategy, not a bad thing. Some women interviewed indicate that *“prostitution is just a bad name of the business and not likely that the business is bad”*. The main reasons behind prostitution are known and accepted: those women have to generate income and food to support their children, often including fostered orphans. Through these sexual relationships some women from outside the Kafue Flats have been able to marry in fishing camps and have shifted there, sometimes even in polygamous marriages.

“Prostitution is just a bad name of the business and not likely that the business is bad.”

4.2.2 Transactional sex and risky behaviour

Transactional sex is a common practice among fisher folk and female fish traders in the fisheries sector in Zambia, and since condom use is low, the practice is facilitating the spread of HIV/AIDS in fishing communities and beyond. Analyses of prostitution and transactional sex in the Kafue Flats fishery have revealed three major causes.

a) Competition over fish.

The influx of traders from urban areas is creating competition over fish. Poor older women are disadvantaged economically, as their access to fish is limited as prices go up due to the high demand for fish. In some instances, lower fish catches result in battles between the female fish traders, as they have to chase the boat in the water at the landing sites in order to secure their supplies of fish. Some women have to fight or quarrel over a little pile of fish depending on who grabs the catch first when they run for the boat in the water. Older women who are not that fast find it difficult to compete with young women and are often victims of insults, violence and abuse. Older female fish traders in the study complained that they have lost their business with fishermen because young girls have replaced them in sexual relationships. Fishermen often sell the fish to their girlfriends, leaving out older women. As a consequence, these older women take longer to secure their supplies of fish (Box 2 below). Some women pay the fishermen in advance as a way of ensuring their access to fish and to get rid of competition. Intense competitions over fish has transformed cash transactions between fisherman and fish traders into complex networks of sexual relationships, in which women offer sex to fishermen in order to

secure their supplies of fish; depending on the arrangement, in exchange for sex, the women receive their fish for free or at a reduced price. These transactions render both fisherman and female fish traders vulnerable to HIV/AIDS.

“Women compete for a catch and have to run for the boat in water. Some fight, quarrel...and to have fish, some women when they arrive look for a fisherman [boyfriend] who can give them fish without problems as long as she accepts to have sex with fishermen. She will have many fishermen, if that one has poor catches or no fish.”

Fishermen interviewed noted that female fish traders sometimes request for sex, but most often their attitude and behaviour in fishing camps and at the harbours prompt fishermen to bargain for sexual relationships. A discussion with fishermen showed that certain behaviours and actions of some female fish traders often persuade fishermen to enter into sexual relationships with these women:

“When they run for the boat in water, women pull their chitenges², skirts and dresses up to avoid becoming wet, we see them naked, you can see the thighs, pants, everything and maybe you have stayed for many days without sex so we get attracted. When a fisherman sees za yellow, [brown nakedness] he’s thinking totally go crazy. Fish traders know that if I play with the fisherman’s sexual thoughts he is going to be weak.”
[Fisherman]

These behaviours displayed by some women are believed to cause sexual discomfort and emotional stress for sex among fishermen. When women refuse to get sexually involved, they are rejected and may not have access to fish, thereby putting their household food and income security at risk. These findings match with

Box 2: *There are times for example, when these fishermen catch some fish, they can’t sell it to me because am old but they go and sell the fish to the girls and young ladies because they have hidden sexual relationships with them. Fishermen are sometimes rude. If an old woman like me wants to buy fish from them [fishermen] they often ask “do you have certificates that qualifies you to buy fish from my boat, do you have some certificates, this fish is, has got owners already.” They take that fish to those women they sex with. For us elderly women we can take up to two months and buy fish from within ZK 500, 000 only and sometimes less than that. But for young women as soon as they get to the boat we [elderly women] are just told that this fish is for this one [young lady], even the whole net, we are told; this fish is for this lady, even if the fishers have a lot of catches, for us older women we may just buy fish for ZK 1,000 but these young women fish traders can buy fish for ZK 100, 000 from the same catch. This is what I have seen that the interaction between fishers and young female fish traders makes us [elderly women] lose market. The fishermen are ignorant that they also buy the disease at the same time. Fishermen cannot sell the fish to women they don’t have sex with, there are very few fishermen that sells fish to women they don’t have sex with. Some fishermen sell fish for the same disease [HIV] which they want.*

[Older woman, mid 50s. Kafue Flats fishery].

² A colourful long fabric that women put around their waist.

Bene and Merten (2006) who note that “in places where women intensely compete for catch...sex for fish transaction can be requested by fishers from female fish traders through a coercive arrangement, whereby a fisher (man) may refuse to sale the fish if the fish trader does not get sexually engaged with him.”. Over 60% of women admitted being vulnerable to HIV and opportunistic infections due to such sexual transactions. Some fishermen interviewed argued strongly that transactional sex in exchange for fish is not dictated by fishermen, as some female fish traders themselves request for sex in return for fish.

“A fisherman may propose for a sexual relationship but women often attach conditions such as ‘as long as you bring the fish, no problem’. If I like the woman, I have to bring what she wants.”

[Fisherman]

The study found that transactions involving fish sales were more likely to generate supplier – buyer relationships that favour female fish traders than male fish traders. About 70% of the male fish traders complained having problems in accessing fish as most of the catch is sold or given out to women in exchange for sex. Separate interviews with male and female fish traders showed that sex is used as inducement or motivating factor for women to access fish and as an incentive to create sexual ties with fishermen to ensure continuous supply of the commodity. Although the most frequent type of transaction requires a cash purchase, transactions involving sex are reported to exist even among the local women in fishing communities.

b) Inadequate income and capital

Due to the rise in fish prices, inadequate income has been noted to facilitate transactional sex and prostitution and consequently the spread of HIV/AIDS among fisher folk. Some women and girls have ventured into fish trading without sufficient starting capital. Most of them have dropped out of school due to poverty and utilise prostitution and transactional sex as survival strategy to obtain fish and income. This puts them however at greater risk of HIV/AIDS.

“Women really come from nowhere without money, they just come for prostitution business and after that they buy fish. It’s a problem because some women, the way we hear about HIV/AIDS ... you cannot tell the way she is, we just go for them, they come here to infect their friends who are still doing better, she is on that one, the next one, the other one spreading the disease so that many people become infected.”

[Fisherman – Namalyo, Kafue Flats].

Interviews with key informants reveal three major problems regarding transactional sex:

- ❖ Transactional sex deprives fishermen’s households indirectly of income and food (fish) especially where fish is given out for free in return for sex.
- ❖ If not bringing HIV/AIDS or STIs, transactional sex often results in marital conflicts between fishermen and their spouse on the one hand and between the spouse of the fishermen and female fish traders on the other hand. Marital conflict between fishermen and their spouse often results in divorce, or the woman is expelled from the house. To continue the cycle, female fish traders then engage in temporal marriages with fishermen who have separated from their spouse.

- ❖ Transactional sex and prostitution influence the spread of HIV; both fishermen and female fish traders are at increased risk of contracting the virus.

c) *Poverty and hunger (seasonal)*

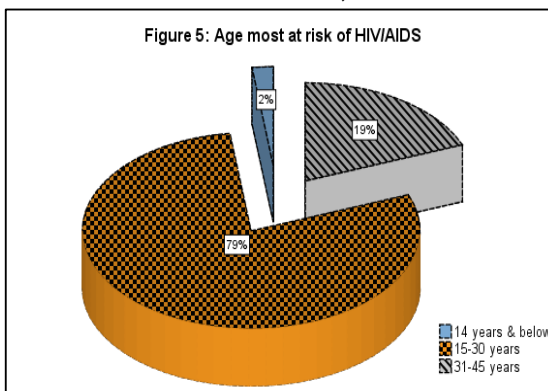
Many fishing communities are established along the Kafue River and agriculture is rarely practiced. Fish provides the only source of food and income for households in these communities. During the seasonal floods however, houses are submerged and farming becomes impossible. Besides the floods, hippos and other wildlife are a threat to any form of agriculture or gardening if the soil allows. When it floods, fish catches decline as most of the fish is scattered in the 'hard to fish areas' covered by bush and thickets. Key informants indicated three major problems caused by floods in fishing communities:

- Flooding results in declined fish catches, which aggravates competition over fish among fish traders, which in turn aggravates the practice of transactional sex as outlined above.
- Flooding brings hostile animals such as crocodiles and hippo into fishing communities, posing a severe threat to the lives of fisher folk and fish traders.
- Flooding threatens the stability of household food security because most of the crops are destroyed.

Additional to the floods, the government imposed fishing ban from 1st December to 1st March each year, which is also the lean season for farming communities, aggravates the food and income security of households in fishing communities. When the fishery is "closed", people are not allowed to fish or trade in fish. This causes many households go hungry and many women to adopt survival strategies that put them and their families in danger. Driven by poverty, sexual behavior may alter, with women engaging in fish-for-sex deals and accepting sex without the use of a condom, which puts them at greater risk of HIV infection. For those already infected and on treatment, lack of food represent a major challenge to adhering to their medication, while at the same time inadequate food intake may fasten the progression of HIV into AIDS.

When analysing the perceived risk to HIV/AIDS, the study revealed that 79% of female fish traders aged 15 to 30 are at heightened risk of contracting HIV due to poverty, prostitution and transactional sex, while 66% are two to three times less likely to negotiate for condom use. In addition to this increased risk, more than 80% of women and girls are physically challenged by violence, abuse and sexual exploitation. Because of their lower socio-economic status, women and girls are more vulnerable to HIV infection than men and boys in the same age group.

From focus group discussions, 81.8% of women indicated that they perceive women to be more vulnerable to HIV and sexual abuse in fishing communities. 12% of female fish traders indicated that they



engage in risk behaviour with transporters and other men at the markets, especially when they travel. Some 4% of women mentioned their home areas to be socially associated with the risk of HIV, while 2.5% indicated that fish landing sites are the main points of vulnerability to HIV infection.

4.3 Poor water quality, sanitation and hygiene

Lack of clean drinking water and poor sanitation and hygiene due to the general isolation and remoteness of fishing communities places them at increased risk of diseases. Community members, men as well as women, recognise that the water they drink is dirty and it contains bacteria causing diarrhoea. Respondents clearly mentioned that lack of toilets and sanitation contributes to the outbreak of various diseases and requires urgent attention.

“We have no toilets, so we go in the bush. When it floods, all that rubbish gets mixed with water, we drink same dirty from the bush. So this is what causes cholera and diarrhoea, common problems in fish camps” [Fisherman]



In the flood season, water from the river and from the wells becomes contaminated with human excreta and animal dung. This water, containing germs and bacteria causing various waterborne diseases, is consumed without treatment as drinking water. In addition, poor waste management and the low levels of hygiene in fishing communities contribute the outbreaks of diseases such as cholera and diarrhoea as garbage from households and excreta is thrown in the river. In some low lying fishing communities, particularly in Nyimba, people have to paddle inshore to draw water. Often, they utilise water from the same places where their animals are watering.

“We share the same water with animals, cattle drink there and people..., so we use the same water from where animals drink for cooking, drinking and other household use. Diarrhoea and cholera are very common because of poor water that we drink here. Three of our colleagues died.” [Fish trader].

Although Namalyo fishing community gets its water from a shallow, open well, this communal well serves a population of more than 2,800 people. In some households, wells have been dug to increase water access. In the rainy season when it floods however, these wells get submerged, causing rubbish and excreta from the bush to contaminate drinking water. Cases of deaths from preventable diseases such as cholera, diarrhoea and dysentery



often occur due to poor water quality and a general low hygiene status in fishing communities. While fisher folk are aware of simple techniques such as boiling water to kill germs and bacteria, such processes are regarded as time consuming and labour intensive. As most of the bushes and woodlands surrounding fishing communities have been deforested for firewood to dry fish, it takes too much time and effort to get firewood from elsewhere just to boil water. Alternatively one has to buy from wood sellers who sell firewood at very high prices. Although chlorine is available in some shops, very few households can afford to buy this water purifying product, or their income is spent on beer. A young man running a shop in Nyimba fishing community explained:

“Fish traders buy the product [chlorine] than the local people, they [local inhabitants] drink water from the river...they are used. Even when chlorine is 500 kwacha, fishermen cannot afford to stay without beer in replacement of chlorine. We try to educate them but they often respond “beer kills the germs and bacteria that get into the body when we drink water, no need for chlorine.”

Apart from cholera and diarrhoea, the major cause of death besides AIDS is malaria; seasonal flooding of the Kafue wetlands provides favourable breeding grounds for mosquitoes, contributing to a high prevalence of malaria. Respondents complained that interventions on malaria prevention through the distribution of mosquito nets mostly benefit urban populations, or target pregnant women only.

Malaria especially has a negative impact on people living with HIV. With the absence of good nutrition, sanitation and health care, malaria combined with HIV/AIDS hit fisher folk and fish traders with cycles of illnesses that decrease their productivity while increasing poverty. For pregnant women, malaria combined with HIV reduces their immune system, leading to susceptibility of infections, severe anaemia and eventually death. Malaria moreover increases the risk of spontaneous abortion, stillbirth, premature delivery and low birth weight. As other diseases, malaria disproportionately affects the poor and marginalised, particularly those in remote fishing camps, as interventions designed to aid the poor and vulnerable are not reaching them. While lack of health infrastructure might not be solved on a short term basis, outreach and education are immediate activities that can be undertaken to promote hygiene and safe water use in fishing communities with immediate effects on their health status.

4.4 Lack of services and poor infrastructure

4.4.1 Limited access to health care and services

Because of their remoteness, and in the case of the Kafue Flats because of the national park boundaries, fisher folk access to health care services is extremely limited. Fisher folk and fish traders are 2 to 3 times less likely to receive basic public health care, treatment and prevention services. Whenever they fall sick, fisher folk and fish traders have to travel by water or have to walk long distances to access health services in which the nearest clinic is in the range between 28 and 35 kilometres away. When they do eventually reach the nearest clinic, other challenges arise, including shortage of drugs, lack of personnel, and inadequate personnel. Distance and expenses for transport represent considerable barriers to accessing health care in the Kafue Flats.

“When someone falls sick, we have to organise for transport, sometimes people contribute some money, there’re no roads here, no clinics nearby...it is very difficult to organise transport, sometimes there is no petrol for the boat to ferry the patient to the harbour, and some even die. Last time we had an incident where a fisherman was attacked by Boko [hippo] but was injured and managed to escape. He would not have died but when we travelled up to the harbour due to poor transport...that person died. So transport is one major problem when it comes to health issues, some people usually die on the way to the clinic or hospital.”

The study revealed that more than half of the fishing population of the Kafue Flats have no access to health care services at all, while two-thirds have to cross the wide Chunga Lagoon; a 12 km journey that takes several hours paddling to reach the harbour. At the harbour, the patient is laid on the ground under the shade while men armed with machetes walk in the nearby bushes in the GMA to look for poles long enough to function as a wooden stretchers to carry the patient to the clinic. From the harbour, the nearest clinic is Ntemba, at a distance of 22 km, or Malundu clinic at 28 km, which is a slightly bigger clinic with admission wards. Households and families with some income are able to hire ox-carts from the nearby Banakila village when they get to the harbour, to ferry the patient to the nearest Kemba clinic³. This means that while a patient is in need of medical services, one first has to travel to the village to organise and hire an ox-cart. In the absence of ox-carts, men have to carry the patient on their shoulders while wading through the water.

Inadequate health facilities, poor health delivery, lack of access and distance to care and services are placing fishing communities at risk, especially since these factors force many patients to postpone seeking medical attention whenever they fall ill. This includes sexual and reproductive health care, hence the risk of late detection of STIs and HIV infection. Fisher folk and fish traders do not easily take time off from work to seek care and many seek medical services only if they are badly injured or when they are very sick. Because of long distance covered to the clinic, herbalist and traditional doctors have flocked into fishing communities to provide health care

³ Kemba is one of the few clinics in the Kafue Flats region, apart from Chitongo and Namwala where ARVs are provided. These health centres are supplied by the main Hospital in the district capital Monze. When they fall short of drugs (ARVs) patients are referred to travel to Monze Hospital, which is 48km away from the Lochinvar National park.

services, yet they do not have the capacity to diagnose and treat diseases like HIV/AIDS. Women are particularly vulnerable, especially when pregnant. In the absence of care, some have given birth while on transit on water or on land in ox-carts.

A major challenge for fishing communities is the distance to the nearest clinic. This is added to more common challenges in the Zambian health sector, namely inadequate care, shortage of staff and shortage of drugs. A key informant observed:

“What makes people not to go to the clinic is because they know that even if I go there after walking long distance I will be given just panadol...for the rest of the medicine I will be told to buy for myself. Sometimes there are so many patients, one nurse. You are not properly diagnosed because they don’t have the equipment like CD4 [equipment], or HIV testing, they will get the blood, some even take long to bring the results, some results gets mixed up, some even get lost. They will refer me to Monze. When you consider the distance and the time I have wasted, it was better to buy panadol from the shops here.”
[Fisherman, Kafue Flats].

Lack of medicine, lack of testing equipments and the attitude of referring patients to buy their own medicine due to lack of stock combined with long distance travelled has frustrated fisher folk and fish traders to seek health care service from the existing clinics. In addition, the study identified the following factors to contribute to the challenges in accessing health services for mobile populations:

- Lack of knowledge and familiarity regarding where services are located by most migrant fish traders;
- Distance and lack of transport services;
- Cost of travel, water transport is risky and very expensive.

4.4.2 Lack of education

Due to their remoteness, fishing communities have limited or no access to education services. In none of the fishing communities and camps covered in the study there are any traceable education infrastructures, apart from the Catholic Church who built a school in Nyimba village. The Catholics left this school in the care of the local community five years ago, but it has deteriorated since. Government schools have not reached the fishing communities in the Kafue Flats and community support for education is lacking. This means that many children are not able to access education and illiteracy rates continue to grow. Over 80% of children are illiterate, while adult illiteracy is estimated at 60%. Besides the lack of education facilities, it is also common in fishing communities to take boys from 10 years onwards for fishing; they have to help with the catch and are expected to supplement their household with fish and income. It is normal practice to encourage the boy child to be hard working and to concentrate on fishing, as due to the lack of education, this is the only job available to them. Over 30% of fishers are below the age of 30 years, single and many of them are alcoholics. They do not serve as good role models for children, and especially the boy child is influenced by their behaviour or alcohol abuse and transactional sex. With disposable cash at their availability at a young age, and through peer pressure, the younger generation is encouraged to engage in multiple

sexual relationships with female fish traders, which makes them highly vulnerable to HIV. The lack of information about HIV/AIDS targeted at specific age groups in addition to widespread illiteracy makes fisher folk vulnerable to HIV/AIDS.

Key informants in the study confirmed that the lack of education is one of the main factors contributing to the spread of HIV/AIDS as many youths, boys and girls do not adequately comprehend HIV information due to illiteracy. In addition, many are ignorant about the disease. An interview with one of the volunteer nursery school teachers in Nyimba fishing camp revealed that child attendance is heavily influenced by fishing and the seasonal demand in the prices of fish. According to him, children frequent schools particularly from June to August. From August to November school attendance is affected by the influx of fish traders due to the rise in demand for fish. School attendance and child turn up is also affected by the threat of crocodiles and hippos from January to April, in the flood season. The threat of animal attacks causes many parents not to send their children to school. On the other hand, parents often encourage their children, particularly the boy child, to engage in fishing with their father, peers or guardian to increase productivity and profit for the household.

The girl child is the worst affected because she helps in cooking and fish processing and is often not even considered to attend school. She grows up without any form of education, which makes her more vulnerable to violence and sexual abuse. Early marriages often occur, and many girls are encouraged to engage in fish trading. Key informants mentioned young girl's engagement in pre-marital sex due to lack of education and this places them at risk of HIV, biologically because their reproductive system is still immature and physically because they are not able to negotiate for safer sex. Many school-aged boys and girls in fishing communities have been deprived of their right to education and have been absorbed into fishing and fish trading; very risky activities that render them more vulnerable to HIV/AIDS.

4.4.3 Poor infrastructure

Apart from education, there are problems of poor road infrastructure making it difficult for fisher folk and fish traders to access fishing camps because much of the area is flooded. A large number of fishermen in the study mentioned lack of feeder roads as one of the impingements they face in their fish trade. Apart from Kavuwa fishing camp, which is accessible all year round even during the rainy season, the road infrastructure is very poor or non-existent in much of the Kafue Flats area, resulting in marginalisation of fishing communities. Lacks of roads coupled with seasonal floods have made it difficult for health care providers to access fishing communities.

Poor infrastructure is one of the main reasons why fishing communities and camps in the Kafue Flats have been neglected basic services like education and health care services. This means that despite national efforts for roll-out, HIV prevention, care and mitigation efforts do not reach fisher folk in the Kafue Flats. Mobile health services could reach out to fishing communities to ensure timely diagnosis of HIV/AIDS and other diseases. Infants and children below the age of five are severely at risk of disease because they are rarely taken to "under five" clinics and many of them are not recipients and beneficiaries of nation-wide immunisation programmes due to distance, lack of infrastructure and lack of transport. For people living with TB

and HIV/AIDS, distance and lack of transport represents the major barrier to accessing health care and follow up treatment.

4.4.4 Lack of adequate accommodation

Due to the nature of their business, fisher men as well as female fish traders spent weeks or months away from home, which often leads to the development of new sexual contacts. In addition to that, key informants indicated that inadequate accommodation facilities are a contributing factor in the spread of HIV/AIDS in fishing communities. Fishers and fish traders move from one fishing spot to the other. Within a few days, fishermen may shift between several fishing camps and fish landing sites, followed by fish traders. In none of the fishing camps covered by the study there were any accommodation facilities where fish traders can spend the night. While in fishing camps, fish traders experience difficulties in securing accommodation and the only option is often to spend the nights in overcrowded houses with structural defects and flooded floors. Lack of accommodation facilities result in women squatting or cohabitating with single fishers. In order to access accommodation, many women engage in unprotected sex with the local fishers. As female fish traders often lack cash in anticipation of the fish catch, they often have to pay in kind for their accommodation. To avoid being labelled as prostitutes, the women accept temporal marriages with the fisher men. In such risky sexual relationships, women are not able to demand condom use and are highly vulnerable to sexual exploitation.

4.5 Alcohol abuse and availability of cash

Excessive alcohol intake can damage physical health such as low blood sugar in diabetics, stroke, heart failure and liver problems. In fishing communities, alcohol intake represents an important, sometimes the only, form of entertainment. Fishermen's high cash incomes from fish sales are attracting women from the surrounding farming villages. By brewing and selling beer in fishing camps, these women seek an income, but the consequence is that the income of fisher men from fish sales goes towards alcohol. On the one hand, through the income from the sale of alcohol, women indirectly benefit from the fishery profits, but on the other hand, the availability of cash influences excessive alcohol intake. Coupled with an influx of commercial sex workers who are attracted by the availability of cash in fishing communities, this poses health risks to the men and women involved.

***“Fishermen take alcohol
and start chasing ladies”***



Box 3: *In many instances, if I can give an example, one time there were two groups of women [commercial sex workers] who came here. They just came to do prostitution and men had to line up going in for sex. They had nothing to buy or sell. These women came in two taverns, what am telling you happened here in Nyimba, ask anyone will tell you. So this is prostitution, they were not selling anything and they were not buying fish. So that had a negative impact on us because a lot of people have gone, people have died from the HIV pandemic. [Bar owner and operator-Nyimba fish camp, Kafue Flats fishery].*

Fishermen interviewed expressed their worry about their lives because they perceive prostitutes and female fish traders as likely carriers of HIV. When they arrive in the fishing camps, fish traders engage in sexual relations with fishermen, for money, for fish or for other favours. In the Kafue Flats commercial sex workers have been noted to frequent fishing camps especially in seasons of high fish yields from August to November. A lot of commercial sex workers and prostitutes visit the camps in bars and fishermen spend their disposable cash income on sex with these women (see Box 3).

As alcohol compromises decision making, men who abuse alcohol face greater risk of HIV infection; they are more likely to engage in sexual activities, but less likely to use condoms. Since often multiple partners are involved (commercial sex workers as well as female fish traders) and the sex is unprotected, the virus is easily spread. Fishermen pay for the sexual favours with cash but more often with fish, which creates dependency between them and the women they frequent.

A woman who brews local beer 'Bukoko' revealed the impact of excessive alcohol intake and stated;

"I brew beer it's my job but the beer I brew, the problem I have seen is that when fishermen get drunk they go round and sleep with a lot of women."

And:

"Fish traders don't usually drink beer, so when fishermen get drunk, they start chasing for ladies to have sex and they don't think about condoms. This is how they get HIV/AIDS," [Bar operator, Nyimba fishing camp].

The study found that 74.5% of fisher folk and fish traders did not use any modes of prevention in their last sexual activities, of whom 39.8% were men and only 10.5% of them used condoms due to excessive alcohol. Alcohol abuse and reluctance to use condoms place fisher folk and fish traders at risk of HIV. For those already infected and on ART, alcohol increases the progression of HIV into AIDS because it compromises the functioning of the immune system. Fishermen in particular, especially those on ART, are often drunk and engage in risky behaviour because they believe that alcohol reduces the stress of coughing and puts the virus to sleep:

"If you get drunk, you cannot pass HIV to your partner because the virus is also drunk and asleep."

Based on such misconceptions, fisher folk and fish traders continue to engage in sexual behaviour that increases the risk of HIV infection. Some fisher folk reported using "crocodile fats" in replacement for ARVs, due to lack of access to the drug.

Tedious daily intake of the drug has also been used as an excuse to refrain and postpone the decision to seek medical services and care.

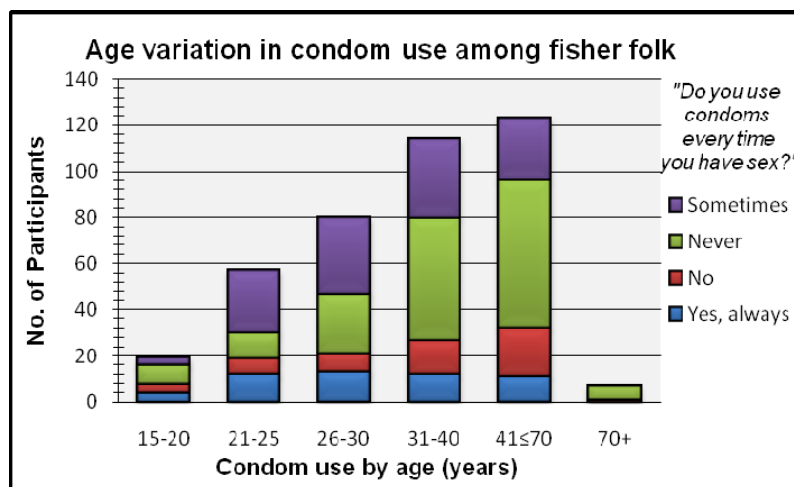
4.6 Low levels of condom use among fishermen

As elsewhere in Africa, HIV infection in fishing communities is transmitted mainly through unprotected heterosexual sex. While the cornerstone of HIV prevention is condom use, such information is often misunderstood by most fisher folk and fish traders. Although there is no data available on the rate of HIV infection among fisher folk and fish traders, estimates show that the rates of infection range from 2% to 14% in the fish peak season (from August to November). It is estimated that 90% of female fish traders and 70% of fishers and male fish traders never carry condoms when they travel, since carrying condoms is a sign of promiscuity and they fear being perceived as engaging in prostitution. Key informants believe that multiple sex partners, transactional fish-for-sex and prostitution present the greatest risk among fisher folk and fish traders as condom use is neglected or inconsistent. Lack of easy access to condoms and costs are likely barriers influencing low condoms use.

“You cannot buy a sweet and eat it together with its cover, what taste would you expect? It’s the same with condoms...”

The study found that 92.3% of fisher folk and fish traders in the Kafue Flats are sexually active, with the age group 15-50 years worst affected by HIV/AIDS. Fish traders particularly, many of them young women, are most vulnerable to the disease due to transactional relationships (fish-for-sex). Among the sexually active fisher folk and fish traders, 98.8% indicated having a girl/boy friend, and having had sex with more than one sexual partner in the last 6 months. Results further indicate that among the sexually active women, approximately 70% stand a chance of getting infected with HIV due to lack of condom use and multiple concurrent sexual partners. Low condom use is prevalent in fishing communities, with 79.1% of fishermen never using condoms. For women 69.8% never use condoms, which can be attributed to their weaker socio-economic position to negotiate for safer sex. Additionally, there is a lack of female condoms in fishing communities.

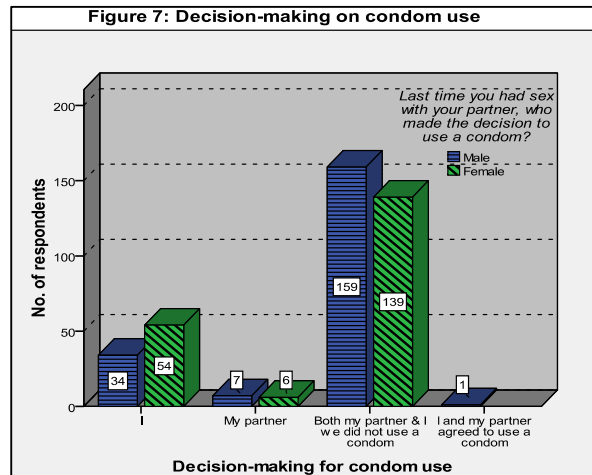
The low rates of condoms use among fisher folk and fish traders are influenced by age and sex (see Figure 6 right).



As can be seen from the figure above, responses “no”, “never” and “sometimes” clearly demonstrate low condom use among fisher folk and fish traders in the sexually active age groups (21-70 years), which make them vulnerable to HIV/AIDS and STIs. The age group 26-30 years has the highest number of men and women “always” using condoms, although this number is very low compared to those sometimes and never using condoms. When analysing marital status, high rates of condom use were reported among those in marriage (76%), with very low condom use (10%) among “single and never married” men and women higher. Condom use is lower among the “divorced” (7%) and “widows and widowers” (7%).

Overall, the study found that less than half of the respondents had ever used condoms, and of those that had been sexually active in the last six months less than 30% used condoms. Seventy percent (70%) never used condoms for a variety of reasons, including non-availability of condoms in fishing camps. In addition, 54% of men and 46% women insisted not to use condoms because they believe that condoms disturb during sexual intercourse. More than three quarters of the respondents (80%) responded to our questions on condom use, while about 20% was reluctant to answer questions on condom use, which may indicate ignorance or shyness to talk about condom use.

When analysing who is insisting on condom use, we found that there is a variation by gender, with more women (30.2%) than men (20.9%) insisting on condom use (see figure 7 on the right). At least 61.4% of women, particularly fish traders, indicated having been approached by fishermen who requested for sex in return for fish. In such cases, 69.8% did not use condoms, which indicates their vulnerability to HIV infection. When fisher men were asked if they would feel upset if their sexual partner insisted on condom use before sex, 67% of fishermen strongly stressed that they would be very upset.



Our assessment of risk perception among fisher folk and fish traders shows that 73.5% of women considered themselves at no or low risk of contracting HIV, while only 16.3% considered themselves at highest risk and 10.2% expressed ignorance about HIV/AIDS and could not assess their self risk to the disease. From observations and informal discussions however, we estimate that over 70% of women who reported themselves at no or low risks are actually at high risk of HIV because of the reported lack of condom use in their last sexual interactions.

Although basic knowledge on HIV/AIDS might be there, women in fishing communities were found to be unable to discuss issues of sexual and reproductive health due to gender power imbalances. The study found that fishermen and fish traders believe that AIDS is a myth aimed at controlling their sexual freedom, which makes them underestimate the chance of getting infected.

*“The disease [HIV/AIDS] didn’t come for animals but human beings, whether one died of AIDS and another of malaria, the fact is that they are both dead.”
[Fisherman, Kafue Flats].*

Low condom use is influenced by wrong perceptions among fisher folk regarding safety of condoms, as some reported that condoms are said to cause HIV and cancer. Many fishermen believe that condoms do not effectively prevent HIV as the virus is perceived to be deliberately manufactured together with the condom and lives in the lubricant, while women suggested that condoms lead to cancer of the womb or associated reproductive health problems. When asked if the disease makes them worried, the respondents said they felt the impact of AIDS to some extent but the belief prevails that HIV/AIDS is like any other disease. As ARVs exist, the fear to get infected is even less, as fisher folk and fish traders believe that the disease is manageable with ARVs:

*“This time we just need to top up [taking ARVs], with these songs nowadays “topin’gumoyo, katwishi uko” [top up for your life, I don’t know further], we are not worried because we know that when I get infected there is medicine - “topin’ga po chabe.”
[Fisherman, Kafue Flats].*

Informal interviews also revealed that there is limited knowledge about re- and co-infection, as a local woman explained that fishermen and fish traders living with HIV are less likely to use condoms.

Power imbalances between men and women influence choices about safer sex, and women who insist on condom use are likely to be rejected by their man. In marital sexual relationships, men often use physical strength to force women into sex against their will. Although it is generally believed that married women are moderately at risk of HIV infection, findings from the study show that marriage is no prevention against HIV, but rather puts married women at higher risk of HIV infection. As men engage in extramarital sexual relationships with other women, prostitutes and fish traders, women worry that their husbands’ behaviours put them at risk of HIV.

*“When fish traders arrive here, the first thing is to look for a fisherman...to build a sexual relationship so that tomorrow when she gets to the harbour she will just get free fish. These are the same fishermen married to us.”
[Local woman, Kafue Flats]*

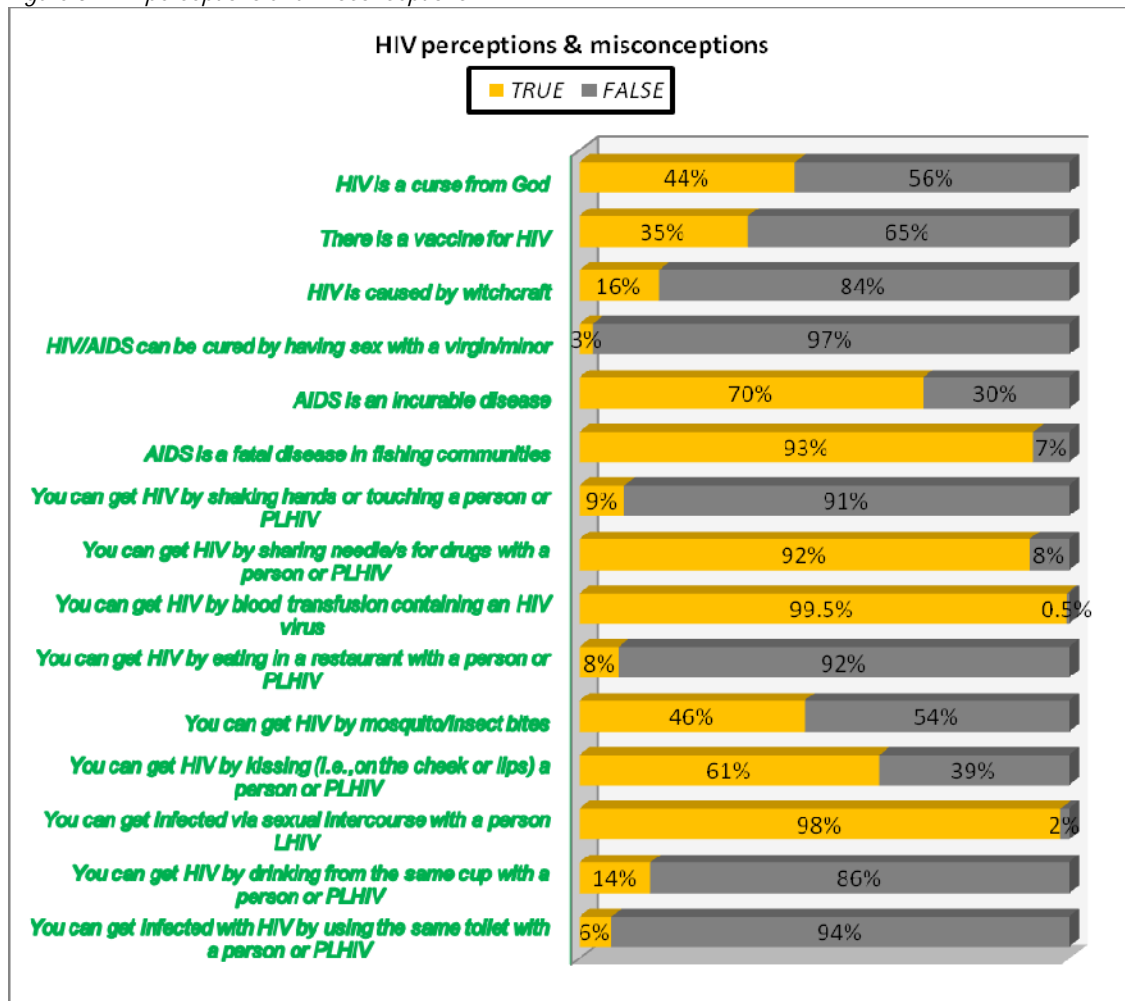
The local married women complained that their spouses only love them during the temporary fish ban period from December to February because then there are no fish traders to interfere in their marriage. As soon as the fishery opens again (from 1st March), fishermen are on the lookout for other women. Many women reported to have lost their marriage to migrant female fish traders from outside their fishing community. Overall, female fish traders are seen as the main drivers of the epidemic in fishing communities, but 73% of fishermen interviewed admitted engaging in risk sexual behaviour with women due to peer pressure, so the blame cannot be put on one group of people only.

4.7 HIV knowledge and risk perception

4.7.1 HIV information and misconceptions

HIV information and education plays a crucial role in the prevention of the disease, but outreach and dissemination of IEC materials targeting fisher folk is very minimal. Fisher men and fish traders reported not to receive sufficient and accurate information about HIV prevention, care and treatment due to lack of services in fishing communities. This lack of information is coupled with taboos, myths and misconceptions, especially about condoms. This causes condom use to be very low, which increases the risk of acquiring or transmitting STIs, including HIV.

Figure 8: HIV perceptions and misconceptions



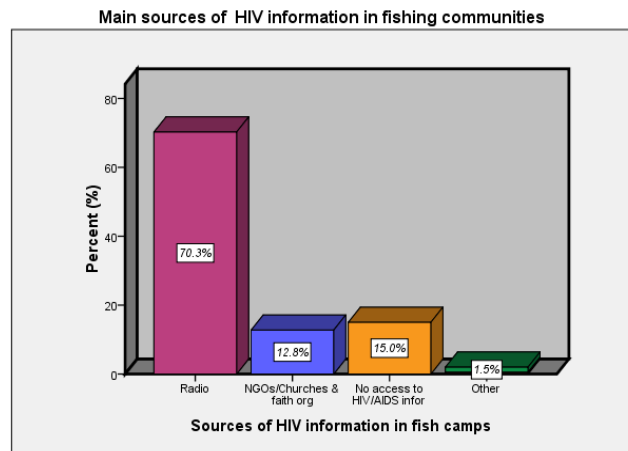
In fishing communities in the Kafue Flats, it is believed that HIV/AIDS is a curse and something that only occurs among prostitutes. Interviews with fisher folk and fish traders show that basic knowledge about HIV is wide spread and unprotected heterosexual relationships are mentioned as the main mode of HIV transmission. As also other modes of HIV transmission such as needle sharing and blood transfusion were mentioned, suggesting that basic knowledge on HIV transmission is present. The study however found that knowledge about prevention, treatment and care is being influenced and undermined by myths and misconception. As many as 46% of

respondents believe that HIV can be transmitted through mosquito bites and 16% believe that HIV is caused by witchcraft or magic. Although fisher folk and fish traders believe that ARVs can prolong the life of people living with HIV/AIDS, 30% still believe that AIDS is curable, while 35% stated that AIDS can be vaccinated against, just like other diseases (see also figure above).

Over 70% of the population in fishing communities indicated to receive messages about HIV/AIDS through the local radio broadcasts, which comes in the form of local drama and adverts. Respondents indicated that reaching them directly with HIV awareness messages would dispel myths and misconceptions about the disease. Very few NGOs have been engaged in dissemination of HIV information in the Kafue Flats, but these only reached 12.8% of fisher folk and fish traders, as they concentrated on accessible fishing camps, leaving out many others. While 15% of respondents indicated to have no access at all to HIV information, 1.5% received HIV messages through other sources such as brochures and newspapers. Fish traders pointed out that lack of access to HIV information greatly puts them at risk because they only receive HIV information when the travel to the hospital, clinics and markets in urban areas. Women in fishing communities pointed out that lack of a consistent flow of HIV information in fishing communities makes them easily forget the risks associated with HIV.

***“We hear about
HIV through radios...
No one is interested to
come and teach us about
HIV/AIDS”***

Figure 9:



In order to prevent HIV infection, fisher folk and fish traders need comprehensive information about how HIV is transmitted and what they can do to stop themselves from contracting the disease. AIDS education in an interactive manner can help to dispel false information, thereby increasing knowledge, promoting behaviour change and reducing stigma and discrimination of those already infected. Fear for stigma and discrimination makes people reluctant to be tested for HIV. Lack of self perceived risk combined with lack of HIV information and prevailing misconceptions

increasingly puts fisher folk and fish traders at risk as they are less likely to take precautions to protect themselves.

4.7.2 Stigma and discrimination

The levels of stigma and discrimination were reported to be very high among fisher folk and fish traders. Illiteracy contributes to lack of information on HIV transmission, prevention and care. This lack of information results in fear for those already infected. Consequently, those already infected are not able to disclose their HIV status for fear of isolation and discrimination. HIV is reported to be a reason for divorce, as some female key informants reported to be in marital separation because their spouse is infected with HIV. Interviews with fishers and fish traders show that more than 40% of issues discussed concerning HIV are around HIV prevention, while 60% concerns stigma and discrimination.

Fishermen indicated that fear for stigma and discrimination has prevented them to seek medical attention; the fear for isolation following disclosure of their status would be unbearable. Stigma and discrimination have contributed to the spread of HIV as people don't know their status and don't take preventive measures, increasing the risk of re-infecting themselves, besides infecting others. Eighty percent (80%) of the respondents indicated that people do not declare their HIV status in fishing camps, and all respondents recognised that the infection can be stemmed if people would disclose their status. The creation of support groups can be a tool to reduce stigma and discrimination in fishing communities.

4.8 Illiteracy and power imbalances

4.8.1 Illiteracy

Among fisher folk and fish traders, illiteracy represents one of the contributing factors to the spread of HIV/AIDS because many are ignorant and underestimate their risk of HIV/AIDS due to lack of information. Illiterate women are less able to negotiate for safer sex or use condoms. The study showed that there are gender differences in literacy rates, with 40% of female fish traders being able to understand preventive HIV/AIDS messages because of their frequent travels to the urban markets, against 60% of fisher men understanding preventive messages.

Unlike female fish traders from urban markets, the local women in fishing communities have very low rates of literacy and have limited opportunities to fully and actively participate in decision making. In addition, they are socially and economically disadvantaged to use and control resources in the households as men have full control. Local women in fishing communities have less knowledge about HIV/AIDS than men, and decision making around sex (including where and when to have sex, and whether or not to use a condom) traditionally lies with the man. In most ethnicities residing in the Kafue Flats, women are thought to be obedient and passive towards their husbands and they are encouraged not to deny their husband's demands for sex. The culture of polygamy and multiple concurrent unprotected sexual relationships have further placed women at higher risk of HIV/AIDS.

4.8.2 Gender power imbalances and HIV/AIDS

Gender inequality and power imbalances between men and women are key drivers of HIV/AIDS in Zambia, but due to the nature of the sector, these disparities are more severe and more visible in fishing communities. Gender norms related to masculinity expect fishermen to have multiple sexual partners, especially the fish-for-sex phenomenon places women in a vulnerable, dependent position. Out of fear of rejection and violence, women accept men's wishes and lack the power to ask them to use condoms. Key informants also mentioned cultural practices such as sexual cleansing and widow inheritance to influence women's vulnerability to HIV. When their spouse dies, a woman might not only be left infected with HIV, but she will also be deprived of resources, as most or all of the fishing gear (boats, nets) are inherited by the relatives of the deceased. This leaves the widow in a very vulnerable position, forcing her to engage in risky survival strategies such as prostitution and transactional sex to secure a livelihood.

Lack of access, control and ownership of resources makes women unable to access credits facilities as they have no collateral. Changes in traditional practices and customs, as well as strategies for equal access and ownership of resources (income as well as assets) are needed to ensure that both women and men can use their potential for the well-being of the household. In responses to HIV/AIDS among vulnerable households, programmes that promote economic empowerment of women must be encouraged, including provision of microcredit, vocational and skills training and income generating activities, to reduce some of the vulnerability factors facing women specifically.

In some fishing households parents force their daughters to get married to some older men who have had sex with many partners. This places young women at increased risk of becoming infected because they may not have the ability to communicate and negotiate for safer sex due to inequalities of status and power. Local women in the study expressed their worry that many fishermen engage in unprotected sex with female fish traders and they cannot talk about sexual behaviours of their spouses (see also Box 4 on the right). Women further stated that fishing communities lack institutions such as the police and local courts where they can seek help and justice whenever they are abused, insulted, beaten or mistreated by men. Married women complained that marital problems concerning domestic violence and fishermen's engagement in sexual

Box 4: *“Those women who come to buy fish here some drink beer with our husbands and a lot are prostitutes who sleep with our husbands. Sometimes when we discover and ask our husbands about their behaviour, they respond very rude and beat us. They beat us, we told to shut up. They do this to defend themselves even if they are wrong, we cannot raise our voices to discuss sexual matters concerning our husband's risk behaviour with other women because men have more power than us [women]. For some of us who don't want to quarrel, “timafela mukati [we keep quiet and leave it hurt inside our hearts]”. If we intervene in their sexual relationships with other women, we are intimidated with the treat of divorce, they say do whatever you want but what can we do as women? We have no police or courts to take such matters to and when we take such cases to the headman, our spouses rarely come for hearing. The headman is often ignored. Sometimes the ruling is passed in favour of men saying that men have rights to marry more than one wife, even up to five women he can marry.” [Women in FGDs, Kafue Flats].*

relationships with other women are sometimes reported to the chairman or the headmen. Despite efforts made by women in reporting such cases seeking for justice, very few men are ordered to report for hearing and very little is done to control the situation. An interview with a female respondent revealed:

“The way we live in these households as women, we live just because we are married, some men don’t support their wives, some when drunk insult their spouse in public. So to avoid falling in poverty we have to fend for ourselves through fish trading or sleep with his fellow fishermen...to find income and food...because the money fishermen [my husband] earn is used for beer and to pay prostitutes”.

“If I discover my husband dating another woman, I keep quiet; because if I raise my voice, he beats me, am told to shut up...”

4.9 Lack of support services and access to loans

As fishing communities in the Kafue Flats are located in remote and isolated places, formal credit and financial institutions do not reach them. Banks and financial services are concentrated in towns and urban areas, focusing on agriculture and other sectors. For many years, fisher folk and fish traders have been borrowing money from informal local institutions like local – money lenders (LMLs). Although LMLs levy high interest charges, they tend to be more convenient and flexible and provide personal service to vulnerable fishermen and local women trading in fish. LMLs are found in the fishing community or fishing camp and money lending and repayment is based on kinship and personal relations. Although the money borrowed has some conditional interest attached, the practice has helped many vulnerable women by providing credits for fish trading whenever they face a loss. For vulnerable women to keep pace with capital they practice a traditional rotating banking system called “Chilimba” and in a group of three to five women, each contribute equal amounts of money. They then agree on the first person to use the money and on which day to deposit money again. The economics behind Chilimba is very simple to understand and many women are practicing it today as a form of banking and money lending.

Poor and vulnerable women in the Kafue Flats who have inadequate sources of income have benefited from group-rotational banking, but the income is not sufficient to make substantial improvements to their livelihood situation. Fishermen have no other activities except fishing which is not carried out throughout the year. In the closed season, they lack alternative sources of employment and all the income earned from fishing is used up during this time. When the fishery opens, fishermen have problems in

“We are neglected because we are fishermen, if we were miners or farmers, we would have had access to loans”

accessing formal credits to buy fishing gear while women engage in illicit activities such as beer brewing, prostitution and transactional sex to find capital. When they compare fishing with other sectors, fishermen stated that farmers and miners have been able to access loans from government and other financial institutions, while fisher folk have been neglected because fishing has often been perceived as an informal employment.

“Our colleagues in town are given some loans from some companies where they work but when you look at us fishermen and fisher traders we are neglected, no one is helping us with some loans. What we are asking are the loans...because crocodiles damaged nets on a daily basis, they also want to feed on the same fish already caught in the nets. When the nets are damaged then it means problems, because that is where we get our income.”

[Fisherman, Kafue Flats]

Poverty and illiteracy present additional obstacles for many fisher folk and fish traders to borrow money from formal credit facilities. Since fishing and trading do not count as formal sector, fisher folk are being labelled as unemployed, which is not an attractive status for credit facilities to provide their money. The paper work involved in formal credit and collateral factors required by lenders are another limiting factor for illiterate fisher men and fish traders to access formal credits. When it comes to collateral agreements, the poor fisherman and fish trader have nothing to offer because many are poor. Discussions with respondents linked lack of access to formal credit to prostitution and transactional sex, as women without adequate capital are more likely to engage in sexual behaviour that puts them at risk. Some women in the FGD stated:

“Loans can help us [them] manage the business and can reduce the spread of HIV because some women go in prostitution to gain money, at the same time they spread and re-infect themselves while some get infected. But the government has neglected us even when we voted for them; there is nothing they are doing to help women in fish trade”.

Although government is mostly blamed, money lenders and financial institutions have neglected fisher folk and fish traders, benefiting only those in formal employment with access to credit facilities. Women are particularly disadvantaged in the financial market, as borrowing money involves paper work that requires the approval and signature of their husbands. These conditions may block married women to access a loan, and completely deprive widows, divorced and unmarried women from access to formal credit. Interventions in the fisheries sector in Zambia should take into account fisher folk’s specific needs regarding support services and access to capital in order to secure their livelihoods and reduce their vulnerability to HIV/AIDS.

Chapter 5: Conclusion and recommendations

This study has been conducted by the WorldFish Center Lusaka office in collaboration with local data collectors and with the support of local leadership in the target districts Monze and Namwala in the Kafue Flats in Zambia. Findings show that the fisheries sector in Zambia faces a variety of human development challenges.

The target fishing communities in the Kafue Flats comprise men, women and children, who all depend on fish for food and livelihood. Income from fish trade is commonly used to buy clothes, other food items and medicines. Lack of roads and other infrastructure, poor hygiene and lack of sanitation are among the structural challenges in all fishing communities and remote fishing camps in the Kafue Flats. Seasonal flooding does not only limit access to different communities, but also causes contaminated water from the river (from excreta and other dirt) to flow into the communities, causing widespread cholera and diarrhoea. The floods also provide a breeding ground for mosquitoes, adding malaria to the already poor health status of fisher folk.

The study found that youths aged 15 – 25 years make up 40% of the population in fishing communities, and they are greatly affected by HIV/AIDS. Because the sector has open access without much restriction, many find fishing an easily accessed sector whenever the formal sector contracts. In the Kafue Flats, fishing is almost entirely done by men, but the majority of women are engaged in processing and marketing of fish. It is this gendered division of labour that is at the basis of vulnerability to HIV/AIDS of both men and women in the Kafue Flats fishing communities.

Transactional sex, apparent through the phenomenon of “fish-for-sex”, is used as a means to access fish, whereby fisher men provide fish to female fish traders in exchange for sex. Due to their weaker socio-economic status and dependency on the fisher men, this system puts women at increased risk of HIV and other STIs. Lack of capital and economic vulnerability forces women to engage in risky sexual relationships with fishermen, following them to remote fishing camps in order to secure their catch. Unprotected sex between fishermen and female fish traders, often from outside the communities, leads to increased vulnerability of local women in the fishing communities, as their husbands come home with the virus when they return from fishing.

A combination of poverty, transactional sex, lack of income and alcohol abuse is making women specifically vulnerable in a rough sector where culturally men are considered to take decisions and dominate women. Not surprisingly, the study found that women are 3 to 4 times less likely to use condoms because fishermen would reject them if they insist on condom use. As men culturally have the power to dictate the terms of the relationship, women are not able to control their own reproductive health, making them more vulnerable to HIV.

The study revealed that fisher men and fish traders have been largely ignored by policy makers and implementers in the national response to HIV/AIDS. Lack of

education and health services are identified as main factors of vulnerability, and it is therefore important to scale out education and health services to fishing communities in the Kafue Flats, as knowledge and education are important tools in the response to HIV/AIDS. Expanding the number of government and community schools will improve literacy rates and children in fishing communities will be less likely to drop out of school to engage in fishing (boys) or fish trading (girls). Through education, early marriages will reduce and children, especially girls, will become less vulnerable to HIV/AIDS and other diseases. Tailored written and graphic HIV/AIDS information materials, including information on sanitation and personal hygiene, need to be developed; addressing fisher folk specific needs, and should be made available in the different local languages spoken in the Kafue Flats. Mobile clinics, frequenting permanent fishing communities or being based at a central point, will be required to bring the much needed VCT and HIV/AIDS related care and services to fisher men and fish traders. Important in such HIV/AIDS interventions is the inclusion and special targeting of youth, as they have specific needs and require a targeted approach.

Through fish processing and trading, women and girls play a key role in the fish marketing chain of the Kafue Flats, reaching markets in neighbouring districts and Lusaka. For some households, fish trading represents the primary source of income and livelihood yet the investment is severely at risk of HIV/AIDS through the occurrence of transactional sex. In order to reduce vulnerability factors related to transactional sex, strengthening business- and financial skills of women will make their fish trading or fish processing businesses more robust and their incomes more secure, hence reducing the likelihood of turning to risky behaviour. Provision of micro credit or well-structured savings groups might be the injection required for women's economic empowerment and consequently reduced vulnerability to HIV/AIDS. Training on business skills and livelihood diversification would be additional pathways to reduce poverty and vulnerability in fishing communities. This requires buy-in and coordination from policy makers and planners, as well as governmental and non-governmental implementers.

In summary, the following recommendations flow out of this study:

- Collaboration between the Ministry of Livestock and Fisheries, the Ministry of Health, and the National HIV/AIDS/STI/TB Council is required to coordinate responses to HIV/AIDS and other health issues in the fisheries sector. Linkages should be sought with local leaders, NGOs and other key stakeholders for implementation of the required prevention, care and mitigation activities.
- HIV/AIDS and other social issues need to be incorporated into fisheries management plans and implementation.
- Gender mainstreaming is important in planning and implementation of interventions, focussing on empowering women in the fisheries sector and sensitizing fisher men on the important roles of women in the fisheries sector.
- Accessible HIV/AIDS information needs to be made available to fishing communities in their local languages. Such outreach should make an effort to dispel myths and misconceptions about HIV/AIDS and condoms.
- Adequate and accessible health care services must be provided through mobile VCT and HIV services, either visiting different fishing communities, or being based at a central location for easy access.

- Participatory community plans need to be developed and implemented to address lack of sanitation and poor hygiene in fishing communities.
- As risk associated with transactional sex was found to be directly related to poverty, lack of capital and socio-economic vulnerability, the provision of micro-credit or the establishment of savings groups can reduce specific vulnerabilities of women in the fisheries sector.

This study has provided an insight into the specific challenges and vulnerability factors of fishing communities in the Kafue Flats, with particular focus on HIV/AIDS risk factors. In examining the last research question under this project “*How can female fish traders actively participate in improving access to HIV/AIDS related services and technologies in remote fishing camps?*” this study provides starting points for interventions that can empower and inform women to play an active role in the response to HIV/AIDS, reducing their own vulnerability, and eventually reaching out to reduce vulnerability of other women and households in surrounding fishing communities.

The findings from this study have formed the basis for participatory community meetings and needs assessments, which reconfirmed a variety of challenges that needed to be addressed. Two areas of intervention were selected to start under the regional programme, namely:

- HIV/AIDS and health interventions
- Group savings to reduce some of the fish trade / business related challenges.

Collaboration with Society for Family Health (SFH) has led to a series of community health sensitization, training of community health sensitizers, and VCT provisioning to nearly 1,000 men and women from fishing communities in the Kafue Flats. Building on the health groups formed under these HIV/AIDS and health interventions, the WorldFish Center partnered with the Self Help Group (SHG) from Kindernothilfe to try out the Self Help Group Approach on self-selected groups of female fish traders, in order to enhance social cohesion and to introduce the concept of group savings and joint planning for investment, including social community projects. Together these interventions aim to contribute to a reduction in vulnerability of fisher folk, female fish traders specifically, and the approaches and initial results of these efforts are described in separate reports under this programme.

Bibliography

- Allison, E.H. and Seeley, J.A. (2004b). *HIV/AIDS among fisher folk: a threat to 'responsible fisheries'?* Norwick, UK: Blackwell Publishing Ltd.
- Allison, E.H. and Seeley, J.A. (2005b). *HIV/AIDS among fisherfolks: a threat to 'responsible fisheries'?* Norwick, UK: Blackwell Publishing Ltd.
- Banda-Nyirenda, D., Hüsken, S.M.C. and Kaunda, W. (2009). *Impact of nutrition and fish supplementation on the response to Anti Retroviral Therapy, Zambia. A literature review.* Regional Programme Fisheries and HIV/AIDS in Africa: Investing in Sustainable Solutions. The WorldFish Center. Project Report 1985.
- Béné, C., and Merten, S. (2008). *Women and Fish-for-Sex: Transactional sex, HIV/AIDS and gender in African fisheries.* World Development. 36 (5): 875-899.
- Byron, E., Gillespie, S., and Hamazakaza, P. (2006). *Local Perceptions of HIV Risk and Prevention in Southern Zambia.* International Food Policy Research Institute 2033 K Street, NW, Washington, DC 20006: USA.
- Central Statistical Office (2007). *Zambia Demographic and Health Survey 2007.* Lusaka: CSO.
- Central Statistical Office and Department of Fisheries (2006). *Report of Kafue Floodplain Frame Survey.* Lusaka: CSO/DoF.
- FAO. (2006). *HIV/AIDS in fishing communities: a public health issue but also a fisheries development and management concern.* The State of World Fisheries and Aquaculture.
- Gordon, A. (2005). *HIV/AIDS in the fisheries sector in Africa.* Cairo, Egypt: WorldFish Center.
- Grellier, R., N. Tanzarn, D. Lamberts, and C. Howard. (2004). *The impacts of HIV/AIDS on fishing communities in Uganda: Situation analysis.* London: DFID, MRAG, Options.
- Kissling, E., Allison, E.H., Seeley, J.A., Russell, S., Bachmann, M., Musgrave, S.D., Heck, S. (2005). *Fisherfolk are among those most at risk to HIV: a cross-country comparison of estimated prevalence and numbers infected among groups at risk.* AIDS 19: 1939-1946.
- Lungu, A. and Hüsken, S.M.C. (2008). *Field study: Assessing migration and mobility patterns, access to health services and vulnerabilities of female fish traders in the Kafue Flats fishery, Zambia. Research Design Report.* Regional Programme Fisheries and HIV/AIDS in Africa: Investing in Sustainable

Solutions. The WorldFish Center. Project Report 1970.

- Merten, S. and Haller, T. (2006). *'Fish for Sex' Exchange in Kafue Flats: Risk Opportunities for Rural Women*. Paper Presented at the Proceedings of the International Workshop: "Responding to HIV/AIDS in the Fishery Sector in Africa. Held in Lusaka-Zambia 21-22 February 2006.
- Merten, S. and Haller, T. (2007). *'Culture, changing livelihoods and HIV/AIDS discourse: Reframing the institutionalization of fish-for-sex in the Zambian Kafue Flats,' Culture, Health & Sexuality, 9:1, 69-83.*
- Musumali, M.M., Heck, S., Husken, S.M.C., and Wishart M. (2009). *Fisheries in Zambia: An Undervalued Contributor to Poverty Reduction*. The WorldFish Center/ The World Bank. Policy Brief 1913
- National HIV/AIDS/STI/TB Council of Zambia, (2004). *The HIV/AIDS Epidemic in Zambia. Where Are We Now? Where Are We Going?* Lusaka: NAC.
- National HIV/AIDS/STI/TB Council of Zambia, (2009). *National Strategy for the Prevention of HIV and STIs*. Lusaka: NAC.
- PEPFAR (2008). *Country Profile: Zambia*. President Emergency Plan for AIDS Relief.
- Petersen, C. (2007). *An assessment of project progress and suitable training and capacity building interventions for the WorldFish Center's Kafue Flats project, Zambia*. The WorldFish Center, Cairo, Egypt.
- Seeley, J.A. and Allison, H.E. (2005). *HIV/AIDS in fishing communities: challenges to delivering antiretroviral therapy to vulnerable groups*, AIDS Care. 17 (6): 688-697.
- WorldFish Center (2006). *Responding to HIV/AIDS in the fishery sector in Africa: proceedings of the international workshop*. Lusaka, Zambia. The WorldFish Center.