

Vulnerability of Fishing Communities to HIV/AIDS and Impact on Fish Productivity in Nigeria

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Abstract: *Fishing communities are among the most vulnerable occupational groups, particularly in some Sub-Saharan Africa Countries and most especially Nigeria where the epidemic has hit hardest. The vulnerability of HIV/AIDS of fishing communities stems from complex interactions, mobility of many fishers, the time they spend away from home, their access to cash income, their demographic profile, and low level of education, gender inequality, the readily available commercial sex in many fishing ports, shores of fishing grounds and fishing communities as well as, Involvement in drugs. More recently, as the social and economic impacts of the epidemic have become evident, wider social services provisions and economic pandemic threatens fisheries sustainability by eclipsing the futures of many fisher folks. The burden of illness puts additional stresses on households; preventing them from accumulating wealth or assets derived from fishing income. Premature death robs fishing communities and the fisheries sector of knowledge acquired (skilled personnel) by experience and reduces incentives for longer-term and inter-generalized stewardship of resources. There is need for a clear agenda to tackle HIV/AIDS in the fisheries sector. This should comprise of relevant policy development, programming, research and dissemination, with important roles for government, donors, NGOs, the private sector, local communities and researchers in pursuing these goals.*

Keywords: *FisherFolks, Fishing Communities, HIV/AIDS and Fisheries Sustainability.*

I. Introduction

In the past recent decades, it is evident that HIV/AIDS-related illnesses and mortality are devastatingly high in some fishing communities. A synthesis surveys conducted since 1992 in ten low or middle-income countries in Africa, Asia and Latin America revealed that HIV/AIDS prevalence among fishers or fishing communities are between 4 and 14 times higher than the National average prevalence rate for adults aged 15-49. These considerable rates of HIV/AIDS infection place fisher folks among groups that are more usually identified as being at high risk (Olowosegun et al., 2013).

HIV/AIDS was first described from a Ugandan fishing Village on the shores of Lake Victoria in 1982 according to Allison and Seeley (2004). Fishing Villages are among the most vulnerable occupational groups, particularly in South-East Asia and African Countries where the epidemic has hit hardest. Olowosegun et al. (2009a and b), (2010) and (2013) provided extensive report on the present situation in some fishing communities in Nigeria.

The vulnerability of fishing communities to HIV/AIDS stems from complex interactions, mobility of many fishers, the time they spend away from home, their access to cash income, demographic profile (they are often young and sexually active), low level of education (especially sex education), and readily available commercial sex hawkers in most of the fishing ports and shores of fishing grounds (Olowosegun et al., 2013). Also significant, are cultural factors related to fishing as a high-risk, low-status and uncomfortable occupation, which lead to high-risk sexual behavior practices. Many of these make the fishers not only vulnerable but also more likely to miss out on access to prevention, treatment and care (Olowosegun et al., 2013). These proximate risk factors are well related to underlying poverty, insecurity and marginalization affecting both women and men in many fishing communities (Kissling et al., 2005). The proportion of people affected with HIV/AIDS in a fishing community depends on the extent to which the above factors occur and how they combine to increase vulnerability. The sub-ordinate economic and social positions of women in many fishing communities make them even more vulnerable to the infection (Kissling et al., 2005). Awounda (2003) also reported that due to poverty women fishmongers have become victims of fishermen who demand for sexual favour on top of supplying fish". It is no longer gainsaying that people exchange sex for gift or economic gain for their up keep, commercial sex activities are thriving in the area which may be one of consequences of effect of global warming on the water bodies which the desired attention has not been proffered (Mbeza, 2002).

Although, Health professionals and community development and non-Governmental organizations have been aware of the status of fishing communities as high-risk groups for nearly 20 years and those involved in fisheries management and development have until the last ten years, seldom considered the implications of HIV/AIDS for sustainability of fisheries (Allison and Seeley, 2004 and Olowosegun et al., 2013).

More recently, as the social and economic impacts of the epidemic have become evident, wider social service provisions and economic pandemic threatens fisheries sustainability by eclipsing the futures of many fisherfolks. The burden of illness puts additional stresses on households; preventing them from accumulating wealth or assets derived from fishing income. Premature death robs fishing communities of knowledge acquired (skilled personnel) by experience and reduces incentives for longer-term and inter-generalized stewardship of resources (Allison and Seeley, 2004).

If the fishing communities in Nigeria which inputs in fish supply accounts for over 90% of the annual fish supply are adversely impacted by HIV/AIDS; then the National supply of fish, particularly to lower-income consumers may be jeopardized. Hence, the research aimed at assessing those vulnerability factors, impact on fish supply from the artisanal fishers and how to alleviate this problem.

II. Material And Methods

Literature related to Vulnerability of fishing communities in Nigeria and other Countries were collected from the library, Lecture notes and electronic materials. They were severed, sorted and organized for this research. Reports and Data from different researchers were also compared especially those relating to reasons for the vulnerability.

III. HIV/AIDS Among Fisherfolks

Kissling et al. (2005) compare HIV prevalence among fisherfolks with both the wider population and with other groups generally considered at high risk of HIV infection. Their literature search yielded comparative data for ten low and middle income countries. In nine of those countries, fisher folks were more likely to have HIV than the general population, by factors ranging between 4.4 and 14.0. Three of the studies were conducted in Africa. Prevalence rates for fisherfolks were 20.3% in the Democratic Republic of Congo (DRC), 30.5% in Kenya and 24.0% in Uganda, representing rates respectively 4.8, 4.5 and 5.8 times higher than in the general population. Moreover, in Kenya and Uganda, this incidence was respectively 2.1 and 1.8 times higher than for truck drivers, a known high-risk group. The absolute numbers were also higher: 44,000 Kenyan fisher folk infected as compared with 8,000 truck drivers, and 33,000 Ugandan fisher folk compared with 5,000 truck drivers. The Kenyan study suggests that rates of HIV infection are even slightly higher for fisherfolks than for sex workers. Work elsewhere in Africa (e.g., Senegal, Ghana, Tanzania, Zambia, South Africa, Nigeria and Benin) indicates that many fishing communities have high HIV/AIDS prevalence rates.

Fishing communities are vulnerable to HIV/AIDS infection because of their lifestyle and the way they conduct their fishing activities. HIV/AIDS is spread through high risk behaviors, studies in African countries show that young people often perceive their risk of HIV/AIDS to be low even if they engage in HIV/AIDS risk behaviors, live in areas with high HIV prevalence rates or are knowledgeable about HIV/AIDS (Sarker et al., 2005). One explanation for the low perceived HIV/AIDS risk is that they (youth) may exhibit optimistic bias, tending to underestimate risks in general due to a feeling of invulnerability (Macintyre et al., 2004).

Soskolne (2000) in a cross-sectional study of migrant fishers in Thailand found a 15% prevalence of HIV/AIDS among fishers with average age of less than 30years and 60% of them admitted to having multiple partners and visited commercial sex workers while away from home.

Oluwosegun et al. (2013) conducted a research on Knowledge, Attitude and Practices of HIV/AIDS in selected fishing Communities of Kainji Lake Basin and their findings revealed that 98.4% of the fishers were aware of but lacked knowledge on mode of transmission and prevention of HIV/AIDS. At the time the research was conducted, 76% of the fishers were still in their active (reproductive) age of between 15 – 45years. 58.7% of the fishers were into polygamy and most of them (i.e. 57.2%) had no formal education.

Oluwosegun et al. (2013) conducted a research on Pre-disposing factors to HIV/AIDS Pandemic among Fisher folks in the Kainji Lake Basin and observed that 67.7% of fishers were between 15 – 40 years with an average of 37 years which fall within age groups noted for high HIV prevalence in Nigeria. They also found out that 88.1% of the fishers were married with one or more wives. Their findings also revealed that educational level of the fishers did not reduce the spread of HIV in the study area.

HIV Risked Fishers And Fishing Communities At High Risk Of Hiv Infection

If the main ways in which HIV can be transmitted, a number of lifestyle factors suggest that heterosexual sex is the prevalent channel in fishing communities. Susceptibility to HIV is determined by complex combinations of biological, social, cultural and economic factors. Several known HIV risk factors converge around fishing activities, though not all of these factors are present in all fishing communities:

- Fishermen tend to fall in the age group most vulnerable to sexually transmitted diseases (15 - 35 years);
- Many people involved in fishing or associated activities are mobile or migratory and therefore less constrained by family influences and social structures at home;

- It has been suggested that since fishing itself is high risk, a culture of risk denial may extend to other dimensions of fishermen's lives;
- Since fishing is a low status occupation, this may cause "exaggerated or 'oppositional' forms of masculinity that challenge norms...in 'mainstream' society...including the expectation of multiple sex partners" (Kissling et al, 2005);
- Cash income, poverty, irregular working hours and being away from home places fishermen in a group with disposable income and time off (when not fishing), that favors the consumption of alcohol and prostitution; the corollary of this is that low-income women are drawn to fish landings or ports precisely because of the opportunities to sell food, alcohol or sex;
- The chance of being exposed to HIV is increased where a small number of women have unprotected sex with a larger number of men, or vice versa (Garnett and Anderson, 1996, cited in Loevinsohn and Gillespie, 2003);
- In places where women compete intensely for the fish catch (for small-scale processing and local trade); "fish for sex" is not uncommon;
- Gender inequality, compounded by poverty that puts women at risk of exploitation, makes it difficult for women to insist on condom use; and
- Fishing communities have limited access to sexual health services.

Allison and Seeley (2004) caution against stereotyping, pointing out that not all fisher folks engage in risky behavior, that fisheries in developing countries comprise "...mixtures of migrants of varying duration and resident farmer-fishers" (ibid., p.220) and that other studies (e.g., Neiland and Béné, 2004) support an alternative image of fishermen as hard-working and forward-thinking (which can, of course, co-exist with the above characterization). Nevertheless, they conclude: "...that a high-risk subculture exists among some important fisheries in developing countries (e.g., the Gulf of Thailand, the African Great Lakes, West African coastal fisheries).

Effect Of HIV/AIDS On The Fisheries Sector

The effects of HIV/AIDS on rural households in Africa are now fairly well-documented. One effect is the loss of productive adult labor as the person with HIV falls ill and other household members take on, as far as possible, the additional labor burden of the sick person's work whilst also caring for him or her. With household resources under increasing pressure, first incomes, then savings, and finally household assets, are all used to meet the costs of farm inputs, consumption items and care of the sick (medicine, transport and special food needs). Children are taken out of school to work on smallholdings, but the harvest is poor because of reduced labor and purchased inputs. Younger children or orphans go to stay with grandparents or other extended family, putting enormous strain on those households to meet even subsistence needs. Credit (where it was ever available) is no longer extended to the sick person's household (because of stigma and inability to repay) whilst grandparent-headed "remnant" households fail to meet asset or age criteria for loans, thereby further tightening the poverty trap. This generalized scenario also applies to fishing households. AIDS-affected families with fishing assets (such as nets or boats) may sell these to meet more immediate needs, thereby eliminating a future source of income for other household members or current income from loaning out fishing gear. Men who no longer have the strength necessary for fishing may switch to female dominated sectors, such as fish processing. In doing so, they may displace women whose options for employment in fishing communities are very limited, but include commercial sex work. In Africa, where rural household livelihoods are diverse, fisher folk are often farmers too, with women dominant in the latter role. These activities are complementary, and seasonal differences allow one to finance inputs to the other. A reduction in fishing income therefore has a direct effect on farming income too. Africa's industrial fisheries and fish processing sub-sectors are also affected by HIV/AIDS, through the loss of skilled labor and high levels of absenteeism due to sickness or compassionate leave to attend funerals. In addition, Allison and Seeley (2004) highlight potential impacts on natural resource management, pointing out that:

- HIV/AIDS undermines the long-term perspective needed for successful co-management in fisheries, whilst deepening and desperate poverty may drive fisher folk towards increasingly short-sighted and unsustainable practices; and
- Indigenous knowledge about resource management may also be lost, along with crucial capacities in universities and public services.

HIV/AIDS in the fisheries sector has much wider impacts too. Mobile and part-time fishing populations, moving in and out of the sector, along with interactions through trade and markets, permit HIV and its impacts to be spread outside the sector. The multiplier effects of the loss of productive labor and declining productivity may affect rural incomes more broadly. HIV/AIDS, moreover, threatens the ability of the fisheries sector to supply fish and fish products to the low-income groups for whom it represents an important and affordable source of animal protein and micronutrients.

Some fisheries generate important foreign exchange and the loss of those revenues has wider economic effects. The diversion of household and government resources to tackle the epidemic reduces the funds available for other services and investment in productive activity. As school attendance drops, there is a long-term effect on human capital. The cycle of deepening poverty can be a cause of increased migration in fishing communities. It can also lead to recourse to sex work. Both these factors may contribute to the wider spread of HIV/AIDS. Health services, VCT and antiretroviral therapy in fishing Communities in Africa In general, rural Africa is not well served by health services. It is difficult to recruit trained health professionals to work in rural locations with extremely limited resources and support. Poor roads, telecommunications and electricity, as well as lack of access to clean water and low levels of education in the target population exacerbate the difficulties in providing preventive medicine, diagnoses and treatment. Some fishing communities (including island communities) are further disadvantaged by flooding and seasonal inaccessibility (by road), the temporary or migrant status of part of the community and, possibly, stigma relating to perceptions of lifestyle (alcohol abuse and prostitution). Voluntary counseling and testing (VCT) is a key strategy in the diagnosis and treatment of HIV/AIDS, but access to such services is extremely limited. Fewer than 10% of those living with HIV/AIDS in developing countries are aware of their condition (UNAIDS, 2005). Moreover, even where VCT is available, the treatment of AIDS with antiretroviral therapy (ART) poses special challenges. Laboratory facilities are required for diagnosis and monitoring. Reliable access to drug supplies and strict adherence to a life-long treatment regime, including taking pills regularly, are essential. As the virus mutates and drug-resistant strains develop, individual response to the treatment must be monitored and different drugs prescribed. The 3 by 5 initiative (reaching 3 million people in poor countries with ART by the end of 2005) did not meet its target, but even if it had, it would still have been insufficient to meet the needs of the burgeoning numbers with AIDS. High costs and an excess of demand over supply inevitably lead to rationing and a focus on those most likely to respond to treatment (Seeley and Allison, 2005).

“Lifestyle factors like high mobility, irregular working hours as well as place of residence, often remote from infrastructure, would seem to put [fisher folk] among those least likely to access ART, and most likely to be judged inappropriate for therapy, even if programmes are massively scaled up....Add to this some of the factors like high consumption of alcohol...and fisher folk seem unlikely to be ranked among those “viable” for ART even if they are among the vulnerable.”

Whilst HIV/AIDS in the fisheries sector has rarely been tackled in a comprehensive way, there is growing experience with a range of interventions that target the fisheries sector in different ways and at different levels. Some examples of different approaches are described here, including a more integrated policy-level response to the issue.

Characteristics Of Fishers And Vulnerability Of Their Partners

Literature on fishing as a profession portrays it as an occupation full of risks. Studies in America reported that fishing, especially commercial fishing is the most dangerous job in the United States, and fishers face a risk of fatal on-the-job injuries 28 times greater than the risk of all other occupations combined. In other words, they often work "on the edge of life." The demands of the job as fishers are so high that only young men are suitable for it. At the same time, there is a high turnover and it is not unusual for fishing vessel owners to appoint "employment agents" who recruit young men from villages for the industry, charging a fee of US\$90 per worker (Family Health International, 2000). There is also no guarantee that those recruited are drug free. To quote the captain of a boat, "As a wild guess, I would say that if the fishing industry were to run a blood test and eliminate the people that had drug problems, there would be very few boats sailing with a full crew" (Standard Times, 1996).

Fishers are also very mobile people, having to travel to wherever the catch is most plentiful. Their pay is also often quite substantial. This coupled with the fact that they could be away from the family for many days at a time increases their risk of sexual contact with sex workers. "When fishers get paid, they want to have a good time, spending money on drinks and sex" (Family Health International, 2000). Because of the dangerous combination of alcohol and sex, as well as the lack of condom usage, the fishers are not just vulnerable to HIV infection but those living with the virus can unknowingly or otherwise spread the epidemic through sex workers to low prevalence areas. Living conditions tend to be cramped and while on the waterbody they are forced to live in close-knit communities, sharing of living space, including needles and drugs. It has also been noted that in some instances, sex among men takes place in such close proximity.

The occupation, tough as it is, does not attract many people. Consequently those who are involved in fishing tend to be young (to meet the demands of the job), poorly educated (those who are not employed elsewhere) and in some cases may even be migrant workers, both legal as well as illegal (as there is the Difficulty of finding young men who would want to choose fishing as a profession). Family Health International (2000) reported that in Rayong, a port city on the East coast of Thailand, men with limited education and without official documents (passports and visas) could often find jobs as fishers because the adventure attracts

young men but the work is hard and full of physical risks. Given the abovementioned conditions and characteristics of fishers, it is not inconceivable that fishing, as an occupation, has all the conditions that expose fishers to the infection. HIV/AIDS among Fishers Studies done in Tanzania, Africa, found that fishers were most likely to die from any cause - AIDS or Non-AIDS. In fact, this study found that they were five times more likely to die of AIDS and of other causes than are farmers in the same region (Ainsworth and Semai, 2000). The same risks (of "other courses") were also shared by fishers. Elsewhere in Asia, Family Health International has also pointed out that, fishers in the region face a life full of risks. It is not just the work in fishing itself that threatens the life of the fishers. Their entire lifestyle also makes them vulnerable to death due to infection from sexually transmitted diseases, including HIV/AIDS. Soskolne (2000), in a cross sectional study of migrant fishers in Thailand found a 15% prevalence of HIV/AIDS. The average age of the subjects was less than thirty years and 60% of them had admitted to having multiple partners and visited commercial sex workers while away from home. Entz et al. (2000) also found a HIV prevalence rate of 15.5% among fishers in Samut Sakorn, Ranong, Songkhla and Traat Provinces in Thailand. Meanwhile, Family Health International (2000) reporting on Cambodian Seafarers in Rayong, Thailand, found that 60% had engaged in commercial sex. Studies done with source (of sex workers) communities found a HIV prevalence rate of 29% to 34% among the commercial sex workers, depending on the location from which they operate. This same study also found that although condom usage was low (partly due to alcohol consumption), the fishers did not think that they were vulnerable to HIV. At any rate, some of them claimed that their lives as fishers were so full of risk anyway - so why should they be afraid of HIV/AIDS. Limited education among fishers also makes access to information difficult. Fishers are not just vulnerable to HIV/AIDS because they frequent commercial sex workers without proper protection. Involvement in drugs also renders them vulnerable. MAP (2001) reported that the HIV prevalence among injecting drug users could go as high as 40%. Drug users can pass on the infection to their partners in drugs, partners in sex and in some cases the addiction itself can also force them to be sex workers.

One study among Malaysian fishers in the state of Kedah reported that 18.1% of the subjects had sex with commercial sex workers, 19.2% used various drugs and 14.4% consumed alcohol, all behaviors which put them at risk of being infected (Tunku Latifah, 2001). Incidentally in Malaysia, fishermen who make 7.8% of all PWHAs with known occupations are regarded as a high-risk group.

Partners of fishers include wives, friends (both male and female), and commercial sex workers. They could be partners in sex as well as in drugs. Whichever the case, the risky behavior of fishers puts their partners at risk. Because some STDs including HIV/AIDS do not present noticeable symptoms until at the late stage, fishers could have infected many individuals even before they themselves are aware of their status. And in some instances with PWHAs, stigma as well as indulgence in drugs or alcohol renders reasonable thinking (about prevention) unimportant. Women in the lives of these men find themselves in double jeopardy. Not only are they vulnerable in terms of the meager income they receive from their husbands, but the behavioral patterns of fishers (involvement in drugs and sex) only serves to exacerbate their vulnerability to the infection. Sex workers catering to the needs of fishers are also at risk. For the sex workers, the balance between condom usage and their own safety as well as that of their clients, and the economic gain from trying to please their clients who refuse to use the condom, is often difficult to maintain. Clients feel that since they are paying for a service, they can dictate the conditions. Coupled with the fact that some clients come to them in various states of alcohol or drug induced stupor, sex workers not only remain at risk themselves but when infected, are also a risk to other clients.

Factors Contributing To The Vulnerability Of Partners

The increase in the number of infected women has risen to such an extent that there has been repeated calls to address the needs of women in recent years. Globally, in the age group of 15 to 24, two women are infected compared to only one man. Data also shows that younger women are more vulnerable to the infection. Reasons for the increase in the rate of infection among women include physiology, socio-economic and violence, all of which are compounded by gender constructs within cultures. The physiological difference between men and women is a well-known factor. Biologically, the vagina allows for greater possibility of entry of the virus because of the sensitivity of the mucosal surface as well as the larger surface area. Younger girls are especially vulnerable because their immature mucosal surfaces are even more easily torn. It also does not help to have cultural beliefs expounding the fact that men's sexual ability can be rejuvenated by having sex with virgins. In some areas of the world, sex with virgins is also believed to be a cure for HIV/AIDS. In general, men also believe that by having sex with younger sex workers, they can reduce their vulnerability to infection. Women are susceptible to STD including HIV infection due to the high concentration of the virus in semen. They are also more likely to be asymptomatic and less likely to seek treatment for STDs, resulting in chronic infections with more long-term complications. Untreated STDs increases the likelihood of HIV infection. WHO has also pointed out that although women may be infected later than their husbands, their poor state of health allows the infection to progress to AIDS at a faster pace. Because women are primary caregivers in the family, infected as well as affected women also bear the brunt of having to care for the entire family in the event of the death of

their husbands, sons, brothers etc. Women, when they become sick themselves, may not get the support nor the care they need. Parents have also been known to be left without children to take care of them in their old age. More than that, older women also look after their sick grown-up children and upon their death; take on the responsibility of bringing up their grandchildren. HIV/AIDS infection among women clearly portrays the gender inequality in families, which make women more vulnerable to the infection. The following reasons borrowed from Gupta (2000) explain why gender inequality increases the vulnerability of women:

- The culture of silence which surrounds sex which dictates that "good" women are expected to be ignorant about sex and passive in sexual interactions, makes it difficult for women to be informed about risk behavior and even when informed, difficult for them to negotiate safer sex;
- The culture of silence also makes accessing treatment services for sexually transmitted diseases highly stigmatizing to women (STDs further increases vulnerability)
- Motherhood like virginity is considered a feminine ideal-therefore using barrier methods or non penetrative sex as safer sex options presents a significant dilemma for women;
- Women's economic dependence increases their vulnerability to HIV. Women, who are dependent on their husbands economically, are less likely to be able to negotiate for safer sex. They are also more likely to exchange sex for money or favors and they are also less likely to leave a relationship that they perceive to be risky;
- Violence against women contributes directly and indirectly to women's vulnerability. Studies quoted by Gupta (2000) found that individuals who were sexually abused were more likely to be engaged in unprotected sex. Men who had extramarital sex were 6.2 times more likely to report wife abuse than those who had not. Men who reported STD symptoms were 2.4 times more likely to abuse their wives;
- Stigma and discrimination against PWHAs prevent women and men from being tested, perpetuates the infection if they are positive, and prevents early detection so that they can receive treatment early enough.

According to Gupta (2000), men are also vulnerable by prevailing norms of masculinity that expects men to be knowledgeable about sex. These expectations indirectly force them to seek "the experience" from sex workers while at the same time prevents them from seeking information about sex (for fear of being branded as ignorant), including related infections and HIV/AIDS. Variety in sexual partners, long believed to be a sign of masculinity, only serves to increase the vulnerability of men.

Proposed Agenda For HIV/AIDS IN The Fisheries Sector

In the basis of the experience reviewed here, there is a clear agenda for tackling HIV/AIDS in the fisheries sector. This comprises policy development, programming, research and dissemination, with important roles for government, donors, NGOs, the private sector, local communities and researchers in pursuing these goals.

Policy

First, there is a need for significantly more policy attention to be directed towards HIV/AIDS in the fisheries sector. The Ugandan experience underlines the importance of not narrowly apportioning responsibility for action. When fisheries departments take up the issue, it will be critical for them to work with a wide range of partners (including local communities) to achieve profile, depth, scale and impact in their responses. Arrangements will differ from country to country but recognition of the need for a multi-sectoral, multi-faceted approach is important.

Policies will need to link interventions at different levels and across technical sectors. Mainstreaming is important, including the use of tools such as the "HIV lens" discussed above. The policies, moreover, must be implemented, with concomitant implications for the way in which they are developed (and owned) and, most importantly, for resourcing and capacity development. Donors and those working in fisheries can help advocate for these policies, but the policies themselves must come from government and their development must involve input from fishing communities and organizations working in the fisheries sector as well as those working with HIV/AIDS elsewhere.

Action

There is also an immediate need for action to tackle HIV/AIDS in fishing communities: to develop and implement policies; to translate the emerging lessons and approaches into programmes and activities on the ground, making sure that some of the key foundations are in place (including the availability of condoms, VCT centers, workplace policies, and other sensitization and education programmes); and to engage with donors, governments, the private sector and communities to harness the commitment and resources needed to fight the problem. Such action implies a variety of roles appropriate to different groups and professions working at different levels, from policy right down to the communities themselves. Each has to commit resources to – be it funds from donors, governments or private sector initiatives, or community actions.

Research

Thirdly, there is a need for further research, including a strong element of action research and collaboration between practitioners and researchers. In particular, significant improvements are needed in our understanding of the factors that contribute to high-risk behavior (e.g., poor living conditions and low incomes and ways to improve these), and to the determinants of resistance to HIV/AIDS infection and resilience to withstand the impacts of HIV/AIDS.

Action research on these issues should be pursued in order to understand and document emerging good practice, so that the lessons can in turn be taken-up and applied in wider efforts to scale-up the response. Important areas where an improved understanding will be especially important include:

- finding champions within the community and peer-to-peer education;
- achieving VCT enrolment and particularly understanding how to effectively target unwilling Groups;
- finding ways to engage and develop community capacity to respond, keeping in mind the Potential lack of cohesion in “communities” with large numbers of outsiders;
- tackling fatalism in fishing communities (awareness without change in behavior) by promoting positive (non-hopeless) outcomes, including effective ART;
- addressing some of the issues that would otherwise exclude fishing communities, such as
 - Moral judgments and stigmatization
 - Seasonal / temporary residence – including cross-border dimensions
 - Inaccessibility
 - Institutional barriers to collaboration between different professional groups (e.g., Medical profession, fisheries departments, private sector);
- focusing on some of the root causes of vulnerability, particularly for women, to promote economic and social empowerment through the development of other economic opportunities, training, rural finance, market access and support groups;
- using tools such as the “HIV lens” and identifying how they can be adapted and improved; and
- applying and adapting lessons from other sectors for use in fisheries, particularly work with mobile and vulnerable groups.

Dissemination

Finally, there is a need for dissemination. Information on HIV/AIDS in fishing communities is gradually becoming available, but this has not yet translated into widespread political awareness and commitment to tackle the issue. This must change if the information and resources needed to fight HIV/AIDS in fishing communities are to be marshaled. Forums for exchange of information (conferences, workshops and online discussion groups) can be an effective mechanism for dissemination. Projects championing local knowledge and resource-user participation in management need to take these realities into account. It has become imperative for Government and other community based organizations to give fisheries sector attention especially on sex education and safe sex practices to reduce the fisher’s vulnerability to HIV/AIDS.

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