Dynamics of HIV/AIDS in the Fishing Communities of Benin and Uganda. Food and Agriculture Organization, HIV/AIDS Program.

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The Dynamics of HIV/AIDS in the Fishing Communities of Benin and Uganda

Synthesis Report

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1. INTRODUCTION

1.1 Fishing and HIV/AIDS in Benin and Uganda

Since the start of the AIDS epidemic, over 60 million people worldwide have been infected with the virus. In Sub-Saharan Africa, AIDS is currently the leading cause of death, although rates of prevalence vary widely from one country to the next. Unprotected heterosexual sex remains the predominant mode of transmission in Africa and conditions of extreme poverty in many parts of the continent have favored the spread of the disease among economically vulnerable populations. This report examines two such populations in coastal communities in Benin and Uganda that rely on fishing as their principal livelihood. The objective is to analyze the occurrence of HIV/AIDS in the target populations, including susceptibility to infection among small-scale inland fishing communities and vulnerability to impact of AIDS on fishing livelihoods.

As a livelihood activity, fishing has greatly expanded in the last decade from an estimated 28 million in 1990 to 35 million people in 2000 who are engaged in full or part-time work in fishing. Over 20% of these fishers work in the small-scale sector and earn less than 1USD per day (FAO 2002a). Small-scale fisheries in rural areas continue to expand, despite the high level risk associated with the occupation, due to large seasonal and cyclical fluctuations of fish stock and location.

Although little is known about the prevalence of HIV/AIDS specifically among fishers, there is the feeling that this group is harder hit than other parts of the population due to the sexual behaviors associated with fishers at landing sites. These sites are hubs of economic and social activity that support a burgeoning commercial sex industry. The high mobility of fishers combined with easy access to commercial sex with multiple partners has led to a marked increase in rates of HIV infection among fishers.

1.2 Study Objectives

The overall purpose of this study is to understand the dynamics of small-scale fishing communities’ livelihoods and the contexts of vulnerability in each location in order to design operational responses and policy recommendations that best support these groups.

In particular, the study examines determinants of vulnerability linked with:

- Geographic situation of fishing communities
- Knowledge, attitudes, and practices of fishing communities regarding HIV/AIDS
- Interrelation between fisher migration and sexual behavior
- Seasonality of fishing livelihoods
- Socioeconomic data of fishers surveyed

The objectives of the study are to (1) examine the nature of vulnerability to HIV/AIDS in small-scale fishing communities, (2) to understand how access to natural and social resources regulates livelihood outcomes, (3) to analyze the socioeconomic implications of the above on communities studied, and (4) to identify pertinent areas for future policy interventions.

The original concept note underpinning this study was developed by FAO and access to funding was facilitated through FAO's Support Unit for International Fisheries and Aquatic
1.3 Role of Fishing in the Economies of Uganda and Benin

In both Uganda and Benin, fisheries represent a rapidly growing sector that contributes to national food security, employment and earnings from exports. In Uganda, the major fishing activities are concentrated in Lakes Victoria, Albert, Kyoga, Edward and George as well as the River Nile. Fishing is also undertaken in 160 minor lakes countrywide. Sustainable annual harvest is estimated at 300,000 metric tons of fish; however, annual catches have recently declined to about 200,000 metric tons as a result of uncontrolled access, increased pollution load and siltation, as well as the capture methods used. Out of the total fish caught, 60% is marketed fresh. Fish has also become a major foreign exchange earner at US $ 88 million in 2002 (second to coffee) and contributing 3.5% of GDP in real terms (2001/2002). Considering its key export value, fishing is one of the areas under the Government of Uganda’s (GoU’s) Strategic Export Program (SEP) designed to support the expansion of traditional and non-traditional exports.

Small-scale/artisanal fisherfolk in Uganda operate from small fishing vessels in inland waters; Uganda does not have a coastline. Capture Fisheries or aquaculture takes place in large lakes, rivers and swamps. Approximately 78% of fisheries use labor-intensive traditional technologies (UFFCA, 2003) and this group is estimated at 136,000 in 1997 and account for over 95% of Uganda’s fish production. Almost one tenth of the country’s labor force is involved in the fisheries sector (Allison, 2003) and 98% of fishers are totally dependent on fishing for their livelihoods.

Besides those directly involved in fishing there are a number of other activities associated with this livelihood, for example, fish trading, boat building; industrial fish processing, fish net making and fishing equipment trade. In Uganda, 20% is processed using traditional methods of smoking, salting, frying and sun drying. The rest is consumed by fishers. The average annual per capita consumption of fish is estimated at 10 kg which accounts for more than 50% of the annual protein intake of an average Ugandan diet.

Benin has a fishing coast of 121 km stretching from the border of Nigeria to the border of Togo, and the fishing sector in Benin comprises over 60,000 fishers and more than 400,000 direct and indirect jobs in fisheries. Fishermen comprise nearly 40% of the mobile population in Benin and 75% of migrant fishermen are concentrated in urban centers. (Ngbaguidi 2003). Artisanal maritime fishing, which is practiced in 80 separate camps located in five coastal departments of Benin, is much more developed than industrial fishing and involves around 15% of Benin’s total population (more than 4345 individual fishers). With an annual consumption rate of 10.8 kg per capita, fish represents 32% of animal protein intake.

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consumed and 6% of total protein consumed. National production is estimated at 55,000 tons of fish per year.

Fishers in Benin have a high degree of mobility in their attempts to find new areas of employment and revenue. Migration is both individual and collective, which usually involves organization by a company of fishers who decide to work together during a period of time under a joint contract. The geographic mobility of fishers has an overall positive impact on the fishing industry by creating new employment possibilities and sources of revenue; however, this phenomenon is also largely responsible for increasing vulnerability to HIV infection among the population due to sexual behaviors favored by regular migrants, such as temporary sexual relations between male migrant fishers and sedentary young girls that rarely result in marriage as well as a growing patronage of commercial sex workers based in host communities. Lengthy periods of time spent away from home make fishers more inclined to engage in risky sexual behavior at landing sites.

1.3 Impact of HIV/AIDS on Small-Scale Fishing Communities

In Uganda, the African HIV/AIDS pandemic was first identified in 1982 in Kasensero and Lukunyu fishing communities in Rakai district. The rate of HIV/AIDS in fishing villages throughout the African Great lakes region are believed to be consistently higher than in surrounding agricultural areas (Allison, 2003). Uganda is now considered to be in the late stages of the HIV/AIDS epidemic (Granich and Mermin, 2001), with nearly two million people living with HIV and one million have already passed away from AIDS. Adult prevalence rates have dropped from 18% in early 1990s, to 6-7% today. While the proportion of infected people and the rate of spread of HIV/AIDS are decreasing, many people are still affected by the epidemic with devastating health, psychosocial and economic consequences. It is the leading cause of death amongst 15 to 49 year olds and contributes to an estimated 1% reduction in GDP each year (UAC, 2003). In 2002, the Uganda Participatory Poverty Process identified HIV/AIDS as the main cause of poverty in one-third of 60 study sites, including conflict areas, fish landing sites and some pastoralist and peri-urban communities (GoU/MoFPED, 2002).

Fishers in Uganda have been characterized as among “the most vulnerable to HIV infection” due to their mobile occupation although exact prevalence data is not yet available. None of the national HIV/AIDS support services has initiated specific programs among fishing communities and in socioeconomic studies conducted by the National Research Organisation Fisheries Resources Research Institute (NARO/FIRRI), fishers did not list HIV/AIDS as a main disease affecting them due to fear of stigmatization. However, other major diseases commonly associated with AIDS were frequently cited, which provided secondary evidence of AIDS prevalence (Odongkara, 2002). According to available data for Ugandan fishers, 98% are aware that HIV is sexually transmitted (UFFCA, 2002). Despite this knowledge, 30% of Ugandan fishers have two to three wives concurrently and 30% report engaging in sexual relations outside of marriage. Spending periods of one week to one month outside the home at a time increases the likelihood of infidelity.

In Benin the rate of HIV infection has increased from 0.3% in 1990 to 4.1% in 1999 with rates as high as 13% in some areas and up to 67% for high risk groups. Projections from UNAIDS state that infection rates in Benin could reach 20% by 2025. Individual sexual behavior has a significant influence on the evolution of AIDS in Benin. Approximately 90% of documented cases in Benin reveal a prior history of sexually-transmitted diseases, which demonstrates that sexual behavior is a key predictor of infection. The HIV/AIDS has had
grave social and economic consequences in Benin by drastically reducing the population of young working adults, which is the case in the fishing sector where the disease has rapidly progressed due to the mobility inherent in the occupation.

Another factor that accounts for the high incidence of HIV/AIDS in fishing communities of Benin is the continual degradation of living conditions that result from degrading environmental conditions and general poverty. Fishing communities in southern Benin are among the poorest in the nation incidence of given their dependency on a relatively uncertain and variable source of income. The educational level is also among the lowest in the nation. More than 70% of households surveyed have no literate members and over 80% of women interviewed were illiterate. In addition, basic infrastructure, including schools, medical centers, and access to potable water, are extremely limited and difficult to access for people living in fishing zones.

In both countries, AIDS has severely crippled the productive capacity of adults in their prime years of employment, created families with large dependency ratios, left grandparents struggling to care for a large number of orphans, and forced people to liquidate their property and assets to meet healthcare costs.
2. METHODOLOGICAL APPROACH

2.1 Sampling and Methodology in Uganda

The methodology used in the Uganda study included the following: literature review, consultations with national and local level government representatives, international organizations and NGOs, and field work with four fishing communities selected based on the following criteria: scale of activities, proximity to services, economy, HIV/AIDS prevalence, diversity of fishing activities, composition of communities and prior HIV/AIDS research. The communities selected were Busabala and Walumbe in Lake Victoria and Kasenyi and Hamukungu in Lake George.

Fishing communities were defined as consisting of all those who derive their livelihood from the lake shore engaged in fishing, marketing, processing as well as the support services like provision of lodging and food vending. Community meetings were held at each site in Uganda and were attended by a total of 436 people, of whom one quarter were women. They were used to establish trends, predisposing factors to, as well as people’s perceptions about, and knowledge of HIV/AIDS. They were also used to identify potential key informants and various socio-economic groups in the community by function. Qualitative and gender sensitive participatory data collection tools were used.

Focus group discussions were held with women and where possible with different occupational groups, such as fishing crew, boat owners, fish mongers. Activity analysis was undertaken to establish the work the communities are involved in on a daily basis and across the seasons. In order to establish the resources available to secure their livelihoods, the communities mapped their natural and infrastructural resources, making a distinction between ownership by sex. Venn diagrams were used to establish the organisations and groups operating in the communities, their profiles and their perceived importance.

Constraints analysis was used to identify and prioritise HIV/AIDS related challenges in the communities including their causes and effects. In order to establish the nature of vulnerability to HIV/AIDS, socio-economic ranking and profiling of the communities was conducted. The process generated information pertaining to livelihood strategies, assets and outcomes as well as shocks and changes in relation to measures to control indiscriminate fishing, conservation of the water environment, privatisation of the landing sites to investors, and the migratory/seasonal nature of fish stocks.

In-depth interviews with key informants were used to generate life histories, further explore and deepen understanding of issues raised, as well as validate the information from the group discussions. Key informants included fisheries officers, lake/Beach Management Units (BMU), migrant and resident fisherfolk, fish mongers and vendors, the farming community, local councils (LCs), service providers and individuals infected or affected by HIV/AIDS. The latter were identified with the help of LCs.
2.2 Sampling and Methodology in Benin

The Benin study was also conducted in multiple complementary steps: collection and review of secondary literature and data relative to living conditions of rural households in the study zone; selection of a qualified team of local researchers, researcher training in methodology; design of research instruments (questionnaires, focus groups, matrices); sampling of households in three localities; pilot study and principal study, and data entry, analysis, interpretation and results. The sample included three villages situated in the intervention zone of national AIDS project (Projet de Lutte Contre le SIDA dans les Communautés des Pêcheurs): Illacondji-Plage, Le Débarcadère du Port de Pêche and Louho. This selection was chosen to represent the greatest variation in household living conditions and production systems encountered in each department.

A series of interviews were conducted on various levels. Community interviews were led when the research team met village populations for the first time to gather information at the village level about dominant production systems, demography, and socioeconomic infrastructure. Focus group interviews were used to obtain more in-depth information with homogenous groups of local inhabitants and local experts to incorporate viewpoints of different categories of the population (men, women, youth, etc.) concerning the motivations of groups concerned and clarifications about pertinent behaviors and tendencies. Key informant interviews were conducted with local authorities, teachers, agricultural agents, health personnel and other resource people to obtain different categories of information about the zone and to categorize households according to their degree of vulnerability. Finally, household level interviews were conducted with 242 people (48% men and 52% women). The household is considered here as the principal unit of intervention in the fight against HIV/AIDS. Following all interviews in each
village, the research team met to synthesize information collected and formulate hypotheses concerning the study theme in relation to observed living conditions.

**Figure 2, Map of Benin**

![Map of Benin](image)

### 2.3 Limitations Encountered

The greatest limitation encountered in both studies was the short time frame (one month in Uganda and three weeks in Benin) and limited financial resources which did not allow for more representative sample size. Other limitations included the mobility and dispersion of fishing communities which made it difficult to locate people for interviews, divergent work schedules among fishers and lack of time to participate in interviews, an underestimation of female-headed households, and hesitation for people to discuss HIV/AIDS out of fear of stigmatization as well as unwillingness to disclose accurate information about personal income. The short period of the study did not allow researchers to build the necessary rapport to easily obtain sensitive information.
3. FISHERIES AND HIV/AIDS IN BENIN AND UGANDA: MACRO CONTEXT, POLICY AND INSTITUTIONAL FRAMEWORK

This section discusses the macro socioeconomic environments in Benin and Uganda and the institutional as well as the legal framework under which fishing communities in these countries secure their livelihoods. It also outlines the major national strategies and responses used to address HIV/AIDS.

3.1 Macro Socioeconomic Context and National Policies in Benin

Approximately one-third of Benin’s population lives in conditions of poverty, and 40% of people interviewed for this study can be categorized as extremely vulnerable, having limited or no access to fundamental needs, such as water, education, health services and basic food security. Major causes of poverty in Benin, as identified by the government include non-access to credit, utilization of archaic agricultural techniques, difficult access to potable water and health care, illiteracy, volatility of rural revenues, and degradation of natural resources in rural areas. While structural adjustment policies have helped growth to some extent and improved certain social indicators, they have failed to reduce poverty in Benin.

The role of women in Benin’s economy is crucial. Women comprise 52% of the total population and are involved in 58% of economic activities in the country. Close to one-quarter (24%) of households are headed by women. Despite women’s productive role, large inequalities in access to resources between men and women create gender disparities. In terms of primary education, the schooling rate for girls is 65% and 94% for boys.

In 2000 Benin was admitted to the IMF/World Bank initiative for Heavily Indebted Poor Countries and has followed a series of policies and economic reforms to reduce poverty. The policy, known as Scénario alafia is based on a long-term participatory process (2001-2006) with the support of UNDP. The major components are as follows:

- Reinforcement of competitiveness of the economy
- Consolidation of democracy and good governance
- Decentralized regional development
- Reinforcement of the fight against poverty
- Promotion of youth and gender and development

The government of Benin (DRSP) also established a national struggle against poverty (2003-2005) that rests on four pillars: reinforcing the mid-term macroeconomic framework, developing human capital and environmental management, strengthening governance and institutional capacities, promoting sustainable employment and the capacity of the poor to participate in decision processes and production. The strategic priorities identified to accomplish these goals include improving access to basic education, primary health care, literacy, and potable water; the fight against HIV/AIDS and malaria; government decentralization; and promoting income-generating activities for the poor.

As part of its wider struggle against poverty, the government of Benin has identified the fight against HIV/AIDS as an essential step and has set forth the following objectives:

- Reduce HIV transmission by reinforcing and developing information, education, and communication.
• Reinforce health structures to ensure better care of people living with HIV.
• Put in place more effective structures for HIV testing and support for infected people.
• Provide training of doctors and paramedics in dealing with sexually transmissible diseases

To accomplish these goals, the government relies on several national programs, most notably: National AIDS Program (PNLS), a multisectoral AIDS program funded by the World Bank, Benin HIV/AIDS Prevention Project (BHAPP), and the AIDS Project.

3.2 Macro Socioeconomic Context and National Policies in Uganda

Since 1987 Uganda has implemented an economic recovery program supported by the World Bank and IMF to stabilize and rehabilitate the economy and removal structural distortion. The result of these structural shifts has encouraged more market-oriented economic strategies and development of infrastructure for traditional exports as well as the development of new exports, such as fish (PMA, 2000). Budgetary reform has involved a downsizing in civil service, reduction of subsidies, and increased privatization. Government decentralization has allowed local governments to assume a greater role in implementing policy and managing state-allocated resources.

Uganda’s Poverty Eradication Action Plan (PEAP), developed in 1997, identifies key strategies to improve the lives of the poor:

• Creating a framework for rapid and sustainable economic growth and structural transformation
• Ensuring good governance and security
• Directly increasing the ability of the poor to raise their income
• Enhanced quality of life of the poor

Priority actions targeted under this plan and funded by conditional government grants include rural roads, primary health care, primary education, water and sanitation, and transformation of agriculture.

The government of Uganda has recognized the critical challenges posed by HIV/AIDS and considers it a “chronic epidemic” that should be treated as a structural or systemic poverty issue to be mainstreamed in all sectors of development. Along with HIV/AIDS, gender inequality has emerged as a key cross-cutting poverty issue. The PEAP recommends that all national policies, plans and programs demonstrate clear sensitivity to HIV/AIDS and gender.

In 1992/93, the Ugandan government created the AIDS Control Program (ACP) which led to the establishment of the Uganda AIDS Commission (UAC) which oversees the management of all HIV/AIDS programs in the country. The UAC has developed a resource-bound five-year National Strategic Framework for HIV/AIDS activities (2000/1-2005/6) based on three pillars: (1) reduction of HIV prevalence by 25% by 2005/6; (2) mitigation of the health and socioeconomic effects of HIV/AIDS the individual, household and community levels; and (3) strengthening the national capacity to respond to the HIV/AIDS epidemic.

The institutional approaches for implementing the National HIV/AIDS Strategic Framework include:

• Strengthen the UAC to serve as the national coordinating body;
• Ensure that HIV/AIDS interventions are mainstreamed within the sector-wide programs;

• Strengthen district (LCV) and community (LCIII) capacity to design, implement and evaluate HIV/AIDS interventions through the scaling up of the District Response Initiative. The Initiative will support delivery of those community-based interventions which have to be seen as complementary with the health facility-based services and aim at generating: i) a change in individual sexual behaviour; ii) a reduction in the stigmatization of HIV-positive individuals; and iii) spontaneous willingness to come forward to be tested for HIV;

• UAC Program is coordinating and facilitating several HIV/AIDS projects implemented by local governments, NGOs and CBOs.

Other national initiative include the establishment of the Joint Clinical Research Centre for the generation of HIV/AIDS data to inform practice and monitoring of HIV infection in 20 sentinel surveillance sites based on antenatal clinics in hospitals and one STD referral clinic. To obtain a more accurate estimate of HIV infection rates in Uganda, the ACP also plans to conduct a door-to-door National HIV/AIDS Sero-survey in 2004.

Within the fisheries sector in Uganda, responses to HIV/AIDS have occurred on multiple levels. The Ministry of Agriculture, Animal Industries and Fisheries (MAAIF) adopted measures to mainstream HIV/AIDS in 1995, but since then have not been able to completely fulfill these plans. Proposed activities have included the establishment of a coordination unit, appointment of HIV/AIDS focal point officers in all units/agencies under MAAIF, and the organisation of awareness creation workshops for them. Plans are underway to extend awareness creation to the field staff including fisheries officers. The Ministry intends to mainstream HIV/AIDS in all its future interventions like the Phase II of the Lake Victoria Environment Management Project (LVEMP).

Secondly, the Plan for Modernisation of Agriculture (PMA), part of the government’s broader strategy of poverty eradication, is the framework for policy intervention in the agricultural sector, providing the direction, principles and guidelines for all programs promoting agricultural transformation, including fisheries. The overall objective of the PMA is to enable poor people to improve their natural resource based livelihoods in a sustainable manner through multi-sectoral interventions.

The PMA acknowledges the negative impact of AIDS on agricultural production and identifies fishers as one of the categories vulnerable to poverty given their dependency on a relatively uncertain and variable source of income. The National Agricultural Advisory Services (NAADS) is currently developing strategies to integrate HIV/AIDS information in its system. The National Agricultural Research Policy (2003) specifically states that HIV/AIDS must be considered in agriculture technology development and dissemination.

The present draft of the national Fisheries Policy (2003) in Uganda that provides the operational framework for the sector in terms of guiding principles, objectives, and strategies does not mention HIV/AIDS. A possible strategic entry point for community level HIV/AIDS activities are the newly formed Beach Management Units (BMUs), which are non-governmental organizations intended to improve livelihoods through sustainable utilization of fisheries resources at landing sites with at least 30 boats. Membership in BMUs will provide legal right of access to fishing for all directly involved.
Finally, the Uganda Fisheries and Fish Conservation Association (UFFCA) is a national collective of community based fisheries-related organisations that has been working with fishing communities since 1993. UFFCA’s relevant experience and technical capacity, coupled with a working knowledge of HIV/AIDS concerns, provides a strong entry point for any interventions designed to address the spread and impact of HIV/AIDS in fishing communities.

UFFCA has been pioneering with its work with fishing communities. Together with Uganda Fisheries and Alliance Workers Union (UFAWA), UFFCA has submitted a project proposal to the UAC Program (2003) to implement HIV/AIDS programs within fishing communities through: i) raising awareness about HIV/AIDS; ii) opening condom distribution centres at each landing site; iii) establishing voluntary counseling and testing (VCT) centres at each landing site with the intention of collecting statistics on HIV/AIDS prevalence within fishing communities; and iv) reaching fishing communities with ARVs.
4. SUSCEPTIBILITY TO HIV INFECTION IN FISHING COMMUNITIES

This section provides an overview of the fishing sites studied in Benin and Uganda followed by an assessment of the nature of susceptibility to HIV infection in these communities.

4.1 Description of Benin Study Sites

The three sites studied in Benin are characterized by the predominance of artisanal fishing as the principal livelihood and the high degree of mobility that is tied to fishing activities. It is also important to note that 95% of small-scale fishing households surveyed are also involved in other types of livelihoods such as small business and agriculture.

Le Débarcadère de Port de Pêche
This landing site was established in Cotonou in 1965 and serves as a “dormitory” that offers shelter to fishers who come from many different areas seeking maritime access. The port hosts 63% of all fishers in Benin. Maritime fishing in Benin is dominated by foreigners in general, particularly by Ghanaians (52%) with a fair number of Togolese (4%) and the remaining 43% from Benin.

Louho
Louho is located in the Commune of Porto Novo with most inhabitants originating from the Allada and Abomey plateaus. In Louho, many people practice a mixed livelihood strategy by combining fishing, agriculture, and sand collection and transport. The population is highly mobile due to frequent trips toward Nigeria in search of fish and crabs up to Lake Lagos and manufactured products and commercial trips (especially women) to urban centers, such as Porto Novo, Cotonou, and Gbadagri to sell fishing products. Louho also serves as a convergence point for fishers from surrounding communes who stay there for periods to fishing or sell products.

Illacondji-Plage
Illacondji-Plage is situated near the border of Togo in the Department of Mono that has the highest HIV prevalence rate in Benin and its population depends almost exclusively on fishing activities. Due to its proximity to Togo, Illacondji-Plage welcomes thousands of visitors daily, many of whom adopt behaviors that favor HIV contagion. The regular inhabitants are also highly mobile within Benin and in other countries where they pursue seasonal fishing opportunities, especially in Ghana, Togo, Congo and Gabon.

4.2 Factors Driving HIV Susceptibility in Benin

Underlying vulnerability factors embedded in fishing as a livelihood strategy are key drivers of the epidemic. Key informant interviews in Benin show that the combination of poverty, gender disparities and information asymmetry provide very fertile soil in which HIV can rapidly take root. Therefore, any attempt at controlling the epidemic will have to address these factors. Continual degradation of natural resources has also had a negative impact on farming and livestock raising, which continues to push more people into the fishing sector.

HIV/AIDS surveillance in Benin and Uganda provide some indication of prevalence and incidence rates for the population as a whole and specific at risk groups. The reliability of these rates is questionable, due to the varying methods and assumptions underlying reporting from different sources. To date, HIV/AIDS has not specifically been studied among fishing
communities. These populations are suspected of being more adversely affected by the epidemic, however, are neglected when it comes to surveillance. Overall, there has been little effort to determine the extent of the epidemic in fishing communities. Based on focus groups and key informant interviews conducted during the course of this research, it was made clear that the rates of HIV/AIDS is disproportionately higher in fishing communities than elsewhere. This observation deserves further investigation through systematic epidemiological surveillance.

The most salient demographic characteristics observed in the sample that may have some relationship with HIV/AIDS are as follows:

- Women represent more than half the population (52%).
- Rates of life expectancy, literacy and schooling were less than the national average.
- The infant mortality rate is 1 out of 5 (under age 5).
- Nearly half (46%) of the population is under the age of 15.
- High rates of seasonal migration and geographic mobility among fisher populations. In some cases household members may engage in prolonged fishing activities away from home twice a month.
- The average household size is eight people.
- A high prevalence of undesired pregnancies and sexually-transmitted diseases confirms the persistence of risky sexual behaviors in the population.

Education
Availability and access to fundamental needs such as education and health care emerged as the most important parameters for a better understanding of the links between HIV/AIDS and poverty indicators. In terms of education, 30% of people over 6 years of age in the sample have not received any level of instruction. For women, an alarming 87% reported illiteracy. One-quarter of the population (25%) reported attending primary school at any point. In light of these results, it is evident that education levels need to be improved, especially for women. Women household heads lacking literacy skills are generally the poorest, both in urban and rural areas. Again, there are no epidemiological data available at the time of the study on the direct relationship between HIV/AIDS and education.

Health
The health situation in the areas studied is characterized by a low level of utilization of health services even though health care needs are currently on the rise due to demographic growth and the rising prevalence of HIV/AIDS. In fishing communities, the rate of vaccination coverage is the lowest in the country and life expectancy is lower due to cumulative effects of malnourishment, poor water quality, low hygiene levels, and the AIDS pandemic. HIV infection bears an elevated cost for individuals and families due to its chronic nature and multiple infections. In addition, HIV increases the need for diagnostic tests in health facilities, increases pressure on scarce consultation and hospitalization services and necessitates the development of costly new therapies, all of which result in rising health costs.

Mobility and Seasonal Migration
High rates of mobility and migration among fishers constitute important factors in explaining the propagation of HIV. Local populations noted a link between mobility/migration and the spread of AIDS due to risky sexual behaviors of mobile groups. Several local experts suggest that spatial mobility favors change in sexual behavior that often leads to HIV infection. The intermittent presence of fishermen, fish vendors, seasonal workers, transporters, sex workers,
and youth engenders a situation in which multi-partner sexual behavior is acceptable and commonplace.

**Female-headed Households**

Female-headed households are represented throughout the study area, accounting for almost 25% of the sample on average. Interviews suggest that migration actually accounts for women being the heads of households to a larger extent than widowhood, divorce or single status. Many of the additional burdens of HIV/AIDS at a household level fall upon women, as they are the main producers of food and the main caregivers for the sick and children.

**Patron-Client Relations between Fishermen and Fish Vendors**

To maintain good commercial relations with fishermen, female fish vendors are expected to assist them financially during difficult periods and to remain in their good graces by offering small gifts and food. These reciprocal relationships also have a tendency to include sexual relations for a certain number which is yet another factor contributing to HIV susceptibility in fishing communities.

4.3 Description of Study Sites in Uganda

All of the sites studied in Uganda can be categorized as small-scale inland fishing communities in rural areas with economies based on fishing livelihoods and medium to high rates of HIV prevalence among adults.

**Busabala, Lake Victoria**

Busabala was chosen due to its proximity to a major urban center (Kampala). It is located on the shore of Lake Victoria and has a total population of 701 (37% men, 28% women and 35% under the age of 30). Infrastructure is very poor and residents engage in a range of livelihood activities that include subsistence farming, animal husbandry, running small businesses, sand collection and stone quarrying. The site has 26 fishing boats (some owned by women) an no longer has smoking kilns (previously had up to 50 kilns).

**Walumbe, Lake Victoria**

Also located on Lake Victoria, Walumbe lies within a forest reserve. Due to this environment, women make handicrafts using forest products and men engage in lumbering, charcoal burning and firewood sale. Small-scale farming also takes place in the area. The population is estimated at 2000 and the site contains 60 functioning boats owned by men.

**Kasenyi, Lake George**

Kasenyi is situated on the western shore of Lake George in an area characterized by a heavy fishing program, trans-border activities and war waged by the Allied Defense Forces. The population is largely static and relies on fishing activities, with some salt panning and charcoal selling. The population is 2200 (54% women). There are over 80 boats and 18 smoking kilns.

**Hamukungu**

With a population of 1831 (52% women), Hamukungu is a large landing site that has between 90-150 boats per season. The community is fairly mobile and other livelihood activities include small-scale farming and cattle keeping.
4.4 Social Institutions and Infrastructure

All of the communities studied in Uganda are largely unorganized and have inadequate social support and infrastructures. Health care facilities are far from the sites and educational quality is poor with lack of access to secondary schools. Neither government extension services nor NGOs were active in these areas. Local council structures are important means to mobilize the population and create awareness of government policies, such as Universal Primary Education. The Fisheries Department also informs the population about fish-related policies and promotes health at landing sites. The most active institution working with the communities is the DFID-funded Lake Management Project (since 2000) implemented by CARE and Marine Resources Group. The project has mobilized funding for alternative livelihood strategies, improved security and formed a lake-wide institution for natural resource management.

4.5 Factors Driving HIV Susceptibility in Uganda

At the macro level, market liberalization and the promotion of export-oriented markets for Nile perch have transformed the dynamics of fishing communities. Trucks ferry fish from landing sites on a daily basis and women’s role in smoking and vending fish has drastically decreased. This limitation on women’s income generating activities has led many women to engage in commercial sex work to secure their livelihoods. Implementation of government regulations on boat and fishnet size to curb indiscriminate fishing is another factor that has reduced earnings from fishing and increased vulnerability in the sector. Finally, taxes and bribes related to licensing fees and market dues are a major drain on household economies.

At the meso level, lack of education, lack of access to information and support services and to reproductive health services and condoms are the main factors that increase HIV susceptibility. Schooling rates are low and most girls drop out by age 15 to get married while boys drop out by 18 to begin earning money. While all of the study communities were aware of the risks of HIV infection and modes of infection, information concerning HIV/AIDS is not readily available and support services are non-existent. The mobility of the communities also contributes to the lack of social organization and networks of information exchange and support. Study respondents also indicated a lack in reproductive health services in particular as well as agencies that market and distribute condoms.

Several factors at the micro level also affect HIV susceptibility. In terms of livelihood strategies, the most vulnerable occupations are boat owners, fishing crew and people engaged in alcohol sales. Boat owners earn a high income that enables them to afford several sexual partners. Fishing crews generally work during the night hours and collect the fish in the early morning. Idle hours during the day are often spent consuming alcohol and engaging in sexual activity. Both owners and crew members are most vulnerable to infection because they tend to have partners at every landing site where they work. In addition, the predominant age bracket of these workers is between 15-40 years, another fact that accounts for a high level of sexual activity.

Bar owners and alcohol sellers (mostly women) have limited mobility since they are also based at their premises, which often double as living quarters where commercial sex relations take place. Although none of the communities surveyed cited commercial sex work as a separate livelihood strategy, discussions and observations revealed that it is a prevalent practice.
Fishing also brings an immediate source of cash upon the sale of fish, which leads many fishers to view the lake as an unlimited resource with open access for all. In the opinion of community members, this perception encourages reckless spending of cash earnings on alcohol and sex, especially by young people. Women without other viable livelihood strategies are also attracted to the lake to fish because it is possible to start business with little or no capital. In general, women are disadvantaged due to unequal power relations that make them dependent on men for economic survival. Often, women are forced to exchange sex for basic needs, such as food, housing and money, and this desperate situation makes it difficult to take precautions necessary to avoid HIV.

The daily inflow of migrant fishers from other landing sites or islands also contributes to promiscuous behavior due to the availability of daily cash income and the large number of women available. Walumbe residents reported that daily migrants often go on the “rampage,” which entails excessive drinking and having sex. In contrast with daily migrants who may return to their home after a short time, semi-settled migrants leave their homes for weeks to months on end, during which time they may become regularly involved with multiple sexual partners. In the event of HIV infection, it is likely to spread back to the migrant’s home of origin, especially to the migrant’s spouse, or to other landing sites.

4.6 Summary

One of the major differences between the Benin and Uganda cases is the level of dependence on fishing. All of the sites studied in Uganda can be categorized as small-scale inland fishing communities with economies based on fishing livelihoods. Kasenyi, Lake George has the highest dependence on fishing of all the Ugandan sites. Even in this community, however, households are engaged in a mixed livelihood system that may involve fishing but is likely to include other activities such as small scale trading or farming.

In contrast to the Uganda cases, the three sites studied in Benin are characterized by the predominance of artisanal fishing as the principal livelihood with possible secondary livelihood activities such as small business or agriculture. Illacondji-Plage and Le Débarcadère de Port de Pêche show the greatest dependence on fishing as the primary livelihood activity.

Susceptibility to HIV infection are those social, economic, and cultural conditions that promote the practice of risky sexual behavior. In Benin and Uganda, susceptibility is a complex issue that has many contributing factors. In both cases, education or lack of awareness about the behaviors likely to lead to infection leaves people confused or mislead about the implications of actions. Besides lack of awareness, there are a number of social institutions within fishing communities that encourage the spread of HIV (e.g., commercial sex work). Similarly, the lifestyle characteristics of fishers, such as regular seasonal migration and the availability of cash for commercial sex workers, also contribute to the opportunities for infection. Finally, relationships formed during the course of work between fishers and market women as well as the uneven power relations of patron-client ties can develop into sexual relations. All of these factors work simultaneously to create an environment of risk and opportunities to engage in risky behavior therefore increase the susceptibility of fishers and those involved in the fishing livelihood. Women in both cases find themselves engaged in unequal relations of power that place them at heightened risk of infection.
5. VULNERABILITY TO IMPACT OF AIDS ON LIVELIHOODS OF FISHING COMMUNITIES

This section discusses the vulnerability level of different community members to the impact of AIDS on livelihoods in fishing communities and factors that enable resilience to impacts.

5.1 Levels of Vulnerability in Benin

Sexual Behavior, Perceptions and Management of HIV Infection Risks

The study of social and material conditions in Benin reveals a multiplicity of vulnerabilities, including daily difficulties in securing essential needs such as food and shelter. It is within this context of impoverishment that HIV/AIDS must be considered in the communities studied. In an attempt to understand people’s perceptions of HIV/AIDS, their sexual behavior and strategies for managing HIV infection risks, a series of questions were posed to community members, the results of which are summarized below:

- The majority of respondents (97%) are aware that disease is spread through sexual contact. The most common knowledge about HIV/AIDS is that it is an incurable and fatal disease that is sexually transmitted. Only one-third of the population was aware of other modes of transmission. A majority (84%) understood that a person in good health can have HIV, while 4% thought this was not possible and 12% reported not knowing.
- Only 4% overall reported engaging in sexual relations with commercial sex workers, a figure that appears surprisingly low. The highest percent was found in Louho (37%). The majority of people having these relations reported not using condoms.
- Nearly half of all women (50%) and men (47%) engaging in relationships outside marriage reported using condoms during sexual relations.
- In the fishing communities, 90% of people with no level of instruction were aware of condom use, compared with 90% of those with primary education and 100% of those with a secondary level education.
- The most commonly reported means to avoid HIV infection were: condom use (28%), limit number of partners (12%), use disposable syringes (4%) and other (31%), which included fidelity and not using the same objects as someone else. “Going out with young girls” was cited by 16% of respondents.
- The most commonly reported physical indications of AIDS were: weight loss (56%), sores (5%), diarrhea (5%), anemia (5%), and hair loss (4%). Only 17% reported being unable to identify AIDS symptoms.
- More than two-thirds of the population (67%) reported their availability to willingly participate in the fight against AIDS.
- In general, the socio-demographic characteristics that influence perception of HIV risk the most were sex, age, and level of instruction. Personal risk was perceived most strongly in relation to personal sexual behavior, the illness of a close friend or relative, and from a sense of threat felt by the community.

Most Vulnerable Groups

The groups most vulnerable to HIV/AIDS in the study were women, youth and adolescents, and the sexually active population from ages 15-49. Women in Benin are in an inferior position to men both economically and socially. Women’s lack of access to education, information, training, technology, and productive resources inhibits them from taking initiatives and maintains their dependence on men. The low rate of literacy and schooling for women, especially in fishing communities, makes women less-informed about diseases such
as AIDS and ways to protect themselves. Focus group discussions with women in Benin reveal that young women are infected with HIV at much earlier ages than men due to their inability to negotiate protected sexual relations with men as well as sexual abuse by men. Women fish vendors are also particularly vulnerable to infection due to the strong bargaining position of male fishermen who exchange offers of fish for sexual services. Once infected, women also have more difficult access to health care since they are largely dependent on their family or family in-law to pay for the expenses. In order to address the myriad of problems facing women in these communities, gender must be taken into account as a cross-cutting issue in all areas of development, especially in strategies to combat HIV/AIDS.

Youth and adolescents are also extremely vulnerable to HIV/AIDS. This group is not well-informed of risks tied to sexuality and sexually-transmitted diseases, largely due to lack of education. Most who start school abandon their studies during the primary cycle because their parents cannot afford to send them. Very few youth obtain a primary school certificate or begin secondary school before starting to engage in the fishing trade. For girls especially, forced marriages create situations in which girls are subjected to fulfilling the needs of older men who are most often polygamous or unfaithful, thus increasing risks of HIV infection. The extreme level of poverty among parents in the community also forces many children to live on the streets and beaches searching for ways to make a living. The absence of structures in place for professional training or social support services lead many of these youth to delinquent behaviors, such as substance abuse. For girls this situation often leads to their entry in the sex trade.

Finally, the 15-49 year old age bracket is the most vulnerable due to high rates of sexual activity among this age group. This is especially grave since this demographic group is also the most productive in terms of labor contributions and increasing incidence of illness and death in this group leads to staggering economic losses at household, community and national levels.

5.2 Levels of Vulnerability in Uganda

**Individual Level**

At the individual level, the most important determinants of vulnerability are livelihood strategy, ownership of resources, socioeconomic status, and gender. In terms of livelihoods, hired fishermen (*barias*) are affected as soon as they experience signs of illness since this reduces their ability to work in the lake environment. Boat owners are able to continue earning income after becoming sick as long as they remain capable of hiring a fishing crew and supervising work. Since this group generates more income on the whole, they are also more able to invest and diversify their livelihood strategies beyond fishing. As for fish vendors and bar owners at landing sites, impacts depend upon their type of residency and ability to reallocate labor in the household. Vendors who live far from the sites must rely on another family member to take over. Business owners faced with stigmatization in the community often abandon work or leave landing sites to seek care in their communities of origin.

Poverty was cited by the communities as the major cause of infection and determinant of who becomes infected and what type of treatment they can afford. Women and young men were identified as being the most resource poor in the community and, when faced with AIDS, are the least able to pay for medical treatment or maintain a healthy diet. Men control ownership of fishing resources and women’s former livelihood of fish smoking in kilns has all but
vanished. Women afflicted with AIDS are often abandoned by their partners as well, which contributes to their social isolation.

Respondents also viewed fish consumption as a form of immunity against and treatment for HIV/AIDS. Since the current market favors bulk purchases by middlemen and commercial fish vendors, people complained that the high prices and scarcity of fish available for individual purchase at the sites increased their vulnerability to the disease.

**Household Level**
Households affected by AIDS are likely to experience food insecurity, loss of labor, reduced income, and an increased number of child-headed households and number of orphans. Since most fisherfolk lack alternative livelihood strategies that require less labor-intensive activities, they must immediately resort to selling assets such as boats, land, and livestock to cope with the impact of AIDS. Secondly, the presence of HIV/AIDS in a household reinforces gender inequalities as women tend to bear the responsibility of caring for sick members and are often forced to abandon income-generating activities outside the home. For children in AIDS-affected households, school drop out rates increase as children also take on the responsibility of health care for sick family members and income generation.

**Community Level**
Due to the dispersed and migratory nature of the fishing population, it is difficult to assess the overall impacts of AIDS at the community level. Most sick people return to their home villages when they become sick to seek support from family networks. For this reason, fishing communities have not formulated community-wide responses to AIDS or devised community support strategies, such as assisting sick people with work activities or contributing to a family’s medical expenses. People living with AIDS in these communities have little or no support.

The environment has also suffered due to AIDS impacts. Younger men are commonly becoming full-time fishermen to compensate for the loss of their parents’ labor and they often lack the necessary skills and knowledge to practice sustainable fishing. In addition, fishermen suffering from AIDS-related illnesses often resort to fishing in shallow waters which poses a considerable risk to biodiversity of the environment. This practice also increases susceptibility to other infections such as bilharzia and schistosomiasis, which are common parasites found in shallow waters of lakes, especially Lake Victoria.

The only positive outcome of AIDS that can be cited in these communities is a growing recognition of the importance of saving and investing in the future, due to the grave uncertainties and insecurity imposed by AIDS. People are realizing more and more that it is important to diversify sources of livelihoods in the event that they are unable to continue fishing. People are also recognizing the imperative to adopt alternative lifestyles that avoid promiscuous behavior and are passing this point of view onto their children.

**National Implications**
At the national level, there are three principal consequences of the rise of HIV/AIDS in fishing communities. First, the impact of the disease is not localized in these communities due to their frequent migration patterns that broaden the spread of HIV from one community to another and undermines national efforts to control the epidemic. Second, prevalence rates in fishing communities could have budgetary implications in Uganda since the government recently announced its plan to provide free AIDS treatment to the rural poor who cannot afford it. The high incidence among fisherfolk could therefore represent a significant drain
on the national health budget. Third, human losses from AIDS are resulting in a decrease in knowledge and productivity in the fishing sector as a whole. Skills passed from one generation to the next by fisherfolk are being lost due to the disruption in labor patterns. The decline in the young and middle-aged labor force is also reducing the productivity of fisheries which represent 10% of Uganda’s total labor force. This leads to further impoverishment in the country as well as decreasing an important source of protein in the national diet and in national earnings from fish exports.

5.3 Summary
Vulnerability to HIV/AIDS refers to the resilience of households to continue to acquire essential needs such as food and shelter. The above cases from Benin and Uganda highlight the mechanisms by which HIV/AIDS impact fishing livelihoods and factors that provide some resilience to these impacts. The two cases identify two important aspects of vulnerability; the first being how socio-cultural values about gender and age heighten vulnerability. Secondly, vulnerability to HIV/AIDS depends on one’s position in the means of production within the small scale fishing industry.

Women in both cases are faced with a general lack of access to training, technology, and productive resources which inhibits them from taking initiatives and maintains their dependence on men. Once infected, women are less likely to afford health care and may lose their sole means of support. Additionally, women afflicted with AIDS are often abandoned by their partners which contributes to their social isolation. Additionally, the presence of HIV/AIDS in a household reinforces gender inequalities as women are required to bear the responsibility of caring for sick members and are forced to abandon income-generating activities.

Fishing households respond differently to HIV/AIDS depending upon the source of one’s livelihood. Households depending on labor-intensive aspects of fishing, for example hired fishermen, are affected as soon as they experience signs of illness since this reduces their ability to work. Hired fishermen depend nearly entirely on the sale of their labor on a daily basis. The loss of health severely compromises the ability of these individuals to generate an income for their household. In contrast, boat owners are able to continue earning income after becoming sick as long as they remain capable of hiring a fishing crew and supervising work. Boat owners have control of the valuable material resources used in fishing and rely less on labor. This group also generates more income and as a result can diversify their livelihoods beyond fishing.
6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Benin

HIV infection in Benin has three major consequences on fishing communities in Benin: increased poverty in families, disintegration of the family unit and reduction of the most active labor force in the community. Structural conditions contributing to higher susceptibility to HIV include social and geographic mobility that leads to prolonged stays outside of home communities, the social and economic subordination of women, the tendency of youth to emigrate in search of better living situations, and the necessity of selling fish in urban centers. It is evident that the struggle against HIV infection in Benin’s fishing communities is essentially a struggle against the wider forces of poverty. The sites inhabited by fisherfolk are places where all the conditions are present to favor the proliferation of the disease.

Determinants of Susceptibility and Vulnerability

The principal factors that determine susceptibility and vulnerability of fisherfolk in Benin to HIV/AIDS are as follows:

- Extreme mobility of populations engaged in cross country trade of fish or movement between fishing communities.
- Onset of sexual relations at an early age for men engaged in the fishing livelihood and the women who frequent fisher camps.
- High frequency of unprotected sexual relations and multiple partners
- Widespread lack of information services and counseling aimed at preventing and treating sexually transmitted diseases and HIV in particular within fishing communities
- Lack of communication between parents and children and between partners about the risks of sexuality
- Weak network for the distribution and marketing of condoms
- Alcohol and drug abuse that engenders risky sexual behavior.
- Availability of commercial sex at fishing camps

Underlying all of the above are fundamental issues of growing poverty, weak levels of formal instruction, the inferior socioeconomic status of women in Benin and general silence on the topic of sexuality, which is considered taboo.

Recommendations

The following recommendations are intended as short-term or medium-term priority action programs in Benin:

- Reduce high risk sexual behavior through information, education and communication (IEC) activities for fishing communities. Groups targeted should include migrants, commercial sex workers, women of childbearing age, workers geographically separated from their families and youth.
- Improve the educational status of fishing communities in general, with a focus on instructing girls and providing literacy programs for women.
- Expand social marketing of condoms to make them more accessible to vulnerable groups and increase the rate of condom utilization among these groups during risky sexual encounters.
• Invest in infrastructure improvements in fishing communities, especially in the domains of education and health care facilities.
• Develop alternative livelihood activities, such as income-generating activities, for fisherfolk, especially women and youth, to diversify sources of income, reduce dependence on fishing, and reduce unemployment in general.
• Encourage and increase voluntary, anonymous HIV testing in accessible health centers.
• Reduce blood-transmission risks of HIV infection by training health personnel, traditional health practitioners and the general population how to avoid this mode of transmission. Groups specifically targeted should include blood donors, blood transfusion centers, pregnant mothers, and midwives.
• Improve the HIV surveillance system by creating a database on HIV/AIDS in fishing communities to collect and manage information.

**Monitoring and Evaluation of Fishing Communities**

Further monitoring and evaluation of conditions among fishing communities is important for two reasons. First, it is essential to regularly monitor the impact of national AIDS programs on this highly vulnerable community to inform government decision makers as well as all partners involved in the process. In this way, strategies can be adapted to reinforce the most effective ones and correct what is not working. Second, institutional arrangements must facilitate intersectoral coordination to ensure participatory approaches and to facilitate monitoring and evaluation. Monitoring and evaluation must not only serve to verify levels of HIV prevalence but also seek to understand the reasons in order to improve services and policies addressing HIV/AIDS.

6.2 Uganda

**Susceptibility to HIV Infection**

Both the characteristics of fishing communities and the lifestyles associated with them account for HIV prevalence rates. The following characteristics greatly increase the risk of infection among people living in fishing communities:

• Community neglect by government and service sectors, especially in terms of physical and social infrastructure.
• High degree of mobility among fisherfolk due to daily and seasonal migration to and from landing sites.
• Lack of social cohesion resulting from the transitory nature of these communities and absence of community-based initiatives other than the local council.

Within these communities, lifestyle choices associated with the occupation of fishing further increase HIV-risky behavior, namely unprotected sex, among four main groups: boat owners, fishing crew members who hire themselves out in return for daily wages, fish traders who buy and sell fish for private companies, and fish processors (mainly women) who buy and process fish by salting, smoking or drying it to sell within the community. These principal occupations give rise to another group of service sector workers at landing sites that include bar and hotel owners, beer brewers and sex workers. Other livelihood groups such as farmers living near the fishing community are relatively separate. Among all the groups, the fishing crew emerges as most at risk for HIV infection and the second most likely group includes fishing crew partners, boat owners and bartenders.
Women in general are a high risk group for several reasons. The restructuring of the fish market has displaced women’s traditional role in fish-smoking and forced them to find other livelihoods, such as running bars and hotels. These women usually sleep at their workplaces and drink and socialize with customers, all of which increase the likelihood of sexual encounters. Furthermore, women have weak negotiating power about safe sexual practices with their husbands and other men.

**Vulnerability to AIDS Impacts**
Livelhood lifestyles also determine vulnerability to the impact of AIDS once the disease becomes active. In general fishing communities tend to lack any form of resilience to AIDS impacts due to the lack of community initiative to offer counseling, support or health care. For this reason, the majority of AIDS victims leave fishing areas to return to their home communities.

For those who remain in fishing communities, there is some variation in vulnerability. The most immediately vulnerable group is the fishing crew and fish traders who must rely on their physical well-being to engage in work. Women also have low levels of resilience to AIDS because they are often forced to abandon their work to care for sick family members. Children of sick parents and orphans and family members residing elsewhere are also highly vulnerable to AIDS impacts. Fish traders, bar tenders and wives of fishing crew have a medium risk infection but high vulnerability to impacts. Boat owners are perceived as having some resilience due to their relative wealth in the community and diversified work that involves both hiring crew and operating small businesses. Farmers in the area represent the lowest risk group.

Strategies used by people dealing with AIDS impacts in fishing communities follow a fairly typical pattern observed elsewhere: sale of assets, withdrawal of children from school and poor diets. A secondary effect is the environmental degradation attributed to an increase in shallow water fishing and unsustainable fishing practices by unskilled youth.

**Recommendations**
- Mainstream HIV/AIDS and the fisheries perspective into the Ugandan policy agenda through the Plan for the Modernisation of Agriculture, Fisheries Policy and Act, and through systematic collection of HIV/AIDS data from the fisheries sector.
- Raise HIV/AIDS awareness among key stakeholders through fisheries officers of the Ministry of Agriculture, Animal Industries and Fisheries, NGOs, and other people who interact with fisherfolk, including local government, teachers, researchers, and the private sector.
- Identify entry points for addressing HIV/AIDS at community level, such as Beach Management Units, NAADS extension groups and the UFFCA.
- Create a national collaborative program between the UFFCA, government (UACP and Department of Fisheries Resources) and experienced HIV/AIDS support organizations to target fishing communities.
- Promote education, skills development and livelihood diversification in fishing communities.
- Increase access to health care services in fishing communities.
- Promote formation of community groups among fisherfolk at landing sites.

**Future Studies**
Due to the limited scope of this study, it is recommended that the proposed ILM/DFR countrywide study on HIV/AIDS in Uganda impacts adopt both quantitative and qualitative approaches to explore the following issues in fishing communities in greater detail:

- Alternative methods of basic and functional education for fisherfolk
- Potential impact of beach management units on fishing livelihoods at landing sites
- Statistical profiles of occupational groups involved in fisheries disaggregated by sex.
- Participatory identification of alternative livelihood strategies
- Consultations with government and NGO actors to design and implement the proposed national collaborative HIV/AIDS program for fishing communities.

6.3 General Conclusions and Recommendations for Benin and Uganda

**Structural Risks of HIV Infection Associated with Small-scale Fishing as a Livelihood**

Vulnerability to HIV is inextricably linked to economic, cultural and demographic factors that promote risky behavior. Poverty, livelihood insecurity, gender inequality and migration are just some of the socio-economic factors that affect individual, household and community level vulnerability to HIV. The case studies in Benin and Uganda show that there are structural mechanisms within small-scale fishing as a livelihood that drive high-risk behavior and increase vulnerability to HIV/AIDS among fisherfolk.

In recent years, the number of migrants involved in fishing has increased in both Benin and Uganda. These changes correspond to diminishing resources from fishing livelihoods but also to the nature of fishing as a seasonal activity. Most migrants are highly mobile and stay in any one place for less than two months. Socio-economic marginalization of the poorest households that lack access to credit and fishing equipment is the leading factor contributing to high population mobility within the small-scale fishing community. The pursuit of a dream of city life is also influencing young villagers to move to urban areas. However in host communities, migrants face many difficulties with adaptation, acceptance and accessing services. Given their anonymity in the new environment, and without the social constraints of their home community, many engage in risky behavior including sexual promiscuity. Some of the women that leave their home communities looking for employment elsewhere find themselves working in businesses that serve as an entry point for commercial sex work.

**Institutional Constraints, Partnership and Collaboration**

There are numerous organizations, including the UN and NGOs, currently working on HIV/AIDS programs. Key areas of activity include: Information, Education and Communication (IEC), HIV/AIDS counseling, psycho-social and material support, especially to orphans and widows, and medical assistance to people living with HIV/AIDS and their families. An encouraging development in Benin, for example, has been the formation of NGOs led by People Living With AIDS (PLWA). These NGOs have a critical role to play in the implementation of activities aimed at HIV/AIDS prevention and care. Religious organizations within the wider NGO community are involved in the care, support and treatment of people affected by HIV/AIDS. However, most of these organizations do not target fishing communities despite their increased level of vulnerability.

While all UN agencies are committed to fighting the HIV/AIDS pandemic, overall coordination among efforts seems to be one of the major shortcomings. There are multiple, overlapping players and projects in the same areas, a phenomenon which is often counterproductive and leads to unnecessary duplication of efforts. Communities must be
more directly involved in gathering information and targeting programs if interventions are to be effective.

**Programming, Monitoring, Evaluation**

HIV/AIDS in fishing communities of Benin and Uganda is a crucial emergency and development issue worthy of colossal response due to the negative impact it is having on mortality rates and livelihoods. It is not only a medical issue but more importantly an issue that is rooted in the overall context of poverty in which individuals, households and communities live. The multi-dimensional nature of the epidemic and its impacts warrant a paradigm shift from a biomedical approach to a development approach to HIV prevention, care and mitigation. A people-centered, multi-sectoral, community-based approach to development is fundamental for creating and sustaining the conditions in which HIV/AIDS can be prevented and its impact addressed most effectively. In addition, gender must be taken into account as a cross-cutting issue in all development initiatives, in particular those that involve HIV/AIDS.

Due to its multi-faceted impacts on social and economic development, the HIV/AIDS pandemic poses a considerable a challenge to programming/implementation efforts. There is a need to develop more accurate indicators among stakeholder for HIV/AIDS interventions with which results can be measured. In Benin and Uganda, monitoring and evaluation do not follow structured and uniform systems. In addition, the studies elicited concerns over the unavailability/out-datedness of secondary data as well as the necessity to conduct a baseline survey in the near future.

In both countries, households and communities are the first line of defense and response to deal with HIV/AIDS. Activities should focus first on strengthening household and community efforts to address HIV/AIDS and not supplant them with externally derived initiatives that are not based on local needs and available resources.

Given the fact that fishing is becoming less and less productive, alternative livelihood activities need to be developed, especially for women and young people, to keep them in their home communities. Complementary poverty programs that focus on diversifying livelihood systems to reduce risk should also be explored at the national level.

Finally, there is an urgent need to mainstream the relationship between HIV/AIDS and small-scale fishing as an important policy agenda at the highest government levels. As established in this study, fisherfolk are among the most vulnerable groups to poverty and HIV/AIDS, and interventions such as financial services, access to basic services, agro-processing and marketing should target fishing communities to enable them to improve their livelihoods.

**New Methodologies for HIV/AIDS Research in Africa**

Social mapping is a useful PRA (participatory rapid assessment) technique to identify local institutions and social networks that contribute to the spread of HIV. In the cases studied, social mapping exercises can help researchers pinpoint places and contexts in which risky behavior is practiced, by whom and at what times. This kind of knowledge is useful in developing strategies to combat the spread of the epidemic in fishing communities and reduce the susceptibility of specific segments of the community. In addition to identifying sources of infection, social mapping can help to identify sources of social support. Institutions and social networks often function as social safety nets for households affected by HIV/AIDS. Forming initiatives to strengthen and enhance these forms of social support is one way to help build resilience against the negative impact of HIV/AIDS.
In both Uganda and Benin, as is true for other African countries as well, the battle against HIV/AIDS is focused on detection of HIV/AIDS in medical settings, treatment of HIV/AIDS for those detected with it and occasionally help for their families. In addition, both states have more general programs of public awareness, promotion of condoms and a variety of programs aimed at the population in general and sex workers in particular. While Uganda has had notable success with its condom campaigns the rate is still dangerously high and it has recently risen to threatening levels in Benin. Improvement in public health is tied to household level understandings of health and acceptable sexual practices yet this level of data is hard to collect. Fishing communities include a highly mobile population from many areas with specialized knowledge that cannot be easily applied in other domains and often strenuous activity demands that cannot long be maintained in the face of AIDS infections. The problems of poor vulnerable populations are elevated and particularly difficult to resolve. Both states find their efforts to combat HIV/AIDS limited by their inability to implement truly representative surveys on health issues, health practice and sexual behaviors. Representative surveys in populous areas tend to be costly and difficult to implement due to constraints on money and shortages of skilled interviewers and are, as well, plagued by uncertainties about how to constitute a representative sample. The instability of populations in both countries due to poverty and temporary economic migrations of large numbers of people mean that basic information essential to the construction of any representative sample tends to be lacking and at best way out of date.

A small truly representative sample could greatly facilitate the study of public health in Benin and Uganda. A promising methodology that has been tested in six countries in Africa (Morocco, Senegal, Mali, Niger, Tanzania, and Botswana) uses the classification, based on recent remote sensing imagery, of housing as its starting point. A comparison of a recent image with one a decade or two old allows a computer to both map out change in habitat type as well as classify habitations by type (e.g. traditional village huts, new improved village housing, shanty town, low cost urban housing, congested urban dwellings, apartments, villas, etc.). The study has shown that there is a very close correlation between housing type including time of appearance and many socio-economic indicators. Due to its spatially based and pixel level data, the methodology makes it also possible to include in the classification variables such as locality, tenure status and proximity to areas of concern, a port, a lake, a major market etc. In general, local social science and administrative knowledge can easily be used to improve the classification system. Once the classification is complete, the methodology recommends selecting a representative set of pixels of each class (these can be randomly selected by the computer) as starting points for the survey of a small number (e.g. 5 of the closest 20). Conducting an HIV/AIDS study with this methodology would be a useful step in obtaining more accurate and complete information regarding HIV prevalence and strategies in dealing with the disease at the household level.