

UNDERSTANDING THE LINKS BETWEEN AGRICULTURE AND HEALTH

Agriculture and HIV/AIDS

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Agriculture is the main source of livelihood of the majority of people affected by HIV and AIDS globally, and it is being progressively undermined by the disease. In Sub-Saharan Africa AIDS is affecting the rural landscape in ways that demand a rethinking of development policy and practice, and parts of South Asia may soon face a similar situation.

Not only does HIV/AIDS affect agriculture, but agriculture also affects HIV/AIDS. The figure shows the dynamics of household and community interactions with HIV/AIDS as an iterative cycle, with HIV/AIDS affecting and being affected by people's livelihoods. The risks people face of contracting HIV will be governed partly by the *susceptibility* of the livelihood system upon which they depend. After HIV has entered a community, the type and severity of its impacts on assets and institutions is then governed by the *vulnerability* of the system. These impacts will in turn determine the responses that households and communities adopt to deal with this threat—responses that lead to certain outcomes (nutrition and food security being among them) that themselves condition future susceptibility and vulnerability. And so the cycle turns.

Mobility is another marker of increased risk. Many of the points of intersection between households and services represent conduits for the spread of infection into or out of communities. Migration, an important consequence of unequal socioeconomic development between urban and rural areas—and one that may be associated with low-productivity agriculture—has been long known to be an important factor in HIV transmission.

On the downstream side of HIV infection, the threat that HIV/AIDS poses for food security was first recognized in the late 1980s. Many studies in Sub-Saharan Africa have since shown that subsistence farmers are vulnerable to the impacts of AIDS because the disease reduces the resources that households can devote to agriculture. Labor loss occurs not only as a result of sickness and premature adult death, but also as a result of its reallocation to nurse the ill, while working capital is siphoned off to pay mounting medical bills.

The specific levels and types of vulnerability depend on the characteristics of livelihoods and farming systems. The most vulnerable farming systems in Rwanda, for example, have been characterized as those with high seasonal labor demand, significant specialization by age and sex, high interdependence of labor inputs, increasing

returns to scale of labor, and low substitutability of labor for capital. In one study in Kenya, the death of a male household head was associated with a two-thirds reduction in the value of a household's per capita crop production; adult female mortality caused a greater decline in the cereal area cultivated, whereas cash crops and nonfarm income were most adversely affected in households incurring a prime-age male adult death. In another study in Mozambique, cash constraints were more significant than labor shortages.

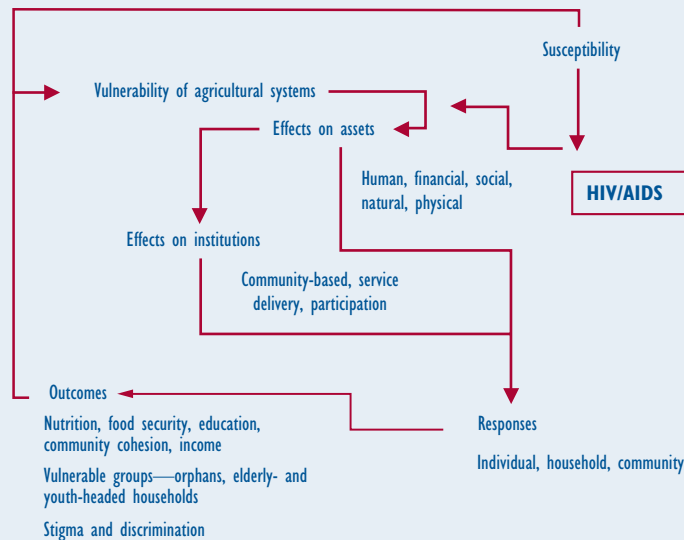
HIV/AIDS has also profoundly affected commercial agriculture, and there is increasing evidence that companies are shifting the costs it entails (replacement worker costs, paid sick leave, lost wages, and productivity losses) to employees in a variety of ways. Agricultural extension is being hit hard too, by the sickness and death of extension agents who are at particular risk because of their mobility.

At more aggregate levels, as rural communities with high HIV prevalence face increased labor shortages, widespread reductions in household incomes and increased cash constraints may also depress demand for labor and nontradables. There

is some evidence from Malawi that reductions in labor demand may lead to wage declines, posing serious problems even for poor households not directly affected by AIDS.

For poorer smallholder households, the primary constraints on rural productivity and livelihoods may be land and cash rather than labor. A study in western Kenya, for example, found a variety of impacts on rural agricultural households struggling with the illness or death of an adult. Total household expenditure for death-affected households was US\$462 per year, compared with US\$199 for illness-affected households and just US\$21 for non-affected households.

Understanding HIV/AIDS in the Context of Agricultural Livelihoods



HOW HIV/AIDS INTERACTS WITH AGRICULTURE

First, on the upstream side of infection, it is clear that inequalities of several sorts—gender, socioeconomic, class, caste, and religious—are central to the risks people face. Gender inequity, for instance, shapes power relations, sexual relations, and access to resources, opportunities, and assets, including land. Recent research by the Regional Network on HIV/AIDS, Rural Livelihoods and Food Security (RENEWAL) has shown in Malawi that when agriculture fails to provide a livelihood, poor women may resort to transactional sex that drastically increases their risk of becoming infected.

Illness-affected and death-affected households spent 56 percent and 61 percent, respectively, of the amount spent on agricultural inputs by non-affected households.

The impacts of HIV/AIDS on agriculture (and indeed other sources of livelihood) are not one-time events. They are processes, often hidden and slow-burning but potentially very destructive. They are also context-specific, differing by community and by household in type and degree, and they depend on a range of demographic, economic, and sociocultural factors and processes. Impacts may also be revealed in people's responses, and these too differ in effectiveness and sustainability. Some actions may be characterized as coping and demonstrating resilience; others are clearly taken under extreme duress and are not sustainable.

HOW CAN AGRICULTURE RESPOND?

Because agriculture is the fundamental livelihood base of most people affected by HIV/AIDS and because food security is an increasing concern to them as impact waves hit, there is a real need for the agricultural sector to take a proactive stance in the face of the epidemic. If agriculture is to remain an effective source of livelihoods in the face of high HIV prevalences, stakeholders (from farmers to policymakers) need to progressively re-view agricultural situations through an HIV lens in order to respond more effectively.

How does an agricultural policy or program developed using an HIV lens differ from one that was not? An HIV lens would, for example, cause an agricultural commercialization policy to take account of the extra risks posed by evening markets and the need for people to travel far to sell their produce. In another example, in Lesotho, instead of pursuing an add-on activity such as distributing condoms along with agricultural extension messages, the Ministry of Agriculture and CARE are now focusing on improving the food and nutrition security of HIV-affected households and those struggling with other shocks and stresses of poverty.

Another interesting example is Swaziland's Indlunkhulu initiative. Indlunkhulu refers to the tradition of distributing food from the chief's fields to members of the community who are unable to support themselves. In Swazi law and custom, chiefs are responsible for the welfare of orphans within their area. Agricultural policy has built on this practice to provide a sustainable mechanism for delivering food to orphans and vulnerable children, providing initial agricultural inputs for the Indlunkhulu fields, and developing the agricultural skills of older children who work in them.

Agricultural knowledge can also be preserved through the development of HIV-aware and gender-proactive agricultural extension capacity. Farmer life schools, as pioneered in Cambodia and adapted in Kenya and Mozambique, can be developed to bridge gaps

Research Gaps on HIV/AIDS, Food Security, and Agriculture

Although researchers are learning a great deal about the dynamic interactions between HIV/AIDS, food security, and agriculture, gaps remain in our understanding and in our options for responding. Below are some of the key questions identified by participants at the International Conference on HIV/AIDS and Food and Nutrition Security, organized by IFPRI in April 2005 in Durban, South Africa:

- What is the role of poverty and food insecurity in driving risky behaviors? How prevalent is transactional sex, and how closely is it linked to food poverty? Is food insecurity a major determinant of migration, and are migrants at heightened risk of being exposed to HIV? Can efforts aimed at enhancing the food security and livelihood options of susceptible groups, such as agricultural development programs, make a cost-effective and timely contribution to preventing the spread of HIV?
- How does HIV/AIDS—as a source of vulnerability to food and nutrition insecurity—interact with other sources of vulnerability? Why are certain households vulnerable, and conversely, why are certain households more resilient than others in similar situations?
- Many of the food responses to date have revolved around delivery of food aid. What are other longer-term options for ensuring nutrition security within affected communities? Does nutrition offer an entry point for forging better links between public health and agricultural responses to AIDS?

in intergenerational knowledge transfer. Capacity constraints may be bypassed through better communications, such as rural radio.

There is clearly tremendous scope for agricultural policy to become more HIV-responsive, both to further AIDS-related objectives and to help achieve agricultural objectives. Yet there are no magic bullets. Land-labor ratios and the relative degree of substitutability between household resources, among other factors, will determine the possible responses to HIV/AIDS. If policy becomes more HIV-responsive, it will stay relevant and effective. By mainstreaming HIV/AIDS into the policy process and carefully monitoring the results, policymakers will help build up evidence of what works in different contexts, enhance learning, and ultimately leave people better equipped to address the multiple threats of the pandemic. ■

For further reading see S. R. Gillespie and S. Kadiyala, *HIV/AIDS and Food and Nutrition Security: From Evidence to Action, Food Policy Review 7* (Washington, DC: IFPRI, 2005); T. S. Jayne, M. Villarreal, P. Pingali, and G. Hemrich, "HIV/AIDS and the Agricultural Sector in Eastern and Southern Africa: Anticipating the Consequences," *ESN Discussion Paper* (Rome: Food and Agriculture Organization of the United Nations, 2005).

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