

Mitigating the impact of HIV/AIDS on food security and rural poverty

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Preface

The AIDS epidemic is challenging all aspects of the development agenda. Many of the premises on which development interventions are based, are no longer relevant. The disease has decimated sub-Saharan Africa's agricultural labour force and will continue to do so for generations, depleting the region of its food producers and farmers.

Not only is the epidemic causing severe reversals in development gains, but it is making 'typical' development interventions impractical. Communities' livelihoods are being permanently eroded and assets depleted with the reoccurring periods of sickness and death that the epidemic brings. Labour, a much valued human asset and the foundation of development interventions, is becoming scarce and this lack of labour strains traditional coping mechanisms and increases vulnerability. At the same time rural institutions and service providers are struggling to support communities with an ever decreasing capacity, given that they too suffer morbidity and mortality due to the epidemic. AIDS is fuelling soaring rural poverty rates and is becoming the crux of the spiral of poverty.

The need for a multi-sectoral approach to HIV/AIDS is now widely recognised. There is an awareness that the health sector cannot, on its own, provide the array of solutions needed, especially when HIV prevalence exceeds one per cent. However, experience from a number of countries demonstrate that multi-sectoral strategies continue to be strong in health approaches and weak in others. In addition, responses have been concentrated in urban areas, while the epidemic is rapidly moving to the rural areas. In spite of its incapacitating effects on agricultural production and rural livelihoods, and of the fact that up to 80% of the people in the most affected countries depend on agriculture for their subsistence, the agricultural sector has not been as forthcoming and as innovative in its response, as the situation requires. Effective solutions for rural areas need to take into consideration the agricultural sector and its capacity both to reduce people's vulnerability to acquire the disease and to live with it.

The rapid spread of the AIDS epidemic requires new and innovative responses. It requires systemic and co-ordinated interventions and makes imperative, more than ever, the need to collaborate. In 2001 the United Nations General Assembly held a Special Session on HIV/AIDS, the declaration from this meeting recognised the urgency of a response to the epidemic and specifically called for united global action to combat a global crisis. Following this special session and with the aim of developing effective strategies to prevent and to mitigate the impact of the AIDS epidemic on rural poverty, rural livelihoods and food security, FAO, IFAD and WFP, together with UNAIDS held a workshop in December 2001 with the participation of a wide array of stakeholders. This report brings together participants' contributions, their discussions and conclusions, and builds upon the work that FAO has been undertaking since the meeting took place. We hope this report will contribute to shape new and much needed interventions to effectively mitigate the impact of the epidemic and to help contain its spread.

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Acknowledgements

This report is the result of a joint effort of the 71 participants of the workshop held in Rome, Italy in December 2001. It summaries the impacts of HIV/AIDS on agriculture, the implications of these impacts and the agriculture sector responses which emerged from the case studies, presentations and working group discussions.

Special thanks must be extended to the wide range of participants who brought their specific country experiences, the guest speakers who helped clarify and extend the debate, the non-governmental organisations and those representing people living with HIV/AIDS who enriched the meeting with the every day realities of the epidemic and to UNAIDS for providing generous financial support.

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Background

Few crises have presented such a threat to social development and economic progress as the HIV/AIDS pandemic. Twenty years after the first evidence of acquired immunodeficiency syndrome was reported, AIDS has become the most devastating disease humankind has ever faced. HIV/AIDS is now the leading cause of death in sub-Saharan Africa. Worldwide, it is the fourth biggest killer.

HIV/AIDS is having a dramatic impact on agricultural production and rural livelihoods. All dimensions of food security – availability, stability, access to, and utilization of food – are affected, particularly where the prevalence of HIV is high. Emergency situations, especially food emergencies, exacerbate the risk of HIV transmission. Mobile populations are vulnerable to HIV risk inducing situations and food insecurity. Women, in particular, often find themselves in situations where they are subject to greater HIV susceptibility, as a result of sexual violence, or economic hardship which forces them to trade sex for food.

Accumulated evidence has demonstrated the impact of HIV/AIDS on agriculture, rural development, nutrition, food security and rural poverty, yet, the interaction between these competing influences remains intangible. The biomedical framework of HIV prevention and care has dominated from intellectual debate to operational activities. It is only now-a-days, when HIV prevalence has reached unprecedented levels, that the discourse has widened towards considering the livelihoods of rural agricultural populations. A timely shift, considering the fragile food security situation of the majority of the estimated 42 million people living with HIV (UNAIDS 2002).

A significant proportion of the populations of the countries most affected by HIV/AIDS depend on agriculture for their subsistence and food security. The agricultural sector therefore, has an important role to play to ensure availability and access to food, as well as to reduce rural households' vulnerability to the long-term effects of the epidemic. A successful mitigation strategy must address the diverse impacts of the HIV/AIDS epidemic ranging from illness to food insecurity. There is a need to recognise and integrate the expertise and knowledge of the food security and agricultural sectors into the mainstream AIDS discourse and response, not only to assist in addressing the impacts of HIV/AIDS on the lives of people, but also to contribute towards the prevention of further transmission and future AIDS-related impacts.

Rationale

Collaboration with different partners in eradicating hunger and poverty is all the more pertinent in light of the HIV/AIDS epidemic. With the objective of joining forces to develop effective strategies to mitigate the impact of HIV/AIDS on rural livelihoods and food insecurity, the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD), the World Food Programme (WFP) in co-ordination with the Joint United Nations Programme on HIV/AIDS (UNAIDS) organised a workshop with a wide array of stakeholders. Over 70 participants, from Ministries of Agriculture, government focal points for HIV/AIDS, United Nations and donor agencies, permanent representatives to the United Nations, academic research and non governmental organizations working with food

security and HIV/AIDS, civil society and women's groups representing people living with HIV/AIDS were invited to attend. This three day meeting took place at the FAO headquarters in Rome, Italy, in December 2001. The objectives of the meeting were:

- to develop a common understanding of the impact of HIV/AIDS on rural livelihoods;
- to identify innovative, gender sensitive and participatory approaches to mitigate the impact of HIV/AIDS on agriculture, food security and rural poverty, based on current best practices;
- to devise ways of integrating HIV-related concerns into current agricultural activities at national and district levels;
- to identify interventions that will reduce the vulnerability of groups who are rendered vulnerable by the epidemic, such as the ultra-poor, widows and AIDS orphans.

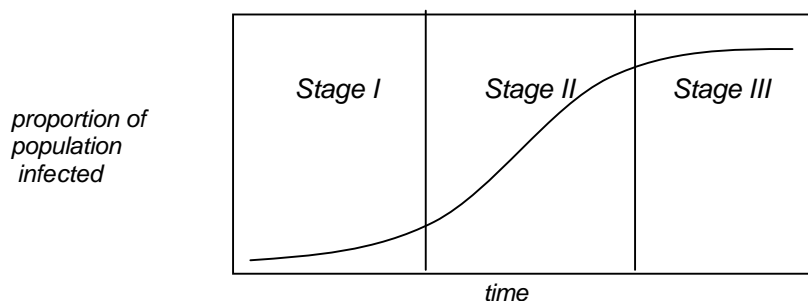
This report reflects the contribution and discussions of the wide range of participants and builds upon work that has been developed over the past decade and within the FAO in the months following the meeting, with a focus towards putting some of the recommendations from the meeting into practice.

The impact of HIV/AIDS on agriculture and food security

The evolution of the epidemic

A hypothetical pattern of an epidemic over time can be represented with a highly stylised s-shaped or logistic curve (*figure 1*). In the initial stages of the epidemic, the HIV prevalence is quite low and is followed by a period of acceleration (stage I to stage II) where the virus is spreading at a rapid rate throughout the population. This stage of acceleration is followed by a period of slowing growth where the numbers of new infections stabilise, but a high proportion of the population at risk already has been infected (stage III). Eventually both new infections and the proportion of infected should decrease.

Figure 1: Stages of the epidemic



source: Barnett, T. (2001)

The HIV epidemic is particularly devastating as people do not leave the HIV infected population by getting better, but by dying. Consequently, the epidemic curve that represents HIV infection can be followed by a similar curve a number of years later which represents the accumulation of those who died from AIDS-related causes.

The pattern of the epidemic varies between regions and within countries; the epidemic may level off in some countries at modest levels, while in others, sizeable proportions may be infected before an upper limit is reached. In southern Africa, for example, HIV rates are still rising, with HIV infection among more than 40% of all pregnant women in some locations. In West Africa, the apparent stability of the epidemic has turned out to be a misconception; with the prevalence rates now taking off again (UNAIDS 2002). In spite of variations in epidemic patterns, it is important for the agricultural sector to recognise that countries and regions can be at different stages of the epidemic and may need different response strategies.

Rural poverty, mobility and vulnerability

It is estimated that 42 million people in the world are infected with the HIV virus and 95 percent live in developing countries (UNAIDS 2002). Assuming that each HIV/AIDS case directly influences the lives of four other individuals, at least 160 million people are likely to be affected by the epidemic (Barnett, Whiteside 2002). With more than two-thirds of the population of the 25 most affected African countries living in rural areas and largely dependent upon agriculture as a means of subsistence, any HIV/AIDS mitigation strategy has to encompass the livelihoods of rural agricultural populations (FAO 2002a).

Rural farming systems are comprised of a diverse range of tasks which generate both farm and off-farm income. Households are becoming increasingly dependent upon off-farm sources, in particular cash income or remittances from migrant labour, whether to buy farm inputs or pay school fees. These structural forces forge dynamic links between rural and urban areas increasing their interdependence and serving as a channel for the flow of cash, people and as a route for all infectious disease, including the transmission of HIV.

HIV/AIDS and mobility

Mobile people are those who move from one place to another temporarily, seasonally or permanently for a host of voluntary or involuntary reasons. They include truck drivers, seafarers, transport workers, agricultural workers, business people, traders, employees of large industries, miners, government officials, uniformed service officers, construction workers and sex workers.

Internal migrants move within their country of birth and include rural-urban movements and resettlement, whereas external migrants cross country borders. While being mobile itself is not a risk factor for HIV, the situations encountered and the behaviours adopted during the mobility process may increase a person's vulnerability to the disease, for example:

- Mobile people and migrants may be marginalised, subject to discrimination, exploitation and harassment. They may have little social or legal protection and little participation in the host community.
- Poverty and lack of resources may force those moving from one place to another to trade unprotected sex for goods, services and cash in order to survive.
- Mobile people have little access to HIV/AIDS education, health services or means of preventions such as condoms and sexually transmitted infection treatment services. Lack of access may be a result of cultural and linguistic barriers, unfamiliarity with the area and undocumented status.
- Factors such as loneliness, separation from regular partners, variations in disposable incomes, peer pressure, recreational options and freedom from social norms may encourage people to take risks which make them vulnerable to HIV.

People are also affected by mobility through interaction with others who are mobile even if they are not mobile themselves and so become vulnerable to the risk of HIV transmission. They include spouses, children and the elderly.

Source: UNDP (2001)

Poverty and mobility are critical dimensions of vulnerability to HIV transmission. The driving force behind migratory movements is poverty, in addition to the lack of livelihood opportunities in rural areas. Migrant workers who are away from home for extended periods of time are more likely to engage in casual, unprotected sex, thus increasing their risk of exposure to HIV transmission.

The agriculture sector plays an important role in influencing migratory patterns. Many commercial estates employ large numbers of seasonal migrant workers. The accommodation that is provided on commercial estates tends not to support the families of workers, are often over-crowded, lack privacy and provide situations that are conducive to casual and commercial sex. In addition, small farmers who are involved in cash crop production often have to travel to complete marketing arrangements and buy new inputs. Infrastructure projects facilitate agricultural production and marketing but also encourage high levels of labour mobility and temporary migration.

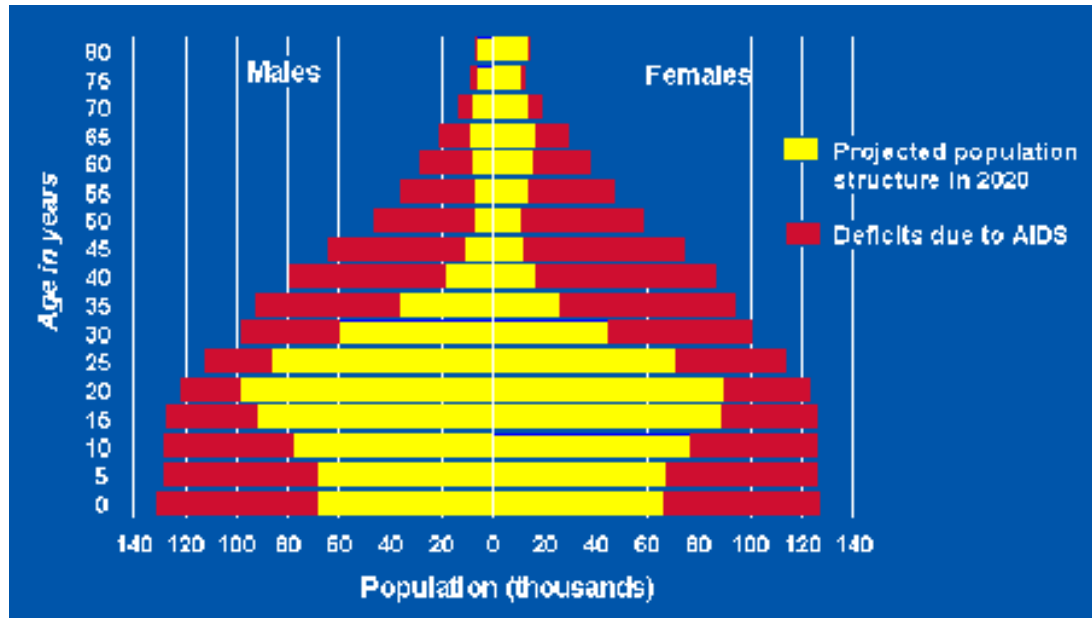
Those less mobile groups who remain in rural areas have to manage the impacts of the HIV epidemic with a dwindling resource base. Those without land, or with marginalised land and fragile farming systems are far less able to cope with the impacts of HIV/AIDS and as an increasing number of sick HIV-infected urban dwellers return to their rural communities, survival strategies become stretched and food security threatened. Rural populations are at a further disadvantage as they have little access to appropriate information and health services and so are less able to equip themselves with the knowledge to prevent the risks of transmission.

The major impacts of HIV/AIDS on food security and rural livelihoods are summarised in table 2 and some of the most important are outlined below:

Loss of productive generations

Demographic projections of the impact of HIV/AIDS on population structures reveal dramatic changes in the size, age and sex compositions (*figure 2*). Not only will the total population be reduced, but the projected age and sex structure will change, resulting in a population dominated by the elderly and the youth. In many countries, AIDS is erasing decades of progress made in improving mortality conditions and extending life expectancies. The average life expectancy in sub-Saharan Africa is now 47 years, when it would have been 62 years without AIDS. In Botswana, for example, life expectancy at birth has dropped to a level not seen in this country since 1950 (UNAIDS 2002).

Figure 2: Projected population structure with and without the AIDS epidemic, Botswana 2020



Source: United States Census Bureau, World Population Profile (2000)

Shortage of labour

HIV/AIDS poses a direct threat to household food security as it affects the most productive household members. When a person is sick the household not only has to manage without their labour inputs but with the loss of labour from those who have to care for the sick. AIDS is characterised by recurrent periods of sickness, and so recurrent loss of labour, which eventually erodes agricultural production and food security. Much of rural agricultural production is highly labour dependent and often labour demands are concentrated in specific periods of the year. For instance, sickness or funeral attendance may mean that the planting season is missed and with it, a full crop.

AIDS orphans, the situation is critical

- In many countries, sexual intercourse is the predominant mode of HIV transmission and is affecting most people in the 15 to 50 age group, who often have established families. Consequently, large numbers of orphans are left behind when AIDS victims die.
- By 2002, it is estimated that 13.4 million children have lost one or both parents to the HIV/AIDS epidemic, which is expected to increase to 25 million by 2010.
- In 2001, 12 countries in sub-Saharan Africa accounted for 70 per cent of the orphans.
- A study in Zambia found that 68% of rural orphans were not enrolled in school compared with 48% of non-orphans.
- Severe food insecurity among orphans is already reported in the most affected areas.
- Many children lose their parents before learning basic agricultural skills and nutrition or health knowledge. A study in Kenya showed that only 7% of agricultural households headed by orphans had adequate knowledge of agricultural production.

Source: FAO (2001b) and UNAIDS, USAID, UNICEF (2002)

Gross agricultural production is also affected by labour shortages. The FAO has estimated that in the 25 hardest hit countries in Africa, AIDS has killed around 7 million agricultural workers since 1985 and it could kill 16 million more before 2020. The most affected African countries could lose up to 26% of their agricultural labour force within two decades and with agriculture still representing a large proportion of the gross domestic product, this loss in labour could have severe impacts on the national economy (FAO 2001b).

Table 1 Projected loss in total population and agricultural labour force, due to AIDS 1985-2020

	Total population	Agricultural labour force
Namibia	-17%	-26%
Botswana	-30%	-23%
Zimbabwe	-23%	-23%
Mozambique	-16%	-20%
South Africa	-27%	-20%
Kenya	-16%	-17%
Malawi	-17%	-14%
Uganda	-8%	-14%
Tanzania	-7%	-13%

Source: FAO (2001b)

Loss of agricultural skills and knowledge

Rural farming systems depend upon a wealth of local agricultural and biodiversity knowledge that is essential for maintaining production. The loss of a productive generation means that livelihood skills including agricultural knowledge, are not passed from generation to generation, leaving a young population ill-equipped to manage the impacts of the epidemic. Moreover, agricultural skills are often gender-specific and the sickness or death of a male or female household member can result in a weakening of the farming system.

HIV/AIDS and the impact on smallholder agriculture in Zimbabwe

A study of the impact of HIV/AIDS on smallholder agricultural production in Gweru, Zimbabwe found that:

- the highest number of deaths was in the 31-41 year age group;
- extension workers spent approximately 10% of their working time per month attending funerals;
- livestock and farm implements were sold to find income for funerals and health care;
- land for crop production was left uncultivated due to lack of labour and agricultural inputs such as draught power;
- income was lost as a result of the poor management of crops and livestock;
- failure to herd cattle, resulted in thefts and deaths, further depleting resources;
- irrigation farming was considered more reliable and so farmers would risk taking loans to hire labour knowing that they were certain to make a profit. But there was a tendency just to plant the crop and neglect other tasks which reduced yields and income.

Source: Ncube, NM. (1999)

Decreasing nutritional status

HIV/AIDS has direct impacts on nutrition for the individual, the household and the community. For the individual, HIV infection, compounded by inadequate dietary intake, rapidly leads to malnutrition. Persons living with HIV have higher than normal nutritional requirements; approximately, 50 percent more protein and 10-15 percent more energy per day is needed (Academy for Educational Development 2001, Woods 1999, James, Schofield 1990). Such interactions have serious consequences

for the poor, who are more likely to be malnourished even before they become infected. Malnutrition may hasten the onset of AIDS and ultimately death, and may also increase the risk of vertical HIV transmission from mother to child. The re-occurring periods of sickness of those living with HIV places a strain on the availability of farm labour and if sustained on household food production and ultimately the nutritional status of other household members.

Weakening institutional capacity

The rural and agricultural dimensions of the HIV/AIDS epidemic not only present devastating impacts on agricultural production, but also reduce the capacity of rural institutions to provide adequate services. The first impact experienced by formal organizations is a decline in human resources, as more staff are absent due to repeated periods of AIDS-related sickness. The quality of the service is affected as other staff members have to cover for their colleagues' absence, thus increasing their own workload and decreasing the geographical area which mobile staff, such as extension workers, are able to cover. Organizations also suffer from less tangible results of increasing staff attrition - certain technical skills can be replaced, but institutional knowledge and experience cannot be easily substituted with new staff. In addition, there are direct budgetary costs associated with continual attrition that can divert organizations' funds away from operational activities. Informal institutions are also affected by a dwindling contribution from AIDS afflicted households. Constraints on these households' time and resources reduce their ability to participate in these community networks and in turn, reduce their access to these vital social safety nets and so increase their vulnerability.

Exacerbation of gender inequalities

Gender inequality is one of the driving forces behind the spread of HIV. In order to adequately address gender, it is necessary to consider the wider social, economic, political and cultural context in which inequalities are generated and maintained.

In many places HIV infection rates are three to five times higher among young women than young men. These differentials in HIV infection are partly represented by biological factors which make women more vulnerable to HIV, especially in youth and adolescence. HIV differentials also reflect age differences between sexual partners, in which men are older and more dominant and tradition and social pressures limit women's ability to express their wishes regarding their sexuality, their choice of sexual partners and their ability to demand protected intercourse, thus increasing their risk of contracting HIV.

Gender inequalities render women more vulnerable to the effects of the HIV/AIDS epidemic. Rural women's domestic work loads tend to increase, as they are often the care providers when household members are sick. Access to productive resources, including land, credit, training and technology are strongly determined by gender and frequently favour men in the allocation of resources. As the household asset base dwindles and more members become sick, women's access to scarce resources is further diminished. Moreover, following the death of a spouse, a widow may not be granted access to household resources resulting in further impoverishment.

Rural female farmers and HIV/AIDS

- In Zimbabwe, the 2000 prevalence survey showed that 31.4 percent of pregnant women living in rural areas were HIV positive. Women who listed their residence as "farm" registered a 43.7 percent prevalence rate.
- In Swaziland, the 2000 surveillance survey showed that 25 percent of the women who listed their occupation as "subsistence farming" were HIV positive. Overall prevalence among pregnant women in rural areas was 32.7 percent.

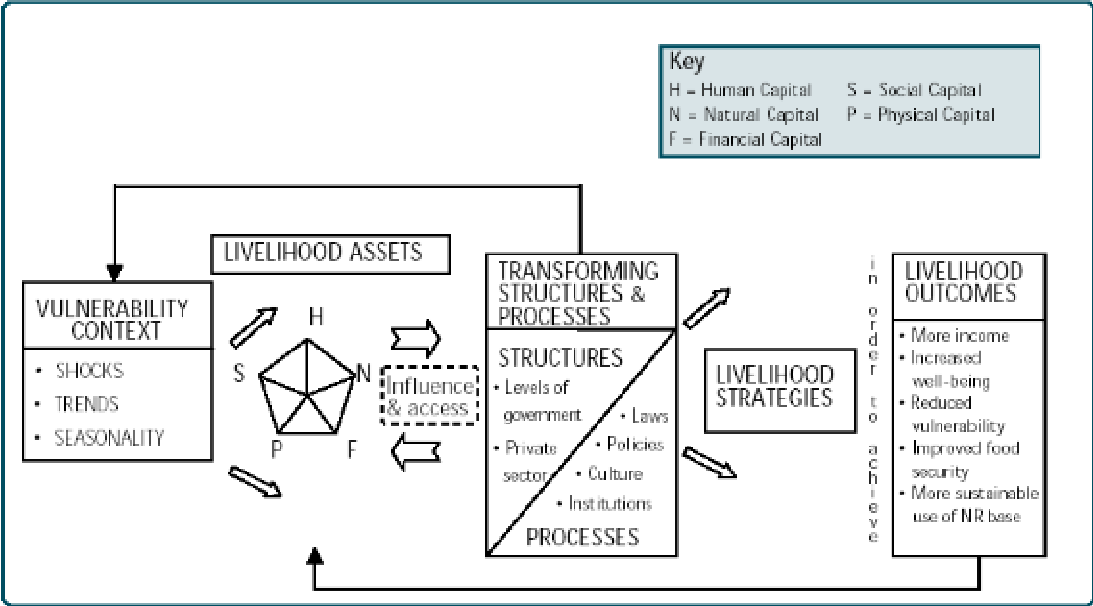
Source: FAO (2002a)

Using a livelihoods framework

HIV/AIDS, agriculture, food security, rural poverty and mobility, form a complex matrix of inter-relationships and competing forces. The success of any HIV mitigation strategy would depend upon its ability to recognise this wider environment in designing interventions. The livelihoods framework (*figure 3*) is a useful analytical tool for organising these competing influences and understanding the impact on rural livelihoods. The framework also aims to help different stakeholders engage in a structured and coherent debate. It presents the main factors that affect people's livelihoods, their relative importance and the way in which they interact to form survival strategies.

Households are seen to possess five sets of livelihood assets essential to their livelihood strategies: human capital, natural capital, financial capital, social capital and physical capital. Utilizing these assets, households adjust to their physical, social, economic and political environments through a set of livelihood strategies designed to strengthen their well being. The contexts in which households operate involve threats that render them vulnerable to negative livelihood outcomes. These threats can include periodic droughts, floods, pest infestations, crop and livestock shocks, economic shocks, conflict and civil unrest, as well as the illness and death of household members.

Figure 3: The livelihoods framework



Source: DFID, FAO (2000)

In reference to the diagram shown in figure 3, HIV/AIDS represents a potentially devastating shock to the farm household, represented in the box, vulnerability context. The illness or death of one or more household members can affect each of the livelihood assets resulting in a reduction in the ability of the household to adjust to future shocks. This situation, combined with unfavourable structures and processes, represented to the right of the asset pentagon, could result in livelihood strategies that are not sustainable and outcomes that impact a household’s ability to respond and maintain long-term food security.

Table 2: The impact of HIV/AIDS on food security and the implications for households and communities

Impacts of HIV/AIDS on food security	Implications
Dramatic changes in the population structure	Increase in orphaned children Proportional increase in the elderly Increase in widows and female headed households
Decrease in the agricultural labour force	Decrease in the area cultivated, in weeding, pruning and mulching resulting in a decline in crop variety, yields and ultimately soil fertility Increase in fallow land returning to bush Less labour intensive cropping patterns and animal production Decrease in women's productive activities due to their role as a care providers Missed planting seasons
Chronic illness or death of a household member	Increase in health expenditure Funeral costs
Change in household composition	Changes in the age or sex of the household head Increase in the household dependency ratio Out-migration of young adults
Increase in the number of orphaned children	Increase in the fostering of orphaned children Child headed households resulting in reduced attendance or withdrawal of children from school
Change in household nutritional status	Increase in the malnutrition of people living with AIDS and other household members due to the increasing impoverishment of the household
Acute decline in household income	Decrease in farm income sources and the proportion of farm output marketed Sale of land Liquidation of savings and slaughtering of livestock to provide income for health care and funerals Decrease in women's contributions to household income Decline in purchased items including food Increased need for cash income sometimes resulting in sex work Increase in the need for off-farm income sources
Decrease in credit availability and use	Increase in interest rates and more frequent loan defaults
Decrease in aggregate community income and assets	Reduction in investment Increase in community expenditure for formal and informal health care
Loss of agricultural knowledge, practices and skills and their transmission from one generation to the next	Decrease in the availability of skilled labour and essential agricultural knowledge for orphan headed households Loss of gender-specific agricultural knowledge
Decrease in access to natural resources, especially land	Depletion of resources in close proximity to households, especially water and forest assets Decrease in biodiversity and the pool of genetic resources
Exacerbation of gender-based differences in access to resources	Increase in gender inequality, resulting in a decrease in access to land, credit and knowledge, for women in general, but particularly for widows
Changes in social resources	Less time available to participate in community-based organizations, associations and other support networks
Increase in social exclusion	Increased stigma associated with HIV, thus increasing the difficulty of maintaining social and kin groups
Decrease in tangible household assets	Poor household maintenance Increase in sale of household goods, equipment and tools
Degradation of public services	Reduction in the quality and quantity of public service provision Less maintenance of communal irrigation systems, terraces, roads

Countries experience

During the meeting representatives from governments, NGOs and donor agencies presented brief reports describing the strategies adopted and activities implemented to mitigate the impact of HIV/AIDS through the agricultural sector. The participating countries included: Cambodia, China, Ethiopia, Kenya, Malawi, South Africa, Tanzania, Uganda, Zambia and Zimbabwe. Countries reported that there are a few large-scale AIDS-related activities in the agricultural sector, yet, there was little evidence of an integrated agriculture sector strategy. Some of the examples presented did highlight possible entry points for the development of an agriculture sector response and guidelines for interventions.

Multisectoral response

Most participating countries have a national HIV/AIDS strategy led by the Ministry of Health. The agriculture ministries are still not sufficiently aware of the relationship between HIV/AIDS and food security and therefore, a major constraint to the development of an agriculture sector response was reported to be lack of awareness and political will. A co-ordinated response will require fundamental structural and budgetary reform in government institutions from vertical, sector-led structures to horizontal, team-led structures that are also able to integrate public-private partnerships and embark on a process of decentralisation. This is quite a challenge for most government institutions which tend to lack funds, resources and relevant experience.

Assessments of the impact of HIV/AIDS on the agricultural sector have been commissioned by the governments of Malawi and South Africa. Malawi also has an HIV/AIDS policy for agricultural extension and the government of Tanzania has incorporated HIV/AIDS related concerns into the agriculture sector development strategy. In general, there was a strong feeling that agriculture sector mitigation strategies do not need to replicate the prevention and care activities of the health sector, but work with health interventions and integrate an effective response in order to meet the needs of those most affected by the epidemic more efficiently. However, countries recognised there is limited technical expertise on how to design effective agricultural responses to mitigate the impact of HIV/AIDS and to initiate effective mainstreaming activities.

Nutrition

The relationship between nutritional status, access and availability of food were clearly recognised by different countries. But the interaction between HIV/AIDS, nutrition and food security was not so clearly understood and in addition, the expertise for integrated nutrition and HIV/AIDS interventions were considered as health sector domains. Uganda had a programme on nutrition and HIV/AIDS, but in general, as yet, countries had not really addressed nutrition needs as part of an agricultural sector response to the HIV/AIDS epidemic.

Food security, nutrition and HIV/AIDS

In households coping with HIV/AIDS food consumption generally decreases. Research in Tanzania showed that per capita food consumption in the poorest households decreased by 15 percent when an adult died. A study carried out in Uganda showed that food insecurity and malnutrition were foremost among the immediate problems faced by female-headed AIDS-affected households. HIV exacerbates malnutrition, increases fatigue and decreases work productivity. Nutrition needs to be integral to all

care and mitigation strategies. In drastic situations, food aid or feeding programmes might be inevitable for those most vulnerable and efforts still need to be made to improve the long-term food security.

Source: FAO (2002d)

Agriculture extension

Several countries reported to have HIV/AIDS mitigation programmes for extension workers in place. This is an obvious entry point for the agricultural sector and generally involves building the capacity of existing extension services to adapt to the new conditions posed by the disease. With appropriate training, extension workers can be encouraged to integrate HIV/AIDS considerations into their routine work and to facilitate community members in accessing appropriate resources. It was clear that extension workers should have a thorough knowledge of the disease and its impacts on food security and rural livelihoods, but that they do not need to become involved in the dissemination of health-related messages.

Countries also recognised that the capacity of agriculture extension organizations is being eroded with the continual staff attrition due to AIDS-related sickness and death. Loss of staff reduces the quality of the service, the geographical coverage and increases operational costs. Accessing rural communities was also highlighted by countries as a constraint to providing responsive services, with a recognition that agriculture sector activities need to move from district headquarters into more remote areas. But with the reduction in the number of extension workers and many HIV-afflicted households located in remote rural areas the situation appeared as an insurmountable challenge.

Policy environment

Many countries recognise the importance of creating an enabling policy environment in assisting in the mitigation of the HIV epidemic. Successful AIDS mitigation requires that policies are developed across sectors to support the multifaceted nature of rural livelihoods. For example, the legality of inheritance and property rights are integral to ensuring access to assets and household food security for women and their families, after her husband dies. In some countries, child protection and security measures are not sufficiently oriented towards the needs of AIDS orphans in their struggle to survive. On the other hand, South Africa provides a good example of cross-sectoral collaboration between the Agriculture and Land Affairs Ministries on a land redistribution programme. The Land Affairs Ministry also has developed an HIV/AIDS policy. However, in most countries government departments are organised in a vertical fashion and are often structurally separate from each other, making a multi-sectoral co-ordinated response difficult to initiate.

The multi-country HIV/AIDS programme for Africa

The World Bank has launched a Multi-Country HIV/AIDS Programme (MAP) for Africa, which aims to assist in the scaling-up of national HIV/AIDS efforts. The overall development objective of MAP is to increase access to HIV/AIDS prevention, care and treatment programmes, with an emphasis on vulnerable groups.

The programme for Ethiopia will finance the Government's 2000-2004 HIV/AIDS strategic plan that includes support for capacity building within, both private and government agencies. Prevention, care and treatment activities will also be financed, to expand the public multi-sectoral response of civil society and communities to the AIDS epidemic. The Kenya programme will intensify the fight against AIDS, supporting five priority areas, that include prevention and advocacy, treatment and support of the continuum care of AIDS affected people, management and coordination and mitigation of social impact, through research, monitoring and evaluation.

Source: World Bank (2001)

NGO initiatives

Non-governmental, community-based and women's organizations, including those of persons living with AIDS have developed a number of interesting responses to the HIV epidemic. Using participatory methodologies to identify key problem areas, some have established flexible, inter-sectoral activities to support women, orphans and the youth. Most of the activities described during the meeting consist of a wide range of integrated activities, from agriculture, skills training and micro-finance, to home care, support and counselling for those living with AIDS, which form part of a wider programme. A number of organizations are working actively to support people living with AIDS, to provide a support network to those living positively and assist in reducing stigma, collaborating with partners to improve the suitability of AIDS education information and to lobby for increased access to treatment in resource constrained environments.

The diversity of NGO activities demonstrates the necessity for a broad response to the impacts of HIV/AIDS which extends beyond a sectoral focus towards local, integrated rural development where community involvement and action are essential. These initiatives represent the forefront of the response to the epidemic and examples need to be found, in which NGO activities have been successfully integrated with those of a government or private sector agricultural partner.

Ugandan women's effort to save orphans (UWESO)

This national NGO was founded by a group of Ugandan women in 1986 and now totals about 10 000 women throughout the country. The organization began as a relief agency that distributed food and medicines in war-torn areas and gradually extended its activities to providing welfare assistance to needy orphans.

In Uganda, generally the heads of the foster families are overwhelmingly female - surviving widows, elderly grandmothers, often a female teenager, aunts or cousins - who themselves face serious labour constraints in terms of food production and farming, as well as inheritance problems and reduced purchasing power and creditworthiness – all of which reduce their food security, nutritional status and schooling.

In order to achieve the empowerment of these vulnerable groups, UWESO has implemented a project that provides training to foster families in skills such as micro-project management and business and provide access to microcredit for investment in income-generating activities. Complementary activities are also carried out such as training in food and nutrition security, and HIV/AIDS care and counselling. UWESO also provides out-of-school orphans with vocational training and apprenticeship opportunities, typically bicycle or radio repair, carpentry and tailoring. By combining capacity-building and microcredit provision, the project has enabled beneficiaries to engage in more secure and sustainable livelihoods, thereby increasing their household incomes significantly. This initiative has become a key example of how community resilience and coping mechanisms can be strengthened using technical training and microcredit as tools.

IFAD (2001b).

Table 3 Summary of case studies presented at the meeting

Countries	Case studies	Entry points	Activities
Cambodia	Farmer life schools, Integrated pest management programme www.unaids.org/publications/documents/sectors/agriculture/Jc-fao-e.pdf	Rural farmers	Participatory action research Analyse and develop local strategies for action Promoting holistic development strategy
Lesotho	Maluti HIV and AIDS project Further information available from mranneileng@yahoo.co.uk	Sick people Orphans	Income generation activities Home-based care Counselling Orphan care
Tanzania	Mwanza urban livelihoods project Further information available from acordtz@africaonline.co.tz	Groups at high risk of HIV infection People living with AIDS Poor and vulnerable households, including those headed by women and children, orphans, widows The wider community	HIV prevention through peer health educators Promotion of gender equity Environmental sanitation Provision of micro-finance and business training
Tanzania	Low external inputs for sustainable agriculture (LEISA) Further information available from: acordtz@africaonline.co.tz	Farmers Vulnerable groups, especially orphans and widows Local authority and organizational structures Fishing camp residents and adolescents	Agricultural training in appropriate farming techniques Loans for purchase of locally fabricated transport technologies Loans for income-generating activities Awareness raising on HIV/AIDS
Uganda	Ugandan Women's effort to save orphans (UWESO) www.uweso.com/	Orphans Guardians of orphans	Credit and loan schemes Vocational training
Uganda	National community of women living with AIDS (NACWOLA) Further information available from: AIDS Support Unit, Action Aid. ssempebwar@actionaiduganda.org nkangabwaj@actionaiduganda.org	HIV positive women Children of people living with AIDS Communities of people living with AIDS	Counselling, home-care Support for income generation 'Memory project' Awareness-raising
Uganda	People with AIDS development association (PADA) Further information available from: AIDS Support Unit, Action Aid. ssempebwar@actionaiduganda.org nkangabwaj@actionaiduganda.org	People living with AIDS	Home care and support Counselling Income generation activities
Uganda	The AIDS service organization (TASO) www.taso.co.ug/	People living with AIDS	Food hygiene Adequate and balanced diet Local nutritious food
Uganda	Kitovu mobile farm schools Further information available from mmmuganda@utlonline.co.ug	Teenage school drop-outs	Agricultural and vocational training. Artisan apprenticeship
Uganda	African rural development initiative (ARDI) Further information available from: AIDS Support Unit, Action Aid. ssempebwar@actionaiduganda.org nkangabwaj@actionaiduganda.org	Young mothers People living with AIDS Young people	'Life skills' education Income support for young mothers Counselling and home visits
Zimbabwe	Farmer field schools project	Marginalised farmers (principally widows and female heads of households)	Agriculture training and support Training on healthy living with HIV/AIDS
Zimbabwe	African farmers' organic	AIDS widows	Train farmer field workers

	<p>research and training project (AfFOResT)</p> <p>www.unaids.org/publications/documents/sectors/agriculture/Jc-fao-e.pdf</p>		<p>Trainers facilitate farmer field schools</p>
Zambia	<p>Household food security and nutrition</p> <p>www.unaids.org/publications/documents/sectors/agriculture/Jc-fao-e.pdf</p>	Farm households	<p>Increase food production</p> <p>Improve access to nutritious foods</p> <p>Decrease workloads with labour saving technologies</p> <p>Raising awareness of nutritional needs of vulnerable groups</p>

Agriculture sector response

The impact of HIV/AIDS on food security and rural livelihoods is devastating. A comprehensive, long-term perspective is essential if the agriculture sector is to be successful in addressing the HIV pandemic with prevention and mitigation seen as mutually supportive activities. The agriculture sector is faced with the dual challenge of supporting rural livelihoods and reducing the vulnerability of farm households to the impacts of HIV/AIDS, while satisfying national economic objectives, where agriculture often has a key role to play.

Eight agriculture sector responses emerged during the meeting. Each of these responses has been developed into a mitigation strategy and consists of a set of possible programmatic activities to alleviate problems created by the epidemic. Table 3 is an attempt to summarise these strategies, with examples of appropriate district-level activities and the outcomes on food security, representing an integrated agricultural sector response to the epidemic. The design of any agricultural sector response should be based on a number of general principles, which include the need to support diversity, gender equality and human rights and to reduce stigma with interventions that have a long-term perspective and are committed to building partnerships and developing creative synergies with other sectors.

Labour saving technologies

The labour shortage caused by the illness and death of household members is one of the most pervasive and well documented losses to AIDS-affected households. The use of labour-saving technologies therefore, represents an important mitigation strategy. Technologies are needed that would reduce time spent on both agricultural and household tasks and are able to be used efficiently by the youth and the elderly. Recommendations could include: low-input agriculture, lighter ploughs and tools that can be used by older children, women and the elderly, improved seed varieties that require less labour for weeding, intercropping, minimum tillage, as well as access to potable water, water harvesting and fuel efficient stoves that can free women for more economically productive activities.

Labour can be saved indirectly through improved storage facilities, for example, which can assist in the reduction of post harvest losses and increase food security. Home gardens with a variety of nutritious food crops, could contribute towards household food production. Although home gardens are fairly labour intensive, the distribution of labour over the production cycle is regular and does not depend strictly on planting times. Small ruminants can provide high protein foods and can be kept close to the house with relatively low labour input.

The FAO and the Consultative Group on International Agricultural Research (CGIAR) have a wealth of knowledge on labour saving technologies. This experience needs to be re-visited and the lessons to improve access and uptake could be adapted to the specific situation of labour shortages caused by HIV/AIDS.

Low inputs for sustainable agriculture in Tanzania

This programme targets the most vulnerable groups in local farming communities (including AIDS-affected households) and beneficiaries receive agricultural training that enables them to increase farm productivity while lowering economic costs and reducing the intensity of human capital inputs. For example, dependence on chemical inputs is reduced through the promotion of locally available animal

manure, ash as fertiliser, use of crop residues for mulching and the use of organic compounds from indigenous herbs and shrubs for killing pests. Labour is saved through the promotion of locally made transport facilities such as wooden wheelbarrows, and cultural weed control methods, such as the planting of crops that suppress weed growth and multi-cropping. All of these interventions reduce the financial and labour costs facing farmers. The programme also has a community-based natural resource management component that links local village committees to district level departments, thereby strengthening networks for common property resource management.

Since participating in the programme, farmers have reported an increase in productivity with lower investment levels. The cost of local farm labour has increased, as would-be labourers are now getting higher yields on their own plots, and their need to seek out paid labour has been reduced. Land in the area is now more valued as farmers begin to realize the productive potential of their plots.

An AIDS Support Fund was set up to promote the legal and inheritance rights of AIDS-affected families and to channel credit to those most in need. Beneficiaries are chosen by community members and local leaders and support is channelled through village-based widow and orphan committees. There is now less stigma facing families who have lost their head of household or relatives to the epidemic and community governance structures are now taking a more active role in supporting families affected by HIV/AIDS.

Source: White, J. (2002)

No-tillage farming in Brazil

No tillage based farming systems have been adopted and developed by farmers in southern Brazil for the past 30 years. This type of farming system involves minimum tillage or ploughing while maintaining adequate crop rotations. This practice was adopted by Brazilian farmers as ploughing and soil preparation was causing major soil erosion, forcing farmers to adopt different techniques. The idea is that the soil remains permanently covered to protect it from water, wind and sun erosion and seeds are planted with simple machines that directly insert the seed into the soil. These machines have been developed to use by hand or with animal draft power.

The adoption of this system has resulted in a decrease in labour-needs at planting time and a consequent diversification of farm labour often towards off-farm income generating opportunities. This no-tillage practice also increases soil biodiversity and water retention capacity, thus leading to higher and more stable long-term yields. However, for this method to be successfully adopted, skilled extension and advisory services must be available to support farmers and the direct seeder machines need to be available locally at a reasonable cost.

Source: FAO (2001d)

Guiding principles

Long-term

The impacts of the HIV/AIDS epidemic are sustained and long-term. If policies and programmes are to be effective they must have a long-term perspective and be able to integrate all aspects of rural livelihoods and food security.

Building partnerships and developing synergies

The nature of the epidemic and its impact on livelihoods requires that partnerships be fundamental elements of any strategy. Collaborative partnerships will need to be fostered at all levels, from the local to the international levels, and be inter-sectoral. Capacity will need to be strengthened to enable all partners to actively participate in collaborative dialogue. The health, non-governmental and local organizations have a wealth of experience in the fight against HIV/AIDS. The agricultural sector can learn from these experiences and build on lessons already learnt.

Supporting diversity

Rural livelihoods are characterised by diversity. Not only do farmers need to develop innovative methods to maintain agricultural production but they need to do so within the context of the particular agro-ecological zone in which they reside. Farming is an integral part of rural subsistence communities' lives and is often guided by particular social and cultural practices. These practices provide the organising principles of societies and a support system in times of hardship and asset depletion. Interventions need to be sensitive to the specificity of local productive and reproductive systems and the rules which govern them. Local diversity in practices presents a great challenge to any agriculture response that will be implemented nationally.

Human rights

Access to adequate food is the most basic of human rights. Food security is dependent upon the access and availability of an adequate and stable food supply. A rights-based approach is people centred and provides a moral and legal basis for food security policies; it stresses the importance of non-discrimination and underlines the role of the state in the event of sickness, disability or other causes of lack of livelihood. This approach considers the achievement of access to adequate food as a process, as the obligation to fulfil is limited by available resources, but governments should take measures "to maximise available resources" towards this aim. A human rights' approach not only stresses governments' obligations, but points to obligations of other relevant actors as well. The approach provides a solid programmatic foundation for people living with AIDS and their carers. The elements of food security and human rights are developed further in *figure 4*. All proposed policies, plans and activities to combat HIV/AIDS should thus be assessed against the levels of obligations, namely to respect, protect and fulfil human rights.

Reducing stigma

Stigma and ignorance present great obstacles towards mitigating the impact of the HIV epidemic. An enabling environment needs to be created within and outside of organizations to be able to influence people's attitudes. Effective communication strategies need to actively involve people living with AIDS and support pioneering activities.

Gender

The impacts of the HIV/AIDS epidemic on rural livelihoods fundamentally challenge the nature of gender systems and often change the productive and reproductive relationships between men and women, resulting in an exacerbation of inequalities in access to resources. An analysis of gender relationships is essential in the design and formulation of any agriculture mitigation strategy. Indeed efforts to alleviate the effects of AIDS present an opportunity to address existing inequalities related to gender and age differences.

Figure 4 The food security matrix for HIV positive people and those indirectly affected

	Food Security				
	Adequate food supply			Stable food supply and access	
Levels of state obligation	Nutritionally adequate	Safe	Culturally acceptable food	Environmental/ ecological sustainable	Economic and social sustainable
Respect	Acknowledge increased nutritional needs	Acknowledge the need for food safety	Respect food culture associated with personal identity	Respect traditional food production technologies that have environmental significance	Respect customary rights to land and other means of food production
Protect	Protect the diet Protect against discrimination	Risk assessments Laws & regulations Control services Monitoring	Protect traditional food corps	Surveillance and handling of crops diseases and animals	Protect the economic interests of the HIV/AIDS affected
Fulfil - Facilitate - Provide	Facilities that help the affected Provide food rations	Risk handling & communication Action plan for mitigation	Ensure availability of foods in local culture	Action plan to mitigate disease in plants and animals, and for ecological erosion	Enable the affected to procure food Provide resources

Source: Oshaug, A., Engh I. (2002)

Knowledge preservation and transmission

In addition to labour-saving technologies, the participants at the meeting recognised that as most AIDS-related deaths occur in the reproductive age group, this generational loss can result in the loss of agricultural knowledge, practices and skills and interrupt their transmission from one generation to the next.

Recommendations on how to preserve knowledge and transmit it across gender and generations were presented during the meeting. Extension education programmes, as well as informal community organizations, need to be reoriented to meet the information needs of households who have lost an adult. Orphan- and female-headed households, as well as widowers need information to be able to maintain agricultural production. The abilities of household members to draw up cropping plans, maintain animal husbandry practices, store grain, market agricultural production, and to be knowledgeable about gender-specific production practices need to be monitored and evaluated if effective strategies to meet the informational needs of these households are to be designed and implemented.

HIV/AIDS and agrobiodiversity

Agrobiodiversity and indigenous knowledge present enormous potential to empower rural people in tackling food insecurity and addressing AIDS-related impacts. They are local, available and affordable resources which could widen the range of options for agriculture, food security, nutrition, healthcare and livelihoods among poor AIDS-affected households. In addition, they assume increasing importance as other resources dwindle, become unaffordable, or disappear. All too often, local biodiversity and indigenous knowledge are the only assets left in poor rural communities. Their adequate recognition, promotion and integration are thus essential.

Source: FAO (2002b)

Kitovu mobile farm schools, Uganda

The project aims to provide youth and orphans with viable livelihood options through agricultural training. It also helps to empower young people through promoting their access to land, which is often loaned by guardians or community members.

This project is a partnership between rural communities, project staff, the government agricultural office and the department of education, with all pooling their resources. Local communities offer land as demonstration plots and for young people to farm for themselves, the education sector offers school facilities and plots of land next to the schools to be used for demonstration purposes. While the agricultural training is carried out by qualified agriculturists employed by the project, the local agricultural production office is involved in developing the farm school curriculum and providing technical advice. Two years' practical training in crop production is provided.

Source: White, J. (2002)

Rural Institutions and capacity building

Mitigation strategies to cope with the epidemic need to be directed not only to individuals and households, but also to community organizations and institutions. Rural institutions need to be strengthened given that they too suffer from the loss of staff, implementation capacity and institutional knowledge due to AIDS deaths. Informal institutions are weakened as people have less time to contribute to these activities.

Rural service providers of all types, education, health, agricultural extension, credit and finance, women's associations, nutrition groups, irrigation committees and terrace maintenance associations, need to be supported. Staff need to be equipped with knowledge of the impact that HIV/AIDS has on rural livelihoods and how to incorporate AIDS-sensitive strategies into their work.

Some communities have been extremely responsive to the epidemic and local institutions have been strengthened or created to be able to deal with a variety of problems including an increase in morbidity and mortality. As most assistance provided to AIDS-affected households comes from family, neighbours and local community institutions, it is important that the lessons from these initiatives be built upon. Informal institutions focusing on traditional labour-sharing arrangements and communal farming, as well as self-help efforts to provide home care for sick and dying members, child care, apprenticeship training for orphans or educational and nutrition assistance to affected households should not be overlooked in the development of an agriculture sector strategy.

In many countries, over the past decade, the public services have suffered from cuts in expenditure resulting in a reduction in resources and a no-replacement staff policy for many sectors. Within this context, the impacts of the HIV/AIDS epidemic also operate, further reducing human resources and increasing health-related costs. Long-term vision and investment is required to be able to continue to provide adequate and effective services and to maintain capacity.

Public agriculture extension services will need assistance in re-orienting their activities, not only to develop new methodologies and messages to specifically address the needs and constraints of the most vulnerable groups, but will need to be more creative in how they deliver services, perhaps using radio or farmer self help groups, in order to be able to cope with an ever-decreasing work force.

Advocacy and action are needed to attract innovative investment in the rural sector. However, investment in rural infrastructure such as the construction and maintenance of roads, which involves the influx of migrant labourers must include mechanisms to reduce the spread of HIV during and after the project has been completed.

HIV prevention through Farmer Life Schools in Cambodia

In an effort to mainstream HIV resilience-building in the agricultural sector, UNDP South East Asia HIV and Development Project, in collaboration with FAO and the Integrated Pest Management programme, have pioneered an experiment called the Farmer Life Schools. In this programme farmers have learned to acknowledge plant ecology and interaction using beneficial versus harmful pests. This innovative approach translates farmer's analytical thinking from plant ecosystem-base into analysing an individual's life as a human ecosystem – with factors that strengthen or weaken his/her resilience to adversities, including HIV vulnerabilities.

The Farmer Life Schools provide farmers with an expanded analytical tool and an enabling environment through training. The central idea is to promote a holistic development strategy, where farmers examine their life context and situation instead of just increasing the yields of their rice fields. Farmers begin to understand they can, shape their own and their children's future.

Source: FAO, UNDP (2002).

Micro-finance and community credit are examples of rural institutions that are considered essential in mediating the impacts of HIV/AIDS. Micro-finance is important to rural households unaffected by AIDS, because it permits them to be

economically productive and to accumulate savings that may be needed later. Once a household has experienced an HIV illness or AIDS-related death, credit institutions are central to maintaining the economic viability of those household members who are able to work and care for the afflicted household members. Novel credit mechanisms need to be developed, such as providing insurance in case of loan defaulting because of sickness, or identification of a person who would take responsibility for repayment in case the credit-receiver falls ill.

Local NGOs, formal and informal institutions represent the forefront of the response to the epidemic. The opportunity to learn from this experience and to replicate some of the many pioneering responses should not be overlooked. These local institutions need to be supported so they are able to act as a teaching resource, included in planning workshops and assisted in the dissemination of knowledge and best practice guidelines and tools. Activities need to be adequately costed so that governments are able to assess the budgetary implications of national replication. In addition to funding, government capacity also needs to be strengthened to be able to support the scaling-up of these local innovations.

Gender equality

Although gender equality is an issue that is not specific to the agricultural sector, it is so integral to the HIV/AIDS epidemic and its social and economic consequences that it should be a part of any agriculturally-oriented mitigation strategy designed to alleviate the impacts of the epidemic. Not only are women physically more vulnerable to HIV infection than men, they are also more vulnerable to negative social and economic outcomes as a result of HIV/AIDS.

Women's access to and control of resources and livelihood assets are often negatively affected by HIV/AIDS. Inequalities in access to land, credit, employment, education and information all make women more vulnerable to negative outcomes. In some countries legislation has been passed providing women with equal inheritance rights to land when their husband dies. While this is an important legal precedent, the enforcement of this law over local customary practices is equally critical and the capacity of local officials needs to be supported so they are able to negotiate this process.

Many of the gender issues highlighted are structural concerns of societies and require a renegotiation of gender relationships that involves challenging existing power structures, not only at the local level but with policy and legislation at national and regional levels. At the same time, it needs to be recognised that cultural and regional differences exist and that title to land, access to labour and water are not priority issues everywhere.

The agriculture sector needs to actively promote gender equality in the areas of its competence, with an emphasis on access to and control over productive resources, including land, credit, knowledge, agricultural inputs and technology.

The African farmers' organic research and training project (AfFOResT), Zimbabwe

This project was set upon the request of women farmers in the Zambezi valley. Many of the female farmers in the area are widows from AIDS, while others nurse sick husbands and other relatives. The project aims to increase the profitability of smallholder pesticide-free cotton production for women. The project trained Farmer Field Workers as scientists for four weeks during the dry season. Farmers are

encouraged to inter-crop their cotton with traditional food crops. These Farmer Field Workers then facilitate weekly, community-based Farmer Field Schools and are supervised by AfFOResT staff every month.

Some farmers groups generated their own research questions and conducted their own on-farm research, which provided alternative approaches for organic production. Although the cotton yields from organic farming are not as high as those using commercial methods, farmers profited from their new enterprise due to the lower input costs and savings on labour. Labour requirements for tasks associated with pesticide use dropped from 15 hours per week to 3 hours (2 attending the school and 1 hour scouting for "Farmers' Friends"). The labour required for weeding cotton fields was also significantly lower due to the inter-cropping of crops such as cowpea. In addition to these benefits, many of the widows gained emotional strength and support from the groups. The project used training sessions to initiate discussions on HIV/AIDS and developed a 3-day training course on Healthy Living and Living with HIV. That included education on disease and the immune system, healthy eating, home gardening for nutrition, living with HIV and herbal remedies.

Source: White, J. (2002)

Improving nutrition

The relationship between HIV/AIDS and nutrition begins when a productive household member falls sick and the resulting shortage of labour causes food deficiencies in the household. Food insecure households have poor nutritional status, are less healthy and are less productive. Moreover, HIV-infection and malnutrition seem to be a mutually aggravating process. A nutritionally balanced diet is likely to help fend off opportunistic infections that accompany the disease. People living with HIV/AIDS need higher than normal nutritional intake to remain active and productive and to have longer lives.

Mitigation efforts can range from nutritional education programmes aimed at infants, children, adults and the elderly, nutritional support and education for affected individuals, orphan support programmes, building capacity to increase agricultural productivity through improved plant varieties and better crop management techniques. Nutritional gardens can provide needed nutrients and add variety to the staple foods consumed by households.

Social and Economic Safety Nets

Communities have developed a range of strategies to assist their members in surviving the impacts of HIV/AIDS, as well as other threats to their livelihoods. Most of these strategies are traditionally based and coupled with extended family support. They account for the vast majority of assistance provided to AIDS-affected households. Social support groups, savings clubs and credit associations, self-help groups, community based organizations, income generating projects and voluntary labour are all essential in supporting rural livelihoods. Community support through labour sharing and food sharing from communal plots are fundamental to households affected by HIV/AIDS. External support from donors, NGOs, religious organizations or other groups should be directed towards strengthening these kinds of community-based initiatives rather than replacing them.

Wife inheritance and HIV/AIDS in Kenya

In some districts in Kenya, it is still common for wives to be inherited when their spouse dies. This practice functions as a traditional support mechanism for widows and ensures their access to resources and the extended family. With the advent of AIDS this practice could contribute to the spread of the HIV virus. Wives whose husbands have died from AIDS-related causes are also likely to be HIV-infected, but may not be suffering from signs of sickness. Moreover, a sick woman is unlikely

to be inherited. In rural Kenya few people have access to HIV/AIDS testing and awareness of HIV status is very low, so a widow is unlikely to know if she is HIV positive or not. In addition, she may not want to reveal her status as inheritance often represents the only form of security she has. Inheritance means that she could feed her children and protect her property.

Source: Buckley, S. (1997)

Emergency food aid

Emergency food aid represents a short-term solution to the problem of acute food insecurity associated with the HIV/AIDS epidemic. However, targeting individuals, households and communities for food assistance is a challenging process and needs to be ethically led to avoid further stigmatisation. Targeting could include orphan-headed and foster households or those that have lost one or more family members, but it requires established and flexible criteria. Providing food rations to school children plays an important role in meeting their nutritional needs and supplying an extra food ration for children to take home could prevent their removal from school and support household food security. Longer-term mitigation strategies must seek to influence one or more of the livelihood assets, such as distributing seed and labour saving technologies that permit households to re-establish their agricultural base and provide a safety net to afflicted households in their recovery.

Monitoring and evaluation of response strategies

Response strategies need to be appropriately monitored and evaluated to assist in the design and implementation of more effective programmes to alleviate the impacts of HIV/AIDS on rural livelihoods and food security. In addition participatory monitoring systems should be developed with people so that they can themselves measure progress.

A number of international tools to measure vulnerability already exist, they include:

- Food Insecurity and Vulnerability Information and Mapping System (FAO);
- Global Information and Early Warning Systems (FAO);
- Vulnerability Analysis and Mapping System (WFP);
- Participatory Poverty Assessment (IFAD).

These systems need to systematically incorporate HIV/AIDS indicators into regular data collection. To achieve this, new indicators and appropriate methodologies need to be developed.

The development of general indicators should not deter from the importance of local mapping and the production of vulnerability profiles of regions and countries. Differentiated profiles will allow the adaptation of existing interventions to the needs and capacities of HIV/AIDS affected communities and build on existing response strategies. Although general patterns of the impact of HIV/AIDS on the agricultural sector are widely known, there is limited regional knowledge or more specific knowledge on the impact on fishing communities, pastoralists, trading communities, farming systems and the commercial sector, for example.

Preliminary analysis of vulnerable groups such as people living with HIV/AIDS and their families and orphans at the outset of any activity is essential. This will enhance understanding not only of the impacts of HIV/AIDS but also the underlying dynamics of poverty and empowerment in the local community, thus enabling projects to be

aware of, and responsive to, the problems posed by HIV/AIDS. The risk of not understanding the complex dynamics between HIV/AIDS and poverty is that interventions can exacerbate existing problems further. The situation of widows, orphans and young people are principal areas of concern. As these groups are particularly vulnerable to the impacts of HIV/AIDS, all interventions aimed at poverty alleviation should ensure that resources are invested in addressing their needs.

To date, HIV/AIDS has not been systematically incorporated into the agenda of national and international agricultural research institutions. The Global Initiative on HIV/AIDS, Agriculture and Food Security (GIAAFS) was proposed by West Africa Rice Development Association (WARDA), International Food Policy Research Institute (IFPRI), International Service for National Agricultural Research (ISNAR) and FAO, as a joint venture between CGIAR centres and national and international agricultural research institutions. Its purpose is to use agricultural research to contribute towards mitigation, to reduce negative impacts of HIV/AIDS on agriculture, food security and to understand and link the HIV/AIDS pandemic with rural, peri-urban and urban livelihoods systems, agricultural land use, food and nutrition security and social structures. It is envisioned that GIAAFS will disseminate innovative policies and tools to strengthen institutions in the development of an agricultural sector response to the epidemic.

HIV/AIDS and conflict, post-conflict and emergency situations

The elements of poverty, chronic food insecurity, HIV/AIDS prevalence and emergency situations are mutually aggravating phenomena, generating complex scenarios that require committed, integrated and cross-sectoral responses. An emergency response needs to address prevention, care and mitigation aspects of the HIV epidemic. Food aid or food for work programmes can play a role as a short-term response to the epidemic as they increase households' food security. The provision of school food rations is important in meeting nutritional needs and an incentive to keep children in school. Long-term mitigation strategies should seek to influence livelihood assets. Seed distribution programmes that permit households to re-establish their agricultural base can provide a safety net to afflicted households in their recovery. All efforts need to be monitored and evaluated in order to assess their impact on rural livelihoods and food security.

Mainstreaming HIV/AIDS

Experience across all sectors and from all partners in addressing the HIV/AIDS epidemic must be built upon in order to develop an effective agricultural strategy. There is work specifically targeted at HIV/AIDS from women's empowerment programmes, legal literacy initiatives, rural credit and so on, upon which the agricultural sector should build. However, the impact of HIV/AIDS on food security and production is still not fully understood by the key agriculture sector stakeholders and as a consequence political commitment is limited and funds are not adequately allocated to HIV/AIDS prevention and mitigation.

Mainstreaming is not an easy task and requires that the epidemic is addressed at macro and micro levels, from the region to the district. At all structural levels it is essential that all the issues are understood, so that HIV/AIDS becomes a common concern that should be addressed by everyone. Those working to mainstream HIV/AIDS in development can learn a lot from the work of the last 15 years seeking to mainstream gender. A number of lessons are summarised below:

- support is necessary at the highest level of the organization for the issue to be taken seriously;
- advocacy for mainstreaming needs to occur at all levels of the organization, so that a common vision is shared;
- activities have to be adequately resourced.

The multilateral organizations can play a great role in advocating for the mainstreaming of HIV/AIDS throughout all sectors, increasing political commitment and influencing national policies. Ministerial staff capacity needs to be developed and activities need to be funded while allowing for innovation to develop appropriate country-specific tools to respond to the particular impacts of the epidemic.

Moving towards partnership and action

The participants of the meeting felt that an understanding of the impact of HIV/AIDS on rural livelihoods exists but that continuing advocacy is necessary to increase visibility on the international HIV/AIDS agenda, to influence policy and the allocation of much needed resources.

This report provides the basis of an agricultural sector framework, but there is still a need to identify effective approaches to implement these strategies, to integrate HIV-related concerns into current agricultural activities and to build upon practices already tried and tested in other sectors. Table 3 is an attempt to summarise these strategies, with examples of appropriate district-level activities and the outcomes on food security, representing an integrated agricultural sector response to the epidemic.

A number of local, national and international organizations have been involved in implementing mitigation strategies at community, district and central levels. More effort is needed to forge effective partnerships based upon active co-operation to maximise mitigation efforts and to minimise the waste of resources and ultimately, to work towards a common goal of alleviating the impacts of HIV/AIDS.

Specifically partnerships need to be fostered in a number of areas, with:

- all stakeholders involved in promoting food security and rural poverty reduction;
- specifically creative synergies must be forged with the agriculture and health sectors;
- national and international NGOs providing services to people living with HIV/AIDS and affected rural communities;
- extension, health and social workers.

Inter-agency co-ordination needs to be strengthened with clear mechanisms for communication and areas of implementation. To this end, it is essential that the FAO, IFAD, WFP and UNAIDS continue to work towards the alleviation of the impacts of HIV/AIDS on rural livelihoods and poverty, which capitalises and builds upon the strengths of each agency.

Table 4 Implementing agriculture sector strategies at district level: possible activities and expected outcomes on food security

Agriculture sector strategy	Possible activities	Expected outcomes
Labour-saving technologies	<p>Introduce appropriate technologies such as small-farm mechanisation and low-input agriculture, according to local needs, cultural practices and the emerging gender roles. Such as:</p> <ul style="list-style-type: none"> - lighter ploughs and tools that can be used by older children, women and the elderly; - improved seed varieties that require less labour for weeding; - intercropping; - techniques that involve minimum tillage; - better access to potable water. 	<p>Less labour required to sustain outputs Less dependence on purchased inputs Resulting in:</p> <p style="text-align: center;">↓</p> <p>Increase agricultural productivity and enhanced food security</p>
Preservation and transmission of knowledge	<p>Traditional agricultural knowledge that is necessary for successful production, could include:</p> <ul style="list-style-type: none"> - cropping plans - animal husbandry - grains and food - agrobiodiversity - gender-specific knowledge of land preparation techniques - storage techniques - knowledge of prices and markets - cash and food crop production practices <p>Knowledge associated with personal and community identity is also important. Knowledge could be transmitted through community mechanisms such as seed banks and extension education programmes according to the different information and technology needs of the affected households.</p>	<p>Agricultural skills and practices and community knowledge are transmitted from generation to generation in household that have lost adults</p> <p>Resulting in:</p> <p style="text-align: center;">↓</p> <p>Enhanced food and livelihood security</p>
Rural institutions and capacity building	<p>Formal and informal rural institutions and service providers need to be supported so that they are better able to assist communities to cope with the impacts of the epidemic. Such as:</p> <ul style="list-style-type: none"> - traditional labour-sharing arrangements and communal farming - community credit and micro-finance associations - self-help groups which provide home and child care - apprenticeship training for orphans - educational and nutrition assistance to households - links with the health sector - rural radio 	<p>Community and household coping mechanisms are strengthened</p> <p>Resulting in:</p> <p style="text-align: center;">↓</p> <p>Maintenance of economic viability, social and community cohesion and sustainable rural livelihoods</p>

<p>Promoting gender equality</p>	<p>Gender roles need to be re-negotiated towards more equal relationships. Possible activities include:</p> <ul style="list-style-type: none"> - identify the gender roles and inequalities which exacerbate the impact of the epidemic - conduct appropriate assessments to better understand local laws and traditions - promote egalitarian laws concerning access to productive resources at local and national levels - work with local officials and organizations to negotiate more equal access to land and other productive resources - increase access to productive credit to enable widows and widowers to continue agricultural production - mainstream gender considerations in the design and implementation of all mitigation strategies 	<p>Mapping of inequalities and vulnerabilities that exacerbate the impact of HIV/AIDS</p> <p>Resulting in: ↓</p> <p>Better equality in access to productive resources. A contribution towards the prevention of survival sex. Households are protected from poverty-induced risks of contracting HIV.</p>
<p>Improving nutrition</p>	<p>Support to people living with HIV/AIDS and affected communities' nutritional needs, through:</p> <ul style="list-style-type: none"> - nutrition education and agriculture extension programmes that are gender and age sensitive; - nutritional home gardens which provide essential nutrients and diversified diets; - introduce improved plant varieties and better crop management techniques; - encourage the use of small ruminants for consumption, sale and manure; - advocate to ensure the provision of antiretroviral agents and essential drugs through building creative links with the health services. 	<p>More balanced diets that are better suited to the specific needs of persons living with HIV/AIDS</p> <p>Resulting in: ↓</p> <p>Prolonged lives of those persons living with HIV/AIDS.</p>
<p>Strengthening social and economic safety nets</p>	<p>Enhance traditional community social and economic safety nets, with activities such as:</p> <ul style="list-style-type: none"> - identify safety nets that are eroded by the epidemic; - conduct appropriate assessments to identify the most vulnerable; - support community-based labour and food sharing activities; - build on traditions that protect and secure livelihoods; - support households which foster orphans; - build the capacity of micro and community credit activities; - provide food aid in situations of acute food insecurity. 	<p>Enhanced sustainable rural livelihoods and food security Vulnerable groups are protected</p> <p>Resulting in: ↓</p> <p>Preventing the social asset base from collapse. Households better equipped to face poverty.</p>

Regional HIV/AIDS statistics

Region	Estimated number of people living with HIV/AIDS, end 2001					Children orphaned by AIDS 2001	AIDS deaths 2001	Population 2001 (thousands)		HIV prevalence rate (%) in young people (15-24)			
	Adults & children	Adults (15-49)	Adults (15-49) rate (%)	Women (15-49)	Children (0-14)			Total	Adults (15-49)	Female Low estimate	High estimate	Male Low estimate	High estimate
Global total	40,000,000	37,100,000	1.2	18,500,000	3,000,000	14,000,000	3,000,000	6,119,328	3,198,252	1.00	1.78	0.59	1.05
Sub-Saharan Africa	28,500,000	26,000,000	9.0	15,000,000	2,600,000	11,000,000	2,200,000	633,816	291,310	6.41	11.39	3.13	5.56
East Asia & Pacific	1,000,000	970,000	0.1	230,000	3,000	85,000	35,000	1,497,066	833,058	0.06	0.10	0.12	0.22
Australia and New Zealand	15,000	14,000	0.1	1,000	<200	<1000	<100	23,146	11,845	0.00	0.01	0.01	0.02
South & South-East Asia	5,600,000	5,400,000	0.6	2,000,000	220,000	1,800,000	400,000	1,978,430	1,031,463	0.36	0.64	0.22	0.38
Eastern Europe & Central Asia	1,000,000	1,000,000	0.5	260,000	15,000	<5000	23,000	393,245	209,038	0.19	0.34	0.75	1.33
Western Europe	550,000	540,000	0.3	140,000	5,000	150,000	8,000	407,021	200,286	0.10	0.17	0.15	0.27
North Africa & Middle East	500,000	460,000	0.3	250,000	35,000	65,000	30,000	349,142	180,506	0.23	0.41	0.08	0.15
North America	950,000	940,000	0.6	190,000	10,000	320,000	15,000	316,941	161,413	0.16	0.29	0.33	0.58
Caribbean	420,000	400,000	2.3	210,000	20,000	250,000	40,000	32,489	17,183	1.78	3.17	1.42	2.43
Latin America	1,500,000	1,400,000	0.5	430,000	40,000	330,000	60,000	488,031	262,151	0.26	0.46	0.39	0.69

Source: UNAIDS (2002)

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Agenda of the meeting

DAY 1

- 08.00 – 08.45** **Registration**
- 09.00 – 10.00** **Opening ceremony**
Sissel Ekaas, Director, Women and Population Division, FAO
Jacques Paul Ekebil, Assistant Director -General, Sustainable Development Department, FAO
Henri Carsalade, Assistant Director -General, Technical Cooperation Department, FAO
Gary Howe, Director of the East and Southern Africa Division, IFAD
Allan Jury, Officer in Charge Strategy and Policy Division, WFP
James Sherry, Director, Program Development & Coordination Group, UNAIDS Secretariat
- 10.00 – 10.30** **Impact of HIV/AIDS on food security and rural poverty: an overview**
Objectives of the meeting and expected outcomes
Marcela Villarreal, Focal point HIV/AIDS, FAO
- 10.30 – 11.00** *Coffee*
- 11.00 – 12.30** **Implications of HIV/AIDS for the development of strategies and programmes**
Chairperson: Allan Jury
Presentations
Agriculture and HIV/AIDS: a long term perspective
Jacques du Guerny
The impact of HIV/AIDS on households and communities
Gabriel Rugalema, UNAIDS/UNDP
HIV vulnerability reduction and resilience building: a strategy for the agricultural sector
LeeNah Hsu, UNDP SEAHIV (South East Asia HIV & Development Programme)
Discussion
- 12.30 – 13.15** **Lunchtime seminar**
The human rights approach to HIV/AIDS and food security
Arne Oshaug, Akershus University College, Bekkestua
- 14.30 – 15.30** **Country experiences and perspectives**
Chairperson: James Sherry
Government and NGO representatives presented their countries' experiences and objectives regarding the mitigation of the impact of HIV/AIDS on the agricultural sector, identified obstacles toward the attainment of those objectives and discussed ways to overcome them.
- 15.30 – 16.00** *Coffee*
- 16.00 – 16.30** *Facing the Challenge: NGO responses to the impacts of HIV/AIDS*
Joanna White, Natural Resources Institute, University of Greenwich
- 16.30 – 17.30** **Country experiences and perspectives continued**
Discussion
- 18.00** *Reception*

DAY 2

- 09.00 – 09.45** *Mitigation strategies from the agricultural sector: a global perspective*
Tony Barnett, School of Development Studies, University of East Anglia
- 09.45 – 10.00** **What should be done in the agricultural sector? Key issues, gaps and the way forward**
Chairperson: Tony Barnett
Introduction to the working groups
Carol Djeddah, Consultant FAO
- 10.00 – 10.30** *Coffee*
- 10.30 – 12.30** **Working groups**
Working group 1: Ultra-poor and vulnerable groups
Working group 2: Food and livelihood security through skills and capital
Working group 3: Food and livelihood security through agriculture
Working group 4: Nutrition
Working group 5: Conflict and post-conflict programmes
Working group 6: Capacity-building and decentralisation
- 12.30 – 14.00** *Lunch*
- 14.00 – 15.00** **Working groups continued**
- 15.00 – 15.30** **Plenary presentations of working groups**
- 15.30 – 16.00** *Coffee*
- 16.00 – 17.30** **Plenary presentations of working groups continued**
Discussion
- 17.30 – 18.00** *The World Bank's multi-country programme: mobilizing resources*
Bachir Souhail, World Bank

DAY 3

- 09.00 – 10.30** **Towards a strategic framework for the agricultural sector**
Chairperson: Gary Howe
J. Collins, Institute for Food and Development Policy/Food First
J. du Guerny, Resource person
G. Rugalema, UNAIDS/UNDP
Janet Seeley, School of Development Studies
D. Topouzis, Resource person
- 10.30 – 11.00** *Coffee*
- 11.00 – 12.30** **Towards a strategic framework for the agricultural sector continued**
Discussion
- 12.30 – 14.00** *Lunch*
- 14.00 – 15.00** **In support of the strategic framework**
Chairperson: Jeremy Stickings, Rural Livelihoods Dept, Department for International Development (DFID)
Interagency collaboration
Daphne Topouzis
Agricultural research initiatives
Stein Bie, International Service for National Agricultural Research (ISNAR)
The role of information networks
Tim France, HDnet
Discussion
- 15.00 – 16.00** Conclusions and closure

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