# CASE STUDIES ON HIV/AIDS IN FISHERIES DEVELOPMENT :LESSONS FOR NIGERIAN FISHERIES

By

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This paper reviews accounts of social and economic features of HIV/AIDS epidemics in the fisheries sector within and outside Africa. Fishing communities are often among the highest-risk groups to countries with high overall rates of HIV/AIDS prevalence. It is more important to use the information made available from these efforts in more effective way of targeting the appropriate interventions and measures that can be designed and instituted. This information could also serve useful purposes and the efficient mobilization of Fisheries sector in Nigeria.

#### Introduction

Like any other disease, HIV/AIDS tend to pose serious socio economic threats to the economy of any population. In Sub Saharan Africa today, HIV/AIDS is not only a human and social catastrophe; it is a major obstacle to development. With one adult in ten already infected with the virus and several thousands new infections occurring everyday and family structure breaking down with increasing number of destitute and developmental activities reverses at a faster rate. Thus, the very people who are vital to the economic future of the rural communities where poverty is dominant are caught in the web of HIV/AIDS. ((Barnett and Whiteside, 2002).)

Although the socio economic effects of HIV/AIDS are now well recognized in other sectors, and strategies for mitigating the impacts of the epidemic are now being developed, the implication of HIV/AIDS for the fisheries sector has been much slower in coming to the attention of fishery analysts. There are many glancing references in the media conference abstracts and elsewhere to high rates of HIV infection in fishing communities in East Africa but few published studies of sexual behaviour or HIV prevalence in the communities (Pickering et al, 1997) The same is true of other areas with the most reliable data on prevalence coming from recent studies in Thailand and Cambodia where the large populations of the migrant deep sea fisher folks have come to the attention of policy makers, largely through their studies as illegal migrants. Prevalence rates of 15 20% among fishermen in the region mark them out as a very high risk group, comparable to other 'sentinel' groups such as commercial sex workers, military recruits and long distance truck drivers (Entz et al, 2000). In Africa, most studies on HIV/AIDS in fishing communities have clustered around Lake Victoria from where the epidemic was first identified. There are not available data on the prevalence among people engaged in fishing - related activities (most of whom are small scale fisher folks, making day or overnight trips on the Lake), but studies of high risk sexual behaviour in fishing communities and the experiences of medical research and health service project in the area add up to suggest that fisher folks are significantly more at risk from HIV/AIDS than other occupational groups such as the small scale farmers that make up the majority of the rural population (Allison and Seely, 2000). Anecdotal evidence based on interviews with health workers in the past puts prevalence as high as 70% in lake - shore towns like

These high rates and the high incidences of death in fishing communities from AIDS - related diseases have begun to come to the notice of fisheries analysts around the world. The KLARM/World fish center Women in fisheries symposium held in 2001 (William et al, 2002) was a key event in raising global consciousness about HIV/AIDS in fishing communities. It is now repeatedly being stated that fishing communities are among the most vulnerable occupational groups, particularly in the South East Asia and African countries where the epidemic has hit hardest (Brian, 1998, Henrich and Topouzis, 2000). It is also in these areas that the vast majority of the world's 100million fisheries dependent people live and work (Garcia and de Leiva Morano 2003)

## The scale of HIV/AIDS in the fisheries sector

Kissling et tal (2005) compare HIV prevalence among fisher folk with both 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 factor ranging between 4.4 and 14.0

Three of the studies were conducted in Africa prevalence rates for fishrefolks were 20.3%, in 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. HIV/AIDS is identified as the leading cause of death in adults aged between 15 and 50 in lake—shore areas in Uganda (MAAIF, 2002) while in Kagara region, Tanzania, fisher folks are said to be five times more likely to die of AIDS - related illnesses than farmers—(Ainsworth and Semai, 2000). National seroprevalence rates in the countries bordering Lake Victoria region are already high, being between 10 and 15% of the 15–50 age group through the 1990s (Salin and Stifel, 2003). In this context, the relative estimates for fishing communities are devastating. Moreover, in Kenya and Uganda this was respectively 2.1 and 1.8 times higher than for truck drivers, a known high risk group. The absolute members were also higher 44,000 Kenyan fisherfolk infected as compared with 8,000 truck drivers and 33,000 Ugandan fisherfolks compared with 5,000 truck drivers. The Kenyan study suggests that rates of HIV infection are even slightly higher for fisherfolks than sex workers.

Entz et tal (2000) Thai Khmer and Burmesa fishermen working for Thai fishing companies in the Gulf of Thailand and Andaman Sea Fishermen based at Sihanoukvile, Cambodia, Gulf of Thailand. 15.5% of a sample of 818 was HIV-1 positive, with highest rates for Khmer (20.2%) and Burmese (18.1%) crew members. These rates are higher than for other sentinel groups in Thailand: military recruits, truck drivers, male STD patients and some categories of commercial sex workers. Kim et tal (not dated) states 17% of fishermen who claimed to regularly use condoms were HIV-1 positive; 20% of irregular condom users were HIV+(n-446); 40% of brothel based sex workers were HIV-1 positive;68% of the sampled fishermen had visited a commercial sex workers within the previous year.

Hung (2002) states that Malaysian fishermen make up 7.8% of the people living with HIV/AIDS in Malaysia, but less than 2% of the sexually active population suggestive of higher than average seroprevalence. Paul et tal (2003) states that in Thailand, Migrant Burmese Women in Ranong fishing community, HIV/AIDS is spreading rapidly as male (and some women) have multiple sexual partners, including commercial sex workers. Lack of condom use, prevalence of sexual violence and absence of the moral influence of the older generations are all identified as co-factors making this migrant fishing community particularly vulnerable. Ainsworth and Semai (2000)states that fishermen in lake Victoria, Kagara Region, Tanzania are up to five times more likely to die of AIDS than farmers in the same region. Simon-Meyer(2000)sampled employees(sea going and other)of a major deep sea fisheries company, Cape Town, South Africa revealed that one third of respondents had neighbours or relatives living with AIDS and more than 73% felt it a very real threat to work elsewhere in Africa (e.g Senegal, Ghana, Zambia, and Benin) indicates that many fishing communities have high HIV/AIDS prevalence rates

### HIV/AIDS and the rural economy and communities

Following the failure of the development programs of the 1970s and 80s, some policy-makers, activists, and scholars began to examine the conditions associated with the sustainability of rural households and their livelihoods. This newfound concern with households and their livelihood strategies marks a shift in development discourse away from development as transformative of rural areas to one where development is concerned with making rural societies sustainable (Bryceson and Banks2001; Bryceson, 1999; Carney, 1998). In general, the rural livelihoods framework is concerned with how rural dwellers invest/deploy their natural, physical, financial, human social, and political capital in responses to "shock". In this context HIV/AIDS is treated as yet another threat to the sustainability of rural communities much likes droughts, floods and price fluctuations. That is researchers are similarly concerned with the ways in which HIV/AIDS affected the assets (economic, human, social, and political) rural households are assumed to manage part of their livelihoods strategies. The integrated approach is exemplified by Barnett and Blakie (1992) on Rakai, Uganda, one of the most widely cited early studies of the social and economic impact of HIV/AIDS. According to Barnett and Blakie AIDS is along wave disaster for Africa. Key areas of impact include: migration and prostitution have become necessary for the survival of some households; morbidity and mortality from AIDS are gendered a loss of labor power due to AIDS is destroying family life as well as agricultural patterns, decreased educational attainment as children are pulled out of school; need for new coping strategies ranging from simplified funerals, to agricultural adaptations, and new system of orphan

care. HIV/AIDS is having severe negative impact on food production systems, the national economy and the structure of society (Barnett and Whiteside, 2002). Although increased cost of health care provision is the most obvious of HIV/AIDS on national economics, loss of labour has also been highlighted as one of the main economic impacts (Gillespie, 2002). In Kenya, for example, FAO (2002) reports government figures predicting that the total number of lost workdays in the agricultural sector because of HIV/AIDS will reach 329,000 persons by the year 2020, if present trends continue. Labour is not only lost from agriculture and business, it is also lost because of care or shifting time and energy to other task because of the loss of person who previously performed such reproductive roles. The recent food shortages in Southern Africa may have been exacerbated by the HIV/AIDS epidemic, which has weakened the agricultural sector's ability to respond to market and environmental uncertainties (Barnett and Whitside 2002, De Waal and Whitside, 2003).

### HIV/AIDS and rural poverty

There is widespread agreement that HIV/AIDS causes or exacerbates economic viability. Greener and Sipambe(2000) investigate how HIV/AIDS affects household in Botswana, using macroeconomic projections to examine how welfare and resources may be distributed in various types of households. Their approach recognizes that HIV/AIDS affects both the income expenditures of households; their models suggest that HIV/AIDS will result in an increase in the prevalence and severity of poverty in Botswana. In a study that uses—survey data from three villages from Rungwe district in Tanzania, Mwakalobo(2003)deploys logistic regression to demonstrate that HIV/AIDS increases the likelihood of households falling below the poverty line(the villages with highest incidence of HIV/AIDS, Masade, has the highest incidence of households below poverty line)This study, although problematic given its small sample (120 households are surveyed in all three villages) and its lack of justification for selecting the Rungwe district, seems quite innovative in trying to get at the aggregate effects of HIV/AIDS

In a study of South Africa, Samson (2002) argues that publicly provided aid is an important source of support for poor HIV/AIDS affected families, particularly those with children suffering from malnutrition.

HIV/AIDS and food insecurity

The growing consensus in the literature is that HIV/AIDS increases food insecurity and poverty (Baylies, 2002; deWaal2002; du Guerny, 2002; Boudreau and Hollemam, 2002; SADCFANR, 2003). The key claim of deWaal and White side (2003) is that the new aspects of the food crisis in Southern Africa can be attributed to the role play by generalized HIV/AIDS the region. They suggest a 'new variant famine' based on changes in dependency patterns; losses of assets and skills associated with adult mortality; the burden of care for the sick and orphaned children; and the vicious cycle between malnutrition and HIV infection. Their approach modified frameworks used in famine theory to make its claims about the effect of HIV on food security. Along similar lines, Loevinsoln and Gill (2003) argue that HIV/AIDS can become endogenous to livelihood and agricultural system that is an internal variable that interacts with other forces to shape agricultural and economic processes over time. HIV/AIDS lowers the income and food purchasing power of households(Haddads and Gillespie,2001;duGueny,2002; Boudreau and Holleman,2002;SADC FANR,2003),and HIV/AIDS lowers household food and cash crop production(Boudreau and Holleman, 2002;SADC FANR,2003). In addition, some scholars note an indirect effect of HIV/AIDS: the early adoption of coping strategies which leave households vulnerable to other "shocks" Rugalema, 1999;de Waal2002; SADC FANR,2003).

#### HIV/AIDS on women and Gender relations

The latest global report on HIV/AIDS published in June 1998 (UNAIDS, 1998a) spelled out clearly that AIDS is a widespread epidemic affecting whole population rather than just 'at risk groups' marked by adverse sexual behaviour. Before 1992, AIDS cases reported to the WHO were not disaggregated by gender. Only localized surveys provided such data. An evaluation of localized surveys over time by Maim *et al* (1992) indicated that the sex ratio of reported AIDS cases was declining (i.e. the proportion of women infected was increasing). The 1992 'AIDS in the World' Survey estimated a global male to female ratio of adult HIV infections of 1:5, indicating that 40% of those affected were women Much of the early work on gender and HIV/AIDS, including the growing literature on orphanhood and how it perpetuates exacerbates gender inequalities in a downward spiral into poverty (Case et tal 2003). In addition, some studies examine new forms of sexual dependency, violence, and exploitation that may results in areas where HIV/AIDS prevalence is high. A number of key issues surrounding impact of HIV/AIDS on women and gender relations have been identified:

- The primacy of females as caregiver and differential impact on families depending on who
- The exacerbation of women's human rights violation in the context of HIV/ AIDS Stigmatization, blame and abandonment
- Lack of control over reproductive decision making

Differential impacts of HIV/AIDS by gender of the survivor has been examined (Baden, 1998).Families headed by women survivors are often faced with economic difficulties, especially in a lack of cash income, as men are primarily responsible for cash crop as well as non farm income. In case of male widowers, food security is often a greater problem as women are generally in charge of the supply of food for the family .Many empirical observations are consistent with arguments posed by feminist economists about the costs of to women(and to families, communities and regions) of unpaid domestic labour. Particularly in Southern Africa there is evidence that AIDS has actually increased women's sexual dependence on men, due to increased economic vulnerability and to social instability that sustains new forms of sexual violence (Cadre, 2003)

In Nigeria, HIV/AIDS is spreading across all geo political zones and among all segments of the society. AIDS is indeed devastating Nigeria communities and poses a threat to poverty reduction. That it presents a major challenge to human development and skill shortage in all sectors becomes apparent, wearing down the gains of economic growth and human development. Between 1986, when the first case of AIDS was reported in Nigeria, and June 2001, 52,962 AIDS cases were reported (FMOH, 1999). Though the true number of AIDS cases in Nigeria is not known, it is estimated that almost 850,000 adults and children had died of AIDS by the end of 2001 (AIM projection). Based on the HIV prevalence rate of 2001, which was found to be 5.8%, Nigeria is estimated to have about 3.5 million people with HIV/AIDS (FMOH, 2001). When studied by State, the prevalence rates were highest in Benue (13.5%), Akwa Ibom (10.7%), and the FCT (10.2%). The lowest prevalence rates were seen in the States of Jigawa(1.8%) and Sokoto(2.8%). There was no State and no surveillance site that had a prevalence rate below 1%. According to geographical zone, FMOH(2002) the prevalence rates were North Central (5.5%), South South(7.7%), South East(5.8%), North East (5.4%), South West(4.0%) and North West(3.3%). Trends elsewhere in Sub Saharan African countries suggest a danger that HIV prevalence in Nigeria could increase in the future. Almost all Nigerian cities have lectures, seminars and workshops on HIV/AIDS, the activities of John Hopkins University's center for Communication Programme (JHU/CCP) had consciously and intentionally educated Nigerians through music (Yahaya, 2003) unfortunately fishing communities had little or no impact of such programme. The major intervention programmes have been concentrated in the cities and state capitals, ignoring the rural areas, where about 70% of Nigerians are believed to settle and live below the poverty line.

What do the lessons from other situations tell us about responding to HIV/AIDS in fisheries? Barnett and Whiteside (2002) argue that the appropriate response to HIV/AIDS involves a continuum of policy and practice spanning prevention and impact mitigation, with care an important component throughout. They highlight six concepts that should

- the mix of prevention, care and impact mitigation measures should depend on the stage of form response strategies: development of the epidemic; in its early stages, prevention is critical but if the epidemic takes hold, the scope and scale of the response must necessarily expand;
- in Uganda, the informal exchange of information within communities and between friends and families has been important; this dialogue was a result of the leadership and high profile accorded to HIV/AIDS in official circles, non-stigmatization, and encouragement to diverse organizations to respond to HIV/AIDS as a multi-sectoral problem;
- action requires that there is awareness, ownership and empowerment; there is a critical need for empathetic approaches that do not alienate and stigmatize people, and an understanding of processes that empower and build capacity to respond;
- Uganda's relative success highlights the importance of a multi-dimensional response: a multisectoral approach involving everyone in prevention of HIV/AIDS; the development of strategies for prevention and impact mitigation that go beyond a purely medical response; and capacity-building at HIV/AIDS and education programme on safe sox and

all levels:

- sustainability and scaling up are critical, but extremely difficult to achieve where resources are so
  limited and local contexts so specific; sustainability should not be an over-riding concern for donors
  (though lower cost interventions should permit more people to be reached) because HIV/AIDS
  reduces community/individual resources and because AIDS orphans need long-term assistance
  urgently;
- "coping" is a misplaced concept with very vulnerable HIV-affected households; individuals may manage to survive but disproportionately high numbers of the poor and vulnerable have no option but to take action that makes them yet more vulnerable (e.g., sale of productive assets, withdrawal of children from school); the need for impact mitigation measures is therefore paramount; Loevinsohn and Gillespie (2003) stress the importance of mainstreaming, proposing that an "HIV lens" be applied to different situations and actions (including policies). This would "...support reflection on how the situation may be increasing or reducing the risks, either of contracting HIV or of suffering severe consequences flowing from AIDS-linked illness and death, and how the action, actual or planned, might contribute to these effects" The Ugandan strategy for HIV/AIDS in fishing communities is an example: it explores how the development of the sector both affects and is affected by HIV/AIDS and proposes measures to ensure that fisheries sector development reduces rather than exacerbates the impact of HIV/AIDS.

#### Lessons for Nigerian Fisherie

The presence of numerous water bodies in Nigeria some of which are prominent rivers cutting across vast areas of land empting into the sea has avail Nigeria the opportunity of owning significant fisheries resources which are present within the inland, brackish and marine environments. As a result, a large number of people in the country are etching a living in the fisheries sub sector. It therefore follows

- That Nigeria is not immune against HIV/AIDS prevalence in its fisheries sub sectors unless a precautionary measure is taken.
- If in Africa, Countries such as Democratic Republic of Congo (DRC), Kenya and Uganda respectively have 20.3%, 30.5% and 24.0% as rates of HIV/AIDS in their fishery sub sector, it implies that Nigeria has an urgent need to learn from the prevalence situation of its neighbours.
- This lesson is necessary in order to forestall labour loss in fisheries, job loss by teeming youth and the attendant micro and macro economic implications for the country.
- It is particularly necessary as a significant proportion of women are into fish processing and other
  related activities in Nigeria and this group have little or no chance of protecting themselves from
  HIV/AIDS through wholesome sexual act against the male counterparts as they do not have control
  over reproductive decision making.

#### Conclusion

This paper shows that more and more information is becoming available on HIV/AIDS in the fisheries sector, and that experience in tackling it is growing too. Nevertheless, efforts to date have been patchy and insufficient. It is time to ensure that the impact of HIV/AIDS is properly taken into account in the attempts of government, donor organization and NGOs to manage fisheries and assist fisherfolk to find ways out of poverty and vulnerability. It is time to help those in fishing communities who are already living with HIV/AIDS to continue to enjoy productive and dignified lives. There is a need for a much larger and more co-coordinated effort by a wide range of organizations and groups to develop resource and implement policies to reduce and counter the effects of HIV/AIDS in fishing communities. In its absence, many African countries with important fisheries will be hard-hit by HIV/AIDS, with all the human suffering, loss of life and falling productivity this entails. Moreover, if the problem of HIV/AIDS is not addressed, these countries will also forego the important and much-needed opportunity for rural economic growth and poverty reduction that fisheries can provide.

However, the following recommendations will assist the fishing communities to fight against health related problems, especially HIV/AIDS;

- Provision of health facilities and health personnel in fishing communities
- The establishments of HIV/AIDS support Organization in enlightening the people on a broad based community approach.
- Enlightenment campaigns on HIV/AIDS and education programme on safe sex and behavior

change remain key responses to the epidemic. These will facilitate the achievement of the millennium development goals of making food available through good health for fisheries workers which in turn create a healthy productive environment.

References

Allison, E.H. (2004) The Fisheries sector, Livelihood and Poverty reduction in Eastern and Southern Africa In; Rural livelihood and Poverty reduction Policies eds F. Ellis and H.A.Freeman). Routledge, London (in press)

Allison, E.H. and Ellis, F. (2000) The livelihoods approach and management of small scale fisheries . Marine

policy 25 377-388

Ainsworth, M. and Semai, I (2000) Who is most likely to die of AIDS? Socio- economic correlates of adult death in Kegara region, Tarzania paper presented at the International Conference on HIV/AIDS 8-14 July, 2000, Durban, South Africa.

Baylies, Carolyn(2002)"The impact of HIV on family size preferencein Zambia Reproductive Health

matters8(15)77-86

Brian, I (1998) South East Asia (Special issue on HIV/AIDS and mobile population) International migration 36.553-585.

Barnett, T. and Whiteside, A (2002) AIDS in the twenty first century; Disease and Globalisatin, Pulgruve Mucmillian Baslingstoke Humpshire, UK. 416pp.

Boudreeau, T. and Holleman, C. (2002) Household Food Security and HIV/AIDS: Exploring the Linkages.

The Food Economy Group.

Campell, C (2003) Letting them die; Why HIV/AIDS Prevention Programme fail . The International Africa Institute in Association with James Currey. Oxford and Indiana University Press, Bloomington and Indiana-polis.

De-waal, A.(2002)"What 's new in the New Partnership for Africa Development International

Affairs 78(3)463.

De-waal, A and Whiteside, A (2003) New variant famine; AIDS and the food crisis in Southern Africa. The Lancet 362.1234-1237.

Du-Guerny, J. (2002)" Meeting the HIV/AIDSchallenge to food security: Thye role of Labour Saving Teachnologies in farm households" Geneva:Food and Agriculture Organization of United Nations(FAO)United Nations Devpt Prog.

FAO (2002) AIDS hitting African Farm sector hard . World Food Summit Five Years Later 10-13 June 2002. Food and Agriculture Organization, Rome http://www.fao.org//world food

summit/English/newsroom/focus/him(accessed 9 December, 2003)

Gillespie, S (1989) Potential impact of AIDS on Farming System; A study from Rwanda, Land Use Policy, 301-312.

Greener, R.K and Siphambe H.K.(2000)" The Impactof HIV/AIDS on poverty and inequality in Botswana

South African Journal of Economics

Haddad, L. and Gillspie, S.(2001)"Effective Food and Nutrtion Police Response HIV/AIDS; What we know and what we Need to know" Journal of International Development 13(4)487-511. Henrich, G. and Topouzis, D. (2000) Multi-sectoral responses to HIV/AIDS; Constraints and Opportunities

for Technical Cooperation, Journal of International Development 12.85-99.

(2000a) Safety and Health in the Fishing Industry. International Labour Office Geneva.http//www.ilo.org/public/English/dialogue/sector/techmee/tmil99/imlr1. htm(accessed27th April, 2004)

ILO (2000b) HIV/AIDS; A Threat to Decent Work, Productivity and Development. International Labour

Office, Geneva, 54pp.

Loevinsohn, M. and Gillespie, S.(2003) "HIV/AIDS, Food security and Rural Livelihoods; Understansdingand Responding" Renwal Working Paper No 1, may.

MAAIF (2002) The Impact of HIV/AIDS on Agricultural Production and Mainstreaming HIV/AIDS messages into Agricultural Extension in Uganda, Ministry of Agriculture, Animal husbandry and Fisheries, Kampala, Uganda and FAO, Rome.24pp.

Mwakalobo, A.(2003)"Implication of HIV/AIDS in Rural Livelihoods in Tanzania; The case of Rungwe District" Morogoro, Tanzania Development Studies Institute, Sokoine University of Agriculture.

Samson, M.J.(2002)"HIV/AIDS and poverty in households with Children suffering from malnutrition; the

role of social security in Mount Frere" Southern Africa Journal of Economics.

SADC FANR Vunerability Assessment Committee(2003)"Towards identifying Impacts of HIV/AIDS on food security in Southern Africaand implication response findings from Malawi, Zambia and Zimbakwe"Harare ,Zimbakwe, Southern Africa Development Community Food. Agriculture and Natural Resources Development.

Serwadda, D., Sewankambo, N. K., & Carnwell, J.W.(1985) Slim disease; A new disease in Uganda and its

association with HTLV 111 Infection. The Lancet 2.849-852.

UNAIDS (1998): Report on the Global HIV/AIDS epidemic June 1998, Global HIV/AIDS Surveillance, internet version http://www.unaids.org

Barnett, T. and Whiteside, A. (2002), AIDS in the 21st Century, Palgrave Macmillan: Basingstoke and New

York.

FAO (2005), Impact of HIV/AIDS on fishing communities. New directions in fisheries a series of policy

briefs on development issues.

Loevinsohn, M. and Gillespie, S. (2003), HIV/AIDS, food security and rural livelihoods: understanding and responding, FCND Discussion Paper No 157, IFPRI: Washington, Republic of Uganda, Department of Fisheries Resources, Ministry of Agriculture, Animal Industry and Fisheries (2005), Strategy for reducing the impact of HIV/AIDS on fishing communities.

Seeley, J.A. and Allison, H.E., (2005). HIV/AIDS in fishing communities: challenges to delivering antiretroviral therapy to vulnerable groups, AIDS Carc. 17 (6): 688-697 UNAIDS (2005) AIDS Epidemic Update December 2005, www.unaids.org

www.unicef/org/infobycountry/ghana\_1883.html 01/09/04

www.worldfishcenter.org

FMOH (1999) Sentinel Surveillance Report, Federal Ministry of Health Abuja, Nigeria

rood and Warlewitter Organization. "Come bright www.tro.orgilwenter tood

FMOH(2002): The AIDS and STD Control Programme, Department of Public Health, Federal Ministry of Health, Abuja, Nigeria.

. summit/ nglish/newsroom/forms/him/consent / feemble: 2003 : with the piers of the property potential impact of ALTER and Entering the second and the second by the second the second

It u (2000) HWA IDS AS meat to Decent Week, Productivity and Development international Library

pervinsolar, M. and Gillespie, S. (2003) "HVVAIDS, Food security and Rural Livelihoods:

MAAJE (2002) Too Impact of HIVAIDS on Agricultural Production and Mainstroaming (41V-41DS

Mwakaloko, A. (2003) Implication of HIVAIDS in Rural Live broads in Tauzania (The case of Rusawe

. Understandingand Responding". Renwal Working Paper No. 1, may.