HIV/AIDS AND AFRICAN AGRICULTURE AT CROSSROADS: CHALLENGES AND THE SEARCH FOR AGRICULTURAL DEVELOPMENT ALTERNATIVES IN AFRICA

BY

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Abstract

Of the 36.1 million people living with HIV/AIDS, an overwhelming 95 percent live in developing countries. And within those countries, AIDS is becoming a greater threat in rural areas than in cities. Africa accounts for only one tenth of the world's population but nine out of ten new cases of HIV infection. About 83 percent of all AIDS deaths are in Africa, where the disease has killed ten times more people than war. The population aged 15-49 is living with HIV or AIDS and this undermines agricultural systems and affects the nutritional situation and food security of agricultural families. As adults fall ill and die, families face declining productivity as well as loss of knowledge about indigenous farming methods and loss of assets. FAO has estimated that in the 25 most-affected African countries, AIDS has killed seven million agricultural workers since 1985. It could kill 16 million more within the next 20 years. In addition, rural communities bear a higher burden of the cost of HIV/AIDS as many urban dwellers and migrant labourers return to their village of origin when they fall ill. At the same time, household expenditures rise to meet medical bills and funeral expenses, and while the number of productive family members decline, the numbers of dependents grow. These realities endanger both short-term and long-term agricultural development. The impact of AIDS on farming communities differs from village to village and country to country. But it is clear that the epidemic is undermining the progress made in the last 40 years of agricultural and rural development. This poses enormous challenges to governments, non-governmental organizations and the international community. The disease is no longer just a health problem; it has become a major development issue.

The following key points cross-cut the proposed conceptual framework on the implications of HIV/AIDS for agricultural development policy and programming: The causes and consequences of the HIV epidemic are closely associated with wider challenges to development, such as poverty, food and livelihood insecurity, gender inequality, etc. In areas heavily affected by HIV/AIDS, the catalytic effects and systemic impact of the epidemic on agricultural development may amplify existing development problems to such an extent as to trigger structural changes (i.e. in adult and infant mortality); and/or create new problems and challenges for agricultural development (child-headed households, the breakdown of informal agricultural institutions and thus of certain vital social safety net mechanisms). Given that many problems arising from the epidemic are not specific to HIV/AIDS, policy and programme responses need not necessarily be HIV/AIDS-specific but must address the root causes and consequences of the wider challenges to agricultural development. In other words, a developmental rather than an AIDS-specific focus is critical to tackling the multi-sectoral complexity of the epidemic and its systemic impact and to ensuring the sustainability of both HIV/AIDS responses and agricultural development efforts. The policy environment plays a key role in defining the parameters of susceptibility/vulnerability to HIV/AIDS and of the impact of the epidemic. Gender, age and marital/family status play as decisive a role in determining susceptibility/vulnerability to HIV/AIDS and the potential impact of the epidemic as economic and cultural conditions. For this reason, the interplay between these factors needs to be considered at each stage of policy and programme development. Agricultural development policies and programmes in support of poverty alleviation, food and livelihood security, the empowerment of rural women, etc. are in effect, also HIV prevention and AIDS mitigation measures and vice versa. While agricultural development programmes can be integrated with HIV/AIDS prevention and mitigation
programmes, HIV/AIDS-specific policies and programmes have an important complementary role to play in agricultural development.

1 INTRODUCTION
There is hardly need these days to repeat that HIV/AIDS is devastating African societies and economies, threatening the hard won human development gains of the past several decades. Without decisive action, other developing and transitional societies are at risk of gaining similar experience. AIDS is a development problem, not just a health issue and has become a mantra in recent times, but what does it mean in practice? The changes to the development landscape wrought by AIDS demand a review of existing development actions at many levels, from households seeking to secure viable livelihoods, to policymakers attempting to better understand and internalize the implications of AIDS for their own sectoral goals and strategies. Though one of the UN Millennium Development Goals is to “combat HIV/AIDS, malaria and other diseases”, it is increasingly clear that – unless AIDS is brought under control – most, if not all, of the remaining outcome goals are unlikely to be achieved. A truly multi-sectoral approach to addressing HIV/AIDS in the context of people’s livelihoods is essential.

There are common features concerning HIV/AIDS epidemics but there is also important variation. One common feature is that HIV/AIDS epidemics are long-wave phenomena, though the fact that there are several waves of HIV infection, opportunistic infections, AIDS death followed by the impact wave may be less well understood. A few countries appear to be over the peak of the first wave, including Uganda, the eastern and southern and to a lesser extent, West and Central African regions. This fourth wave, which may include social and political destabilization, will engulf countries for decades to come. It will demand massive responses at many levels.

While HIV/AIDS is now global in its spread and devastating where it becomes generalized, it is important not to lose sight of the fact that what we confront is not a single uni-causal epidemic but many differentiated ones. The determinants of HIV’s spread are rooted in poverty and in inequality, and these create local situations of risk (Farmer, 1999). Infection rates and trends are sometimes found to vary dramatically, often over quite short distances (Ngwira et al, 2002). The patterns of population movement and interaction, the locales where sex is transacted that determine risk are diverse in nature and may change with time. Access to food and livelihoods are often fundamental to people’s choices. Similarly, the consequences of AIDS-linked illness and death, which reverberate through households, extended families, communities and beyond, are shaped by features of agricultural and livelihood systems -- for example access to labor-saving technologies or the nature of social safety nets -- and by pre-existing patterns of food insecurity.

Not only is HIV/AIDS variable in time and space, it is also affected by a range of actions and interventions. HIV is not an exogenous force, like a cyclone, but endogenous to livelihood and agricultural systems that are shaped by human actions at many levels. “We are all affected” is a common slogan. But it is equally true that we all affect. Policies and programs of many sorts affect -- for example, patterns of movement and access to livelihood alternatives -- and hence may influence, positively or negatively, people’s susceptibility to HIV or their vulnerability to AIDS’ consequences. Not all these links are immediately obvious; indeed some may be counter-intuitive. For example, stimulating the creation of labour-attracting rural industries and plantations that exploit local comparative advantages and resources has been a pillar of development policy for decades. That the programs that pursue it may inadvertently create
conditions that hasten the spread of HIV in rural areas and ultimately do more harm than good may not be an easy idea to get one’s head around.

To confront vector-borne diseases like sleeping sickness (trypanosomiasis) or river blindness (onchocerciasis), diseases that have added greatly to the burden falling on rural Africans and obliged them to alter the way they use the land, the knowledge that needs to be fostered is of a specific kind. These diseases are restricted to particular habitats and habitat conditions and affect particular groups disproportionately. But generalized epidemics require generalized understanding. Because the situations of HIV/AIDS risk are widespread, shaped by diverse and locally specific factors and influenced by many persons’ actions, a broad range of people acting at different levels need to become more conscious of how what they do may be enhancing or reducing risks. They will need more than simple messages and guidelines to be effective. They must be able to look at situations – the features of food insecurity in an area for instance – and their own actions (e.g. marketing policies in the case of a Ministry analyst or the management of local grain banks for a community group) and assess how they are relevant to HIV/AIDS risks. The task of nurturing that broad-based capacity seems daunting but we are by no means without examples and experience on which to draw. This paper emanates from these challenges and is structured to examine the implications of the HIV epidemic for agricultural development policies and programmes in sub-Saharan Africa and, in particular: the inter-relationships between agricultural development and HIV/AIDS; the broad policy and programming challenges that the epidemic poses for agricultural institutions and more importantly alternative policies and programmes to enhance agricultural development in the midst of the pandemic. The proposed conceptual framework for the identification of key policy and programming issues for agricultural development raised by HIV is intended to provide guidance for the design and implementation of development policies by both institutions and to generate policy and programme responses to the HIV epidemic (in the areas of land tenure, agricultural research, training and extension, appropriate technology, credit, etc.). To achieve the above, data is drawn from secondary sources and a qualitative methodology is adopted for simplicity purpose.

2.0 IMPACT OF THE PANDEMIC ON AGRICULTURE
In many African countries, farming and other rural occupations provide a livelihood for more than 70 per cent of the population. Hence, it is to be expected that the HIV/AIDS epidemic will cause serious damage to the agriculture sector in those countries, especially those that rely heavily on human power for production. This section explores the issues related to the impact of HIV/AIDS on agriculture. Firstly, a conceptual framework for analysis of the impact of HIV/AIDS on agriculture is presented together with empirical evidence from some countries on the impact of the pandemic on agriculture.

2.1 Conceptual Framework for Assessing the Impact of HIV/AIDS on Agriculture
This framework can be illustrated by the flow diagram below.
From the above illustration, HIV/AIDS can affect agriculture in many ways:

- Absenteeism caused by HIV-related illnesses and the loss of labour from AIDS-related deaths may lead to the reduction of the area of land under cultivation and to declining yields resulting in reduced food production and food insecurity.
- The loss of labour may also lead to declines in crop variety and to changes in cropping systems, particularly a change from more labour-intensive systems to less intensive systems. Livestock production may become less intensive and weeding and pruning may be curtailed. A shift away from labour-intensive crops may result in a less varied and less nutritious diet.
- The reduction in labour supply through the loss of workers to HIV/AIDS at crucial periods of planting and harvesting could significantly reduce the size of the harvest, affecting food production.
- Loss of knowledge about traditional farming methods and loss of assets will occur as members of rural households are struck by the disease and are not able to pass on their know-how to subsequent generations.

Source: United Nations, Department of Economic and Social Affairs, Population Division.
• Loss or reduction of remittances is likely to occur in areas where agricultural workers send money home while working abroad. When the workers become sick, they can no longer earn money to send home. Consequently, the important impacts of the HIV/AIDS epidemic on agriculture are food insecurity caused by the reduction of production, and loss of income from household members employed in the sector. This therefore affects all components of food security (i.e. availability, access and utilization).

The HIV/AIDS epidemic will also affect the traditional coping mechanisms that are often found in rural areas. Traditionally, local residents always joined together to offer assistance to those in need during periods of shock or crisis. Indeed, community-based initiatives have become one of the outstanding features of the epidemic and a key coping mechanism for mitigating the impact of HIV/AIDS (UNAIDS, 2002). However, as the number of HIV/AIDS cases increases, the need for assistance may overwhelm the support system, and traditional coping mechanisms have begun breaking down.

2.2 Empirical Evidence of the Impact of HIV/AIDS on Agriculture

Many of the studies assessing the impact of HIV/AIDS on agriculture have been conducted under the auspices of the Food and Agriculture Organization. Of the AIDS impact studies conducted so far, the majority have dealt with the rural world, that is, agriculture and livestock.

2.2.1. Impact on Food Security and Changes in Cropping Patterns

One of the main impacts of HIV/AIDS on agriculture is its impact on food security. For example, a survey carried out in 1997 in Zimbabwe, a country with an adult prevalence rate of more than 25 per cent, estimated that there is significant production loss in AIDS affected households. The survey, conducted by the Zimbabwe Farmers’ Union, found that agricultural output declined by nearly 50 per cent in the households affected by AIDS (Kwaramba, 1997). Maize production by smallholder farmers, and commercial farms declined by 61 per cent as a result of illness and deaths from AIDS (table 1). These production losses could result from a number of factors, including shifting production patterns, labour shortages and so on. However, according to Kwaramba, at that time the Zimbabwe data did not indicate a dramatic switch from tradables to subsistence crops.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Production loss (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize</td>
<td>61</td>
</tr>
<tr>
<td>Cotton</td>
<td>47</td>
</tr>
<tr>
<td>Vegetables</td>
<td>49</td>
</tr>
<tr>
<td>Ground nuts</td>
<td>37</td>
</tr>
<tr>
<td>Cattle</td>
<td>29</td>
</tr>
</tbody>
</table>


By contrast, in Côte d’Ivoire, a 1997 study found that switching to food crops rather than tradables crops led to a drop in production by two thirds of previous levels (Black-Michaud, 1997). In addition, reduced remittances resulting from illnesses or deaths of migrant workers were found in Burkina Faso, whose nationals migrate to Côte d’Ivoire as seasonal agricultural
workers. In a study conducted in Burkina Faso in 1997, it was found that in two villages, Sanguié and Boulkiemdé, shifting work patterns and an overall reduction in food production had occurred as a result of the HIV/AIDS epidemic. The same study found that net revenues from agricultural production had decreased by 25 to 50 per cent (FAO, 1997). The Government of Swaziland also reported a 54 per cent drop in agricultural production in households where at least one adult member died from AIDS (\textit{Wall Street Journal}, 9 July 2003).

A study in the United Republic of Tanzania showed that a woman whose husband was sick was likely to spend 45 per cent less time on agriculture than if the husband were healthy. In Kagera, a survey showed that, on average, adults in households that experienced a death spent five hours less on farming during the previous week than those without a death (Mutangadura, 2000). In Kenya, a study found that the commercial agricultural sector was facing a severe social and economic crisis caused by HIV/AIDS (Rugalema, 1999). The loss of skilled and experienced labour to the epidemic is a serious concern. However, it was difficult to quantify the impact of the epidemic in terms of increasing costs. Similar results were got by Ntangsi (2005) in the case of Cameroon. In Namibia, worker-deficient households cultivate less land and have fewer cattle and fewer non-farms-related cash income (Mutangadura and Mukurazita, 1999).

### 2.2.2. Absenteeism and loss of labour

In countries or areas heavily affected by the HIV/AIDS epidemic, the time required to care for the sick and to seek medical assistance often had an impact on time available for agricultural production. The outcome might be less timely farming practices, resulting in reduced yields and, over time, a general decline in household welfare. A study conducted in Ethiopia showed the reduction in agricultural labour time as a result of HIV/AIDS: the number of hours per week in agriculture fell from 33.6 hours in non-afflicted households to between 11 and 16 hours in afflicted households (Black-Michaud, 1997). AIDS is expected to have a greater impact in the future. According to estimates by FAO, between 1985 and 2000, in the 27 most affected countries in Africa, 7 million agricultural workers died from AIDS, and 16 million more deaths were likely to occur in the following two decades. In 12 countries, including the 10 most affected African countries, labour force decreases ranging from 10 to 26 percent are anticipated (table 2).

Namibia is expected to suffer the most in terms of loss of labour force by 2020 (26 per cent of its labour force), followed by Botswana. Another feature of the HIV/AIDS epidemic is that its impact may be observable only when the epidemic reaches the mortality stage of AIDS, with people dying in large numbers. It is therefore important to design measures that allow the prediction of the impact of the epidemic in the future as well as in the present.

<table>
<thead>
<tr>
<th>Country</th>
<th>2000</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namibia</td>
<td>3.0</td>
<td>26.0</td>
</tr>
<tr>
<td>Botswana</td>
<td>6.6</td>
<td>23.2</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>9.6</td>
<td>22.7</td>
</tr>
<tr>
<td>Mozambique</td>
<td>2.3</td>
<td>20.0</td>
</tr>
<tr>
<td>South Africa</td>
<td>3.9</td>
<td>19.9</td>
</tr>
<tr>
<td>Kenya</td>
<td>3.9</td>
<td>16.8</td>
</tr>
<tr>
<td>Malawi</td>
<td>5.8</td>
<td>13.8</td>
</tr>
<tr>
<td>Uganda</td>
<td>12.8</td>
<td>13.7</td>
</tr>
<tr>
<td>United Republic of Tanzania</td>
<td>5.8</td>
<td>12.7</td>
</tr>
</tbody>
</table>
Central African Republic      6.3  12.6
Côte d'Ivoire                5.6  11.4
Cameroon                     2.9  10.7

*Source: FAO, 2001.*

**Table 3: Grain Market Performance for selected African countries**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eastern Africa</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kenya</td>
<td>0.44</td>
<td>-1.04</td>
<td>12.1</td>
</tr>
<tr>
<td>Uganda</td>
<td>2.18</td>
<td>1.29</td>
<td>0.0</td>
</tr>
<tr>
<td>United Republic of Tanzania</td>
<td>2.03</td>
<td>0.00</td>
<td>33.6</td>
</tr>
<tr>
<td><strong>Southern Africa</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malawi</td>
<td>1.83</td>
<td>4.14</td>
<td>18.1</td>
</tr>
<tr>
<td>Zambia</td>
<td>-1.22</td>
<td>-3.63</td>
<td>69.9</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>-1.06</td>
<td>-0.10</td>
<td>2.4</td>
</tr>
</tbody>
</table>

*Source, 2001.*

A study conducted by the United States Department of Agriculture addressed that concern by projecting the impact of AIDS on production (Shapouri and Rosen, 2001). The study found that in the most affected countries in Africa, slow growth in agricultural productivity and the overall economy resulted in growing food insecurity, with a substantial gap between production and needs projected for 2010 in many countries (table 3). Food insecurity is measured by the nutrition gap, which represents the difference between projected food supplies and the amount of food needed to meet per capita nutrition standards at the national level (United States Department of Agriculture, 2001). In Kenya, for example, grain production in 2010 is projected to be 12.1 per cent less than the amount needed (table 3). Increasing reliance on imported grain and food aid will be necessary to meet nutrition requirements (Shapouri and Rosen, 2001).

**2.2.3. Gender implications**

HIV/AIDS frequently has severe consequences for rural widows of AIDS victims. In sub-Saharan Africa and Asia, women contribute to more than half the food production and are usually involved in the most labour-intensive farming activities (UNAIDS, 2002). However, in areas where women are not permitted to inherit property, they may lose access to land and other assets when their husband dies (FAO and UNAIDS, 2003). In some cases, the cultural division of labour makes it impossible for women to assume the farming tasks previously performed by their husbands, and they are forced to abandon farming. Inequality in access to credit, employment, education and information all make women more vulnerable to the negative impacts of HIV/AIDS (Stokes, 2003). Moreover, the stigma of the disease may inhibit widows from seeking community and extended-family support, which are vital safety nets in rural areas.

**3.0 AGRICULTURAL DEVELOPMENT ALTERNATIVES**

In the face of these devastating effects, to target agricultural development so that the Millennium Development Goals can be met in Africa, we need appropriate, adaptable methods and tools to first, help understand the dynamic interactions of HIV infections and AIDS impacts on
agriculture and second to identify appropriate policy and program modifications in the face of HIV/AIDS realities.

3.1 Preventing HIV Infections

HIV prevention has generally been focused on behaviour change (abstinence, faithfulness) and the promotion of condom use. Enhancing life skills, particularly among young adults, has also been a facet of some programs. Unfortunately, we appear to still be years away from an effective and affordable vaccine and from having the means to deliver it widely. It should be pointed out that if and when those advances are achieved, we will still have to deal with the wave of HIV/AIDS impacts resulting from individuals who are seropositive today and those who become so in coming years.

The preceding section suggests broader opportunities for prevention in the area of food security and rural livelihoods. First, those designing and implementing policies and programs in the sector should ensure that these “Do no harm”. Several ways in which they may inadvertently increase susceptibility or undermine resistance were pointed out above. Second and more actively, policies and programs can aim to reduce susceptibility and/or to support resistance to HIV. Among the former would be initiatives to alter situations of HIV risk by, for example:

- Changing the opening and closing times of rural markets to make the trade in sex more difficult, as has been attempted by local government in northern Tanzania (D. Kasongi, ACORD, pers. comm.);
- Providing family accommodation and not only single-sex dormitories for workers on plantations and other rural industries;
- Implementing effective sanctions against those distributing food in famine relief or in camps for the internally displaced who abuse their positions to extort sex (Kisamba Mugerwa and Nduhura 2002).

Support for resistance to HIV can buttress local efforts, making it possible for people to act on what they know concerning infection and its consequences. This may involve expanding livelihood opportunities in and around agriculture, in production or value addition. An illustration of such support by institutions acting at different levels was provided in the last section.

The reader probably noted that the actions themselves were hardly novel: treadle pump irrigation, out-of-season vegetable production and farmer field schools are now practiced in many areas. What would distinguish support to HIV resistance then from any other adaptive research or advisory program that employed these elements? We suggest three aspects are important:

1) It would reach out to those most at risk and ensure that the support provided was relevant and made sense to them, while not excluding others. Often the most susceptible to HIV are young adults – young women in particular – groups that are often left out of conventional extension or even Farmer Field School programs (Loevinsohn et al. 2000). However, local assessment, drawing on local understanding, is essential in order to identify other particularly susceptible groups.

2) It would build on or integrate efforts to enhance the life skills and knowledge of HIV risks of these same people. The links between the food security or livelihood action and risk reduction should be clear and ideally the action would be one that they have prioritized.

3) It would be monitored and evaluated to ensure that the livelihood or food security action was viable and could be sustained and that it permitted those susceptible to escape the HIV risks. This information should be available to those involved in the initiative to enable them to make corrections. It is easy to write this, but the reality is that these two
legs – agricultural sustainability and risk reduction – on which such actions will have to stand have been the concerns of different institutions and sectors. RENEWAL is seeking to enhance the capacity to deal with both sides through the action research it is supporting.

Finally, there are issues that require research a step or two removed from pilot implementation. A number of gaps in understanding have been identified in the previous section that, were they clarified, would permit more effective actions to be mounted. These include clear evidence of the links, positive or negative, between specific agricultural sector policies and HIV risks, and clarification of the contribution to susceptibility and resistance of different agricultural and livelihood systems.

3.2 Treating and Caring for People Living with HIV/AIDS

For persons living with HIV/AIDS (PLWHA), nutritional care and support is critically important in preventing or forestalling nutritional depletion. Relevant specific objectives might include to improve quantity and quality of diet, to build or replenish body stores of micronutrients, to prevent or stabilize weight loss, to preserve muscle mass, to prevent diarrhea and other digestive discomforts associated with fat mal absorption, to speed recuperation from HIV-related infections, and to prepare for and manage AIDS-related symptoms that affect food consumption and dietary intake. Nutritional support has the potential of significantly prolonging the life of individuals for their own benefit and those who are dependent on them for care e.g., young children (Page 2000). Such interventions are likely to have the greatest overall impact early in the course of disease by prolonging the period of relative health with asymptomatic infection (Piwoz and Preble 2000). Unfortunately, relatively few people know they are infected at this time.

Nutritional support needs to go beyond micronutrient supplementation, and even beyond food provision. Nutritional adequacy requires adequate food, health and care (UNICEF 1990). For PLWHA, this means that appropriate treatment of opportunistic infections, stress management, physical exercise, and emotional, psychological, and spiritual counseling and support, for example, are all relevant (Abdale and Kraak 1995), along with conventional approaches such as home-delivered, ready-to-eat foods for homebound AIDS patients who are unable to prepare their own meals. One excellent example comes from the AIDS Support Organization (TASO) of Uganda. In its 17 years experience of supporting PLWHA, TASO has learned of the need to catalyse and support holistic approaches towards ‘living positively’ that revolve around food, health and care provision in the context of increasingly mobilized communities. PLWHA are not patients, they are partners who often become engaged in community awareness-raising on HIV/AIDS (Mukasa Monico 2001).

As well as care, food and nutrition is relevant to treatment. We simply do not know enough about whether, how and to what degree treatment efficacy may be compromised by poor nutritional status. The simple fact that some medicines need to be taken “on a full stomach” may be a problem for many people. Antiretroviral (ARV) drugs are toxic and they may be particularly toxic to someone who is not well-nourished. There are particular effects on bone metabolism (Tebas et al 2000) that may be serious among populations where calcium deficiency is widespread, and there are serious concerns about the development of metabolic disorders in patients on long term ARV therapy (McDermott et al 2001). Moreover, we still do not know enough about the impact of ARVs on milk composition in malnourished lactating women, and about how ARVs interact with specific micronutrient deficiencies. Not only do these questions remain unanswered, many are not even being asked in the debates on ARV access.
3.3 Mitigating AIDS

In rural areas, mitigation has often built on community initiatives to support orphans and others affected by AIDS. Food has been at the heart of these efforts. Rarely, however, have agricultural organizations been involved to help make them more effective and sustainable. The opportunities for agricultural sector organizations to contribute to mitigation include but go well beyond such direct support and are broadly symmetrical to those for prevention. Again, the first concern should be to “Do no harm” through policies or programs that unwittingly increase vulnerability or undermine resilience. For example, laws on inheritance or local customs that fail to protect widows’ continued access to land may leave them more insecure. Policies aimed at settling nomadic pastoralists may inadvertently erode the extensive stock loans and labor exchange characteristic of several East African groups that likely support resilience to AIDS and to other shocks like drought (Sperling 1987). How policies and programs can be improved, taking into account the multiple concerns that often underlie them is taken up in the following section.

More actively, policies and programs can aim to reduce vulnerability and to enhance resilience. Among the opportunities:

1) Food-for-work programs that reach the most vulnerable can also draw on people’s understanding and energy to remove long-standing sources of vulnerability (Kadiyala and Gillespie 2003), for example by building structures to capture rainfall;

2) Extension and advisory programs can ensure that the most vulnerable have access to potentially helpful technologies, such as mosaic-tolerant cassava varieties. There is reason to be concerned that widow-headed households may not be well served by conventional extension (Gilbert et al. 2002) and even by more recent group-based approaches (see further below).

3) Savings and credit programs that are within reach of widows and others affected by AIDS in terms of collateral requirements and repayment schedules may be of real help to them in reconstituting their livelihoods (Parker et al 2000);

4) Initiatives can also serve to bring to light and diffuse “hopeful” innovations by AIDS-affected and at-risk households and communities, which, it was suggested, are likely severely under-reported. RENEWAL is in the early stages of support to such an effort that draws on rural radio.

As with prevention-oriented initiatives, a program that seeks to add mitigation of AIDS impacts to its objectives will need to:

1) Draw on local understanding to identify and reach out to those who are the most vulnerable. What it offers should be relevant and helpful to them;

2) Build on existing local efforts, individual and collective, to mitigate AIDS impacts (this is one way in which the risks of inadvertently exposing those affected or living with HIV/AIDS to stigma and discrimination can be reduced) and

3) Monitor and evaluate progress. The food security or livelihood action should be economically viable and sustainable and contribute to resilience, enabling people to recover quickly in terms of the aspects of well-being they most value.

Again, as with prevention, care and treatment, there are critical gaps in our understanding that constrain more effective action. These are opportunities for research upstream from the operational. Several were suggested in the preceding section. Stakeholders in Malawi and Uganda prioritized a number of these research themes; the action plans they developed can be found at www.isnar.org/renewal.
The above suggests that there are strong similarities between how prevention, care, treatment and mitigation can be supported by agricultural sector organizations. These similarities derive from the systematic links between the causes and consequences of HIV/AIDS that we pointed to in the preceding section. The differences are equally important, however. Crucially, the people most concerned are often not the same. In many cases, poor, young women and slightly older young men are among the most susceptible to HIV. Orphans and widows are often among the most vulnerable to AIDS. They may well be endowed very differently: for example, young adults underemployed but with little access to land; widows with land they cannot till (and often at risk of losing) but with very little time to spare. Those in need of care and treatment are in a particular and precarious situation, but one not without hope as many who are “living positively” are showing.

3.4 Synergies among Prevention, Care, Treatment and Mitigation
The different aspects of the response to HIV/AIDS – prevention, care, treatment and mitigation should not be compartmentalized into hermetically sealed programs. Together they represent a continuum or an inter-linked web of mutually reinforcing responses. Each one is necessary, but insufficient in itself, in the struggle with HIV/AIDS. The inter-connectedness of responses are shown below.

- Treatment can be preventive if the viral load of individuals living with HIV/AIDS can be reduced through treatment, then they will be less likely to transmit the virus in an unprotected sexual encounter, even without any change in their behavior. (Conversely, and ironically, the life-prolonging effect of ARVs increases the time through which an HIV-positive person may expose others to the virus.)
- Care is also preventive. Programs aimed at improving the physical, economic, social and spiritual well-being of people infected or affected by HIV may reduce transmission risk. For example, STD treatment will reduce risk of HIV transmission. Orphans who are cared for by the extended family or community are less likely to engage in risky sexual practices, than if they were left to fend for themselves on the street.
- Care mitigates impacts, while mitigation increases caring capacity. Care and support clearly mitigate individual-level impacts, while other forms of mitigation may improve the capacity to care within households and communities e.g. by freeing up time through labor-saving technologies or practices.
- Mitigation is preventive for those not yet infected in AIDS-afflicted households, and for future generations. To the extent that food insecurity or malnutrition increases HIV susceptibility, mitigating efforts that succeed in combating food insecurity or malnutrition (whether AIDS-induced or not) may reduce HIV exposure. “HIV-sensitive” food and nutrition-relevant programs (that derive from use of an HIV/AIDS lens, described below) may do so even more effectively. If the surviving household members are able to do better than merely survive, they can avoid the most extreme poverty and the necessity to sell sex. If mitigation efforts can help the survivors avoid this downward spiral, then the community as a whole gains a preventive advantage since prevalence is contained, and so the wider risks of exposure.
- At the community level, there may be “positive sum” solutions linking mitigation and prevention. For example, AIDS widows may be left with land holdings that they can no longer cultivate and possibly livestock and other resources that they can no longer manage. They are often at risk of losing them to the husband’s family where the widow’s
inheritance rights are insecure or, if they sell in distress, the price they obtain will be minimal. At the same time, there may be young adults in the community who have no land or livestock of their own; with poor livelihood prospects they may be at heightened risk of HIV-infection. Social innovations that secure the widows’ entitlements, allowing them to exchange a fair share of the production for the young adults’ labor would be of benefit to both.

These opportunities can be grasped when they are recognized. This requires understanding of the underlying links between HIV/AIDS on one side and food security, nutrition and livelihoods on the other. It also requires a space or a forum where the different interests can be represented and possibilities discussed. Decosas (2001) and others refer to the capacity to recognize and act on the links among prevention and mitigation as “community HIV/AIDS competence”. Individuals and communities, however, can only do so much on their own. They need the support of HIV/AIDS competent institutions, sub-national, national and international.

4.0 CONCLUSIONS

The evidence with respect to the impact of HIV/AIDS on agriculture remains scattered and incomplete. Moreover, little is known about the effects of the epidemic over time. Nonetheless, the current evidence demonstrates that HIV/AIDS is having a crushing effect on agricultural production and the economic viability of AIDS-affected households in diverse areas of Africa. The future impact of HIV/AIDS on agriculture will depend, among other things, on finding ways to reduce the amount of labour required, including introducing less labour-intensive methods of production and increasing yields with non labour inputs. In many of the countries most affected by HIV/AIDS, the agriculture sector was already under stress from desertification and government neglect of the traditional farming sector. The epidemic is therefore intensifying labour shortages, increasing malnutrition and adding to the burden of rural women, especially those who head farm households.

In a situation where HIV/AIDS is seriously eroding, and often tearing apart, the social and economic fabric of countries, sewing on patches is just not enough. The entire weave of the fabric needs to be strengthened. This will require responses that are not only multi-sectoral but multi-level – from the rural farmer adopting and adapting livelihoods to reduce risk, to national policy makers embarking on a comprehensive review of the AIDS-relevance of existing development policy.

The linked concepts of resistance and resilience need to become grounded in processes of understanding and responding at all levels. Ultimately, a better understanding of what determines resistance and resilience at different levels and for different people, will point to clear options for effectively responding. An actor-oriented, innovation perspective is needed to counteract the widespread hopelessness deriving from ‘doom and gloom’ broad-brush prophecies of livelihood collapse. Much positive experience does exist, and this needs to be documented, disseminated and learnt from.

One major set of responses is required from the agriculture sector, as the need to secure and provision food for populations affected by HIV/AIDS is rapidly increasing as the impact waves hit. Food is often the first priority of people affected by the pandemic. We are also beginning to learn more about the crucial role of nutritional status – both in terms of susceptibility to HIV infection and transmission and in terms of the quality and quantity of life of HIV-positive individuals.
A change is required in attitudes and consciousness of what HIV/AIDS is doing at different levels and the pathways through which it moves through societies. Such a new awareness may be facilitated by the use of an HIV/AIDS lens – essentially a tool for reviewing situations and development actions from the perspective of our evolving knowledge of AIDS interactions.

References


