

HIV/AIDS and Food Security in Sub-Saharan Africa

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This paper aims to describe the ways in which the HIV/AIDS epidemic negatively influences food and livelihood security, how it impacts on the food and nutrition security of millions of households, the responses of these households and communities as well as the policy and programme implications. As far as possible, this paper uses examples from West Africa, but in their absence the author was forced to draw upon the multiple examples from Eastern and Southern Africa.

The AIDS epidemic in Western Africa

The total number of adults and children living with HIV/AIDS is now estimated at 40 million worldwide of which 3 million are children < 15 years. 28,5 million are living in sub-Saharan Africa. The population primarily touched by the epidemic are the socially and productive age groups (UNAIDS, 2002).

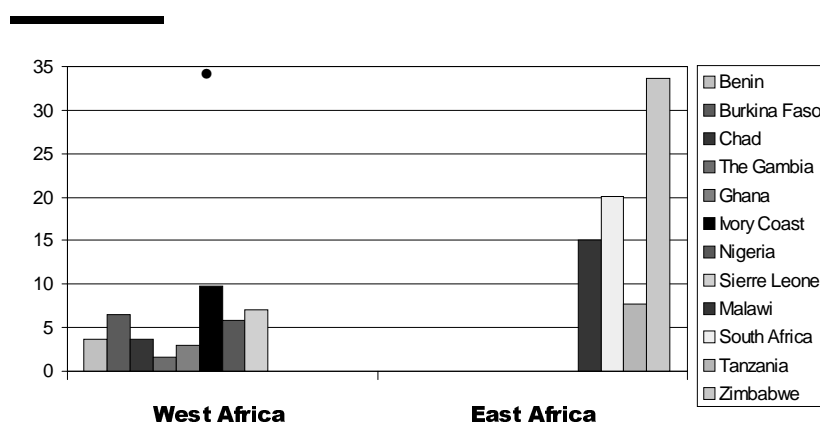
The AIDS epidemic in West Africa is at present less severe than in East Africa (Figure 1). Where several East African countries seem to have reached the top of the epidemic and Uganda has actually succeeded in reducing the adult prevalence rate (presently at 5%, down from 30% in 1992), most West African countries hardly seem to realise the danger that awaits them. In some West African countries such as Benin, Chad and Ghana, the prevalence rate remains rather low, although we may wonder whether this reflects reality or rather a lack of reliable data. Other countries such as Ivory Coast, Burkina Faso and Sierra Leone show a rapid increase of the adult prevalence rate, nearing or above 5% suggesting that they move to a major impact if nothing is done to stop the rate of transmission. Senegal, as one of the few, has taken early action and been able to keep HIV/AIDS prevalence rates low as well.

But even within countries with a relative low prevalence marked differences are found between districts or states and population groups. For example, Nigeria has a national adult prevalence rate of 5.8% in 2001 but this average figure masks significant regional variations (0.5-21%) and very high prevalence rates among high-risk groups such as commercial sex workers (studies have reported up to 65% prevalence rates). The effect of mobility should also not be underestimated as is shown by Nigerian peace keeping forces that were stationed in Sierra Leone. Those that spend 3 years on duty have a prevalence rate that is twice as high as those that spent only one year (16 vs. 8%).

In countries with very high prevalence such as Botswana the population structure may be severely damaged, showing a large gap in the 25-50 year old age group. The loss of this productive age group impacts society and economy in multiple ways.

Figure 1

Adult HIV prevalence rate (15-49 yrs)



AIDS as a development issue

It has been largely accepted that AIDS should be seen as a development issue rather than just a health problem. Looking at the epidemic as a long wave disaster, one can distinguish four waves that follow on to each other and even overlap (Barnett, 2002). First the wave of HIV infection, without any signs of illness. Second the wave of TB infection, despite progress in treatment of TB with DOTS, one sees an increase in TB prevalence in countries where HIV/AIDS is highly prevalent. In many of the sub-Saharan countries, it takes only 4-5 years before the third wave of full-blown AIDS illness and opportunistic infections arrives. Finally, the fourth wave of impact which includes household poverty, orphaning, and changes to farming systems, impacts the flow of development, reduces economic growth and leads to a breakdown of formal and informal institutions and culture.

Although it is not only poor people that become infected by HIV, the poverty - AIDS interlinkage is extremely strong and works both ways. On the one hand, poor people are driven into risky behaviour such as commercial sex as a survival strategy, and are therefore more at risk of becoming infected. On the other hand, AIDS may lead people into poverty, because they lose income, jobs, need to sell assets, buy expensive medicines or spend money on traditional healers and finally the expenses for the funeral ceremonies.

The weight of the AIDS epidemic on the health sector for example is enormous: hospital beds are mainly occupied by patients with TB or other AIDS illnesses, treatment is too expensive, medical staff are affected themselves and the burden of care becomes too heavy for those remaining. The health system of many of the sub-Saharan countries is not able to absorb these extra costs, or it will be at the expense of other health priorities.

But also the agricultural sector is heavily affected. Over 70% of the population in sub-Saharan Africa consists of farmers and other rural occupations. The FAO has estimated that in the 27 most affected countries in Africa, 7 million agricultural workers have died from AIDS since 1985 and 16 million more deaths are likely in the next two decades. Several studies have shown reduction in production and shifts in farming systems (Kwaramba, 1997; Rugalema 1999).

Another group working in the informal sector consists of small enterprises and traders. One person, together with paid or unpaid family members often runs the small-scale enterprise. When they fall ill due to AIDS or when they have to take care of ill family members, their operations may stop. In general there is no insurance against loss of income, no rights to payment of medical expenses. These people also risk losing their place in the market or their clients with any interruption of their business.

In terms of human resources management, training costs may increase because a larger number of new employees need to be trained due to the high turnover. Other costs related to the payroll will also increase, since more people may be recruited as a reaction to absenteeism, but also because skilled workers may become more scarce and will demand higher wages (Dieleman, 2001).

High incidence of absenteeism, high turnover, and loss of institutional memory cause delays and disruptions in policy and plan implementation of Ministries and Departments. Agricultural and rural development sectors, but also other sectors, may fail to realise the forecasted growth rates and planned production target.

AIDS and nutrition: relationships

Both AIDS and malnutrition are important killers in sub-Saharan Africa. With 3 million AIDS deaths in 2001, we can calculate that 6 deaths per minute are due to HIV/AIDS. Most of those who die experience nutritional problems. The latest figures of the FAO estimate that there are still more than 800 million people affected by hunger. Altogether there are 12 deaths per minute associated with malnutrition.

Both AIDS and malnutrition are driven by poverty, conflict, and inequality. There is strong evidence that they operate in tandem, both at the individual level and at the social level :

- Malnourished individuals are more susceptible to become HIV-infected and more susceptible to secondary infections
- HIV infection and the secondary infections lead to malnutrition (increased nutritional requirements, diarrhoea, anorexia)
- Exclusive breast feeding, considered one of the most cost-effective nutrition behaviours for adequate growth and nutritional status of the baby, is one of the modes of transmission of the virus from the mother to her baby
- Finally, the disease leads to losses in productivity, labour, income and will thus endanger the food security situation of the members of an AIDS affected household.

Women are likely to suffer the greatest burden of HIV and malnutrition. Several of the factors that make women more vulnerable to malnutrition also seem to play a role in HIV/AIDS affected households. Biologically more at risk of HIV infection than men, their status in the household is unequal, women have less access to information and services and they carry the biggest burden of care and support. Women care for the sick and dying in addition to heavy physical workload in crop cultivation, water and firewood collection and food preparation. Women are generally less educated, have a lower status in the household and fewer legal rights, which limits her access to resources and social and health services. Low income and low status of women are both associated with higher levels of malnutrition and high levels of HIV infection.

Impact of HIV/AIDS on food security and coping responses

It is widely recognised that, beyond the physical and psychological impact at the infected individual level, HIV/AIDS also has significant indirect impact at the household, community, and institutional and societal levels. Direct impacts include loss of labour, medical and funeral expenses leading to delayed agricultural activities and depletion of any of the household's reserves.

Households and communities try to mitigate these impacts, they try to cope with the situation. We have to be careful in using the word 'coping' as some of the coping responses actually render households more insecure and vulnerable in the long term, particularly sale of assets, withdrawing children of schools, reduction of food consumption and the use of savings and investments. Responses at the household level include taking the children out of school, selling household assets, changing farming systems, relying on existing community networks and falling back on traditional strategies used in times of food insecurity. The following is a general illustration of the impacts and responses of an agriculture-dependent household (Table 1, Gillespie et al, 2001).

Table 1. Dynamics of HIV/AIDS impacts and household responses in an agriculture-based livelihood

<ul style="list-style-type: none"> • Adult becomes sick • S/he reduces work • Replacement labour is imported, perhaps from relatives • Adults work longer hours on farm • Health care expenses rise (e.g. drugs, transport) • Household food consumption is reduced • Households switch to labour-extensive crops and farming systems and small livestock • Nutritional status deteriorates • Adult stops work • Increased care for the sick adults, less time for child care • Divisible assets are disposed (e.g. livestock) • Debts increase • Children drop out of school to help with household labour • Adult dies • Funeral expenses arise • Household may fragment as other adults migrate for work • Reduced cultivation of land, more left fallow • Inappropriate natural resource management may lead to increased spread of pests and diseases • Effects of knowledge loss intensify • Increased mining of common property resources • Access to household land and property may be affected (regarding rights of surviving widow) • Solidarity networks strained, possibly point of exclusion • Partner becomes sick • Downward spiral accelerates. <p>Source: Gillespie S, Haddad L, Jackson R. HIV/AIDS, Food and nutrition security : Impacts and actions. In Nutrition and HIV/AIDS. Nutrition Policy Paper no. 20. ACC/SCN, Geneva, 2001.</p>

Although the title of this paper reads HIV/AIDS and food security, it is difficult to discuss food security independently of wider livelihood and poverty considerations. Household livelihood security is defined as adequate and sustainable access to income and resources to meet basic needs, including access to food, potable water, health facilities, educational opportunities, housing, time for community participation and social integration (Frankenberger and McCaston, 1998). All or most of these are indirectly threatened by the HIV/AIDS epidemic.

A major review of the research work carried out on household and community responses to the HIV/AIDS epidemic was carried out by SafAIDS for UNAIDS (Mutangadura et al, 1999). They compiled and analysed a wealth of studies that consist mainly of descriptive anecdotal work in East African countries. Yet, few response initiatives have actually been evaluated for costs and effectiveness.

Impact on households, communities and societies can be analysed from a livelihood perspective, looking at access to resources or assets. A distinction is made between human, financial, social, physical and natural capital, each of which will be discussed in more detail below.

Human capital

First of all, HIV/AIDS leads to loss of labour of the infected person, but eventually time allocation of his or her caretakers and those attending the funerals will be shifted away from productive labour.

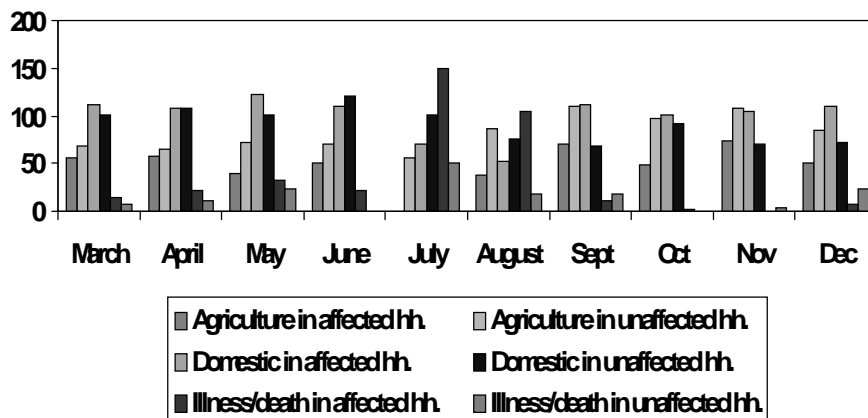
As over 70% of African populations are engaged in agriculture, impact will first be felt in the agriculture sector. Examples from Tanzania and Zimbabwe, tell the story of reduced crop production and shifts to less labour-intensive cropping systems (Rugalema 1999, Kwaramba 1997).

Human capital is not only about manual labour but also about knowledge and skills. Illness and death of parents prevent the transfer of knowledge to their children on land preparation, crop cultivation, handicrafts, cultural beliefs and traditions. Illness and death of trained professionals erode the capacity of institutions such as extension services, schools and universities, health clinics and hospitals.

The estimated percentage of the workforce that will be lost to AIDS by the year 2005 varies between 30% for countries as Botswana and Zimbabwe, and 5-10% for countries as Nigeria, Togo and Cameroon. At the individual level time spend on care for the sick is competing with time for productive activities as Figure 2 is showing (Rugalema, 1999). Although July shows a dip in agricultural activities in all households, time spent in the field is still around 60 hours for the woman in the unaffected household whereas it is zero for the woman in the affected household.

Figure 2

Differences in time allocation between women in affected and unaffected households



Rugalema G. Adult Mortality as Entitlement Failure, 1999

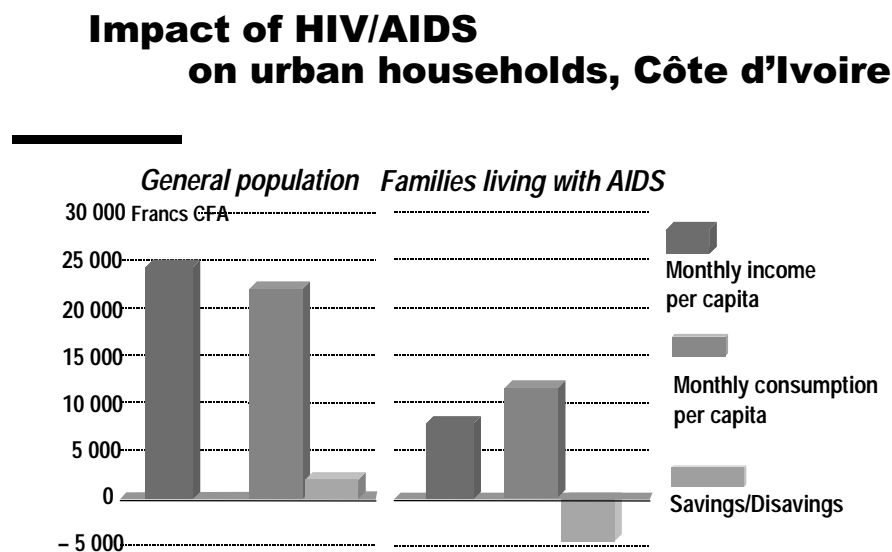
Financial capital

Direct expenses for the infected individual concern medical and transport expenses, but also funeral expenses. Loss of income of the infected person but also of the caretaker may have serious consequences. More indirectly, access to credit or savings becomes difficult as affected households are often less credit-worthy.

Sales of assets such as equipment and jewellery to pay for treatment, care, or hired labour strips families from their last means of insurance.

A simulation model developed based on data from Côte d'Ivoire shows a significant difference in monthly income, consumption and savings per capita between the general population and families living with AIDS (Bechu et al, 1997, see figure 3).

Figure 3



Source: Simulation-based on data from Bechu, Delcroix and Guillaume, 1997

Another study of the commercial agricultural sector in Kenya (Rugalema et al, 1999) showed a 5-6 fold increase of both medical and funeral expenses between 1992 and 1998, which is related to the increase in AIDS cases (Table 2).

Table 2: Funeral expenses incurred by an agro-estate based in Nyanza province, Kenya

Year	Expenditure (Ksh)	Remarks
1992/93	165,135.25	
1993/94	307,898.75	(up to April 1994)
1994/95	392,297.40	
1995/95	457,235.85	
1996/97	685,669.10	
1997/98	457,235.85	(up to May 1998)

Source: Rugalema G, Weigang S, Mbwika J. HIV/AIDS and the commercial agricultural sector of Kenya. Impact, vulnerability, sustainability and coping strategies. FAO and UNDEP, Rome, 1999.

Social capital

The lost generation of orphans constitutes an important loss of social capital. Without access to formal or informal training, or access to resources (land, credit, information), their opportunities to build up a safe and adequate livelihood are minimised. Dropped out of school, pushed off their parents' farmland, forced into commercial sex work they may constitute a burden to the community instead of an asset as future productive labourers.

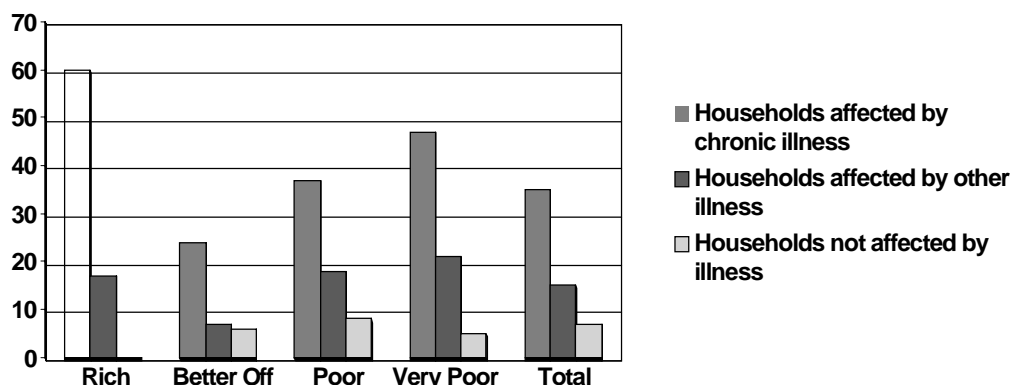
Social networks often provide safety nets for those having problems. Yet the stigma attached to HIV/AIDS may lead to exclusion from social networks for those needing social support. Feared stigma may prevent people to acknowledge their status, whereas enacted stigma may lead to avoidance by the social environment. Erosion of assets because families have to pay medical or other expenses may lead to poverty. Furthermore poor families have less access to social networks as these are build upon the concept of mutual assistance (Figure 4).

With an increasing epidemic, the strains on social networks become too high and the safety net may collapse. For example when the absorption capacity of the extended family and neighbours to take in orphans has been reached. Although sometimes mentioned separately, political capital (i.e. participation in decision making) can be interpreted as some sort of social capital. The access or right to participate in decision-making processes may be reduced because of enacted stigma. Cultural norms and values are changing in an unprecedented way as communities are learning to cope with HIV/AIDS. A good example is the observation of reduction in number of days of mourning.

Community coping responses often build upon existing grassroots or local organisations such as social support groups or saving clubs and formal community based organisations. The continuity of some of these groups is endangered because of HIV/AIDS, whereas others will come into existence.

Figure 4

Percentage of households that received help from others



Source: Shah et al. Impact of HIV/AIDS on agricultural productivity and rural livelihoods in Malawi, CARE International in Malawi, 2002.

Physical and natural capital

HIV/AIDS may also lead to the neglect of infrastructure (maintenance of wells, housing). Lack of labour leads to reduced terrace maintenance, reduced maintenance of soil fertility or irrigation channels. Many of these activities are labour intensive and have implications for long term natural resource maintenance.

Consequences for food consumption and nutritional status

As mentioned in the beginning, the reduction in capital will lead to insecurity of livelihoods and thus food insecurity. Food insecurity will lead to reduced food consumption, either in quantity or quality, as some crops that are rich in (micro) nutrients are replaced by those of lower nutritional quality because they are easier to grow. At the individual level this may eventually have consequences for the nutritional status. Increased care for the ill person in the household may reduce time available for childcare and also negatively influence nutritional status of the child.

Issues related to Mother-To-Child-Transmission (MTCT) and breast feeding are outside the reach of this paper as they merit a paper on their own.

A household study in Tanzania studied impact of HIV/AIDS (defined as chronically illness) on food security and found a clear difference in reported food sufficiency, problems faced in agriculture and consequences for food consumption between households with and without a chronically ill member (Table 3).

Table 3. Problems faced in agriculture among households with or without a chronically ill person (CIP), Mwanza, Tanzania

	With CIP	Without CIP
Sufficiency of stored food till next harvest?	11%	22%
Problems faced in agriculture		
• shortage of land	24%	30%
• infertile soil	53%	35%
• lack / high costs of agriculture inputs	65%	33%
• pests	35%	28%
• illness/ care for ill	65%	52%
• shortage of manpower	53%	47%
• other	18%	11%
Changes in household food consumption		
• more	35%	46%
• the same	33%	41%
• less	32%	13%

Source: Study report on the impact of HIV/AIDS on household food security. TANESA project, Mwanza, 2002

Policy and Programme implications

From the recognition of HIV/AIDS as a development issue, automatically follows the recommendation that HIV/AIDS should be mainstreamed in all sectoral programmes, not just aspects of integrating prevention and awareness raising but also measures for mitigation of the impact.

In many countries (especially in East Africa), multisectoral AIDS committees have been formed at national, provincial and district level in which a variety of representatives participate from the public sector, private for profit sector, trade unions and NGO's. The AIDS committee

is responsible for coordination of the various multisectoral activities that take place and for monitoring and evaluation of the interventions. But how effective have they been? Nutritionists know by experience how difficult it is to deal with a multisectoral issue which is everybody's concern but nobody's baby.

In a discussion on sustainable development, it is important to realise that the broader PRSP process and HIPC constitute an enormous opportunity to clarify and deal with the link between poverty, HIV/AIDS and food security. Are these relations discussed, have medium and short term objectives and indicators been identified? For the moment at least half of the PRSPs / I-PRSPs limit HIV/AIDS to a problem of the health sector, 19% make no reference at all to HIV/AIDS and only 33% highlight HIV/AIDS as one of the causes of poverty.

Nutrition and Food security policies and programmes in relation to HIV/AIDS

Many of the policy implications will lie in the agricultural sector that will have to react more adequately to future impact of HIV/AIDS on farming systems, food production and income generation. Access to resources (knowledge, credit, land) must be improved for households affected by HIV/AIDS but also for other poor households. Targeting of interventions should avoid stigmatisation and therefore include communities and not only households. Interventions may lie in the sphere of labour-saving devices, micro-credit systems, farmer field schools (especially for orphans and female farmers). Many of the interventions that one may propose are not specific for the HIV/AIDS epidemic. They have been proposed and put into place previously in order to combat food insecurity and poverty with limited results. What lessons can we learn from these experiences, how can we make it work this time?

Specialists have agreed that food aid may play a positive role in mitigating the impact of HIV/AIDS among households and communities. Food aid may contribute to improved diets for PLWHA and immediate family members and for households without adequate resources to purchase or produce needed food (female and child-headed households). Food aid can also prevent the selling of productive assets or may permit existing income to be used for education or purchase of income producing inputs. Nevertheless food aid remains a sensitive issue and creation of dependency should be avoided. The distribution of food can never be an isolated intervention and must be part of an integrated package of longer-term development efforts. Food aid may therefore be linked to vocational skills training, agricultural intensification and income generating activities as well as to activities to reduce the risk of stigmatisation (FANTA, 2000) .

Although nutritional care and support was not discussed in this paper, it is crucial to PLWHA in order to remain in good nutritional status and to be able to withstand secondary infections, prevent or stabilise weight loss, diarrhoea etc. Good nutrition will improve their quality of life and prolong their productive life without important expenses on drugs.

Both FAO and FANTA (a technical assistance group supported by USAID) have developed technical guidelines for nutritional care and support (FAO, draft, FANTA, 2001). WHO, in collaboration with FAO, is now in the process of preparing a training module for the FAO guidelines.

Research needs

Agricultural research and extension institutions should be aware of how populations respond to the impact of HIV/AIDS and what their needs are in order to adapt their programmes adequately. For instance in Tanzania programmes were still focusing on farming systems based on banana and coffee, while households and communities had already started to shift to less labour-intensive crops as beans and cassava (Rugalema, 1999).

Gillespie et al (2001) already mentioned that the research base upon which HIV/AIDS impacts are assessed and upon which interventions for mitigation are evaluated is narrow. The studies that exist are mostly accessible through grey literature and cover East and Southern African countries only. There is a clear need for more knowledge on the impact of HIV/AIDS on nutrition and food security in West Africa, specifically on the identification of the most

vulnerable farming systems and the most vulnerable households. It is especially urgent to define costs and effectiveness of these interventions (Mutangadura, 1999).

One example of a broad-based, context-specific study to support policy development is the impact assessment study currently ongoing in Benue State, Nigeria. Benue State has one of the highest HIV prevalence in Nigeria (14% in antenatal clinics) and the state government recognises that it constitutes a development problem. This study is carried out and financed by DFID upon request by the Benue State Agricultural and Rural Development Authority (BNARDA) in order to feed into policy formulation. Intensive collaboration with several other stakeholders such as the State AIDS Action Committee and the University of Agriculture has been established.

Making information available and accessible

Mechanisms for sharing information and making it accessible to a wider range audience have to be found. Late 2001, UNAIDS formulated a project "Methods and approaches for Local Responses to HIV/AIDS" to bring together existing experiences (practices and techniques) in Local Responses to HIV/AIDS that are being carried out all over the world. The objective of this project is to turn local experiences into global learning: from tool to application'. A first workshop yielded already a rich variety of examples and local lessons. One of these examples stems from Zambia where headmen of a village agreed to allocate a piece of land in the interest of orphans to provide them with basic needs such as food and shelter and to develop income-generating activities and agricultural based skills (personal communication).

Another example of sharing information is **RENEWAL** - the Regional Network on HIV/AIDS, Rural Livelihoods and Food Security – initiated by ISNAR (International Service for National Agricultural Research). This is an emerging regional network of national networks of agricultural institutions, public, private, NGO and farmers' organisations, together with partners in AIDS and public health. The joint purpose of these networks is to show that fresh thinking in agricultural research and development policy and concerted action can help prevent HIV infection and lessen the impact of AIDS. Networks are getting on their feet in Malawi and Uganda and others in eastern and southern Africa are expected to form in a year or so.

Challenges

The issue of HIV/AIDS in relation to nutrition and food security has come up only a few years ago in the countries stricken by the epidemic. Mainstreaming of HIV/AIDS is nowadays as fashionable as mainstreaming of gender in the 1990's. The exact how's, who's and when's of cost-effective responses however, are still a question mark. Hardly any information on the type and severeness of impact is available for the Western African countries, where the HIV prevalence is still at a low level. Hardly any evidence is available on costs and effectiveness of responses from the East African studies.

West African countries can learn a lesson from the East and Southern African experiences and act more quickly and adequately when it comes to policy making and implementation in order to mitigate the impact of the HIV/AIDS epidemic. Since impact differs according to the phase of the epidemic, will it be possible to define a sequence of interventions relative to these phases?

Challenges for policy makers are identified in the following areas:

- Data and information are needed on the level of the epidemic, and its impact on households, communities and institutions. This can be used to identify households and farming systems that are more vulnerable to the impact of the epidemic. Vulnerability of households depends on the dependence on labour, diversity of sources of income, access to resources ...;
- Competence building will be necessary for staff in the agriculture sector (and other sectors) to deal with HIV/AIDS issues both at the workplace and at the level of clients;
- Monitoring and evaluation of responses to the impact in order to select the most cost-effective interventions;

- Approaches should be participatory and community-based building upon existing local responses and strengthening these initiatives;
- An enabling environment must be created for the sharing of information as well as for the implementation of local responses. Access to resources such as knowledge, credit, and labour-economising methods is crucial for this.

HIV/AIDS tends to exacerbate existing development problems through its catalytic effects and systemic impact, but we should not forget that problems due to the epidemic are not specific for HIV/AIDS alone.

Nevertheless the use of an HIV/AIDS lens to development issues as food and livelihood insecurity can help to develop policies and programmes that minimise the risk or mitigate the impact of the epidemic.

Historically, nutrition and food security falls in between the cracks of the health and the agriculture sector. Nutritionists need to use this experience to their advantage and play an important role in advocating and ensuring that HIV/AIDS and food security and nutrition are linked in policy making and implementation.

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