FOOD SECURITY AS A RESPONSE TO AIDS

by Stuart Gillespie and Lawrence Haddad

The HIV/AIDS pandemic in Sub-Saharan Africa has become increasingly intertwined with issues of food and nutrition. On the one hand, malnutrition and food insecurity may force households to adopt livelihoods that increase the risk of HIV transmission, such as migration to find work. On the other, HIV/AIDS may precipitate or exacerbate malnutrition and food insecurity.

The Vicious Cycle: HIV/AIDS and Malnutrition

HIV/AIDS has direct impacts on nutrition for the individual, the household, and the community. HIV infection, compounded by inadequate dietary intake, rapidly leads to malnutrition. Persons living with HIV have higher than normal nutritional requirements: up to 50 percent more protein and up to 15 percent more calories. Yet they are likely to suffer loss of appetite and anorexia, thus reducing dietary intake at the very time when nutritional requirements are greatest.

Such interactions have grave consequences for the poor, who are more likely to be malnourished before they become infected. Malnutrition in turn shortens the asymptomatic period of HIV infection, hastens the onset of AIDS and ultimately death, and may also increase the risk of HIV transmission from mothers to babies.

Conversely, the onset of full-blown AIDS, and even death, may be delayed in well-nourished individuals who are living with HIV. Diets rich in protein, energy, and micronutrients can help prevent opportunistic infections.



Mother-to-child or vertical transmission of HIV—which may occur during pregnancy, at birth, or through breastfeeding—is a major nutrition issue. Recent studies in South Africa confirm that there is no significant difference in HIV transmission between babies who were exclusively breastfed by HIV-positive mothers for the first three months of life and babies who were never breastfed. Exclusive breastfeeding decreases exposure to dietary antigens and environmental pathogens that occur with the premature introduction of other foods and liquids, such as formula. The intestinal irritation and inflammation that may result allows direct contact of the virus with the infant's bloodstream. Exclusive breastfeeding for the first six months of a child's life should still be promoted.

HIV/AIDS also has important indirect impacts at the household and community levels. These may be brought about, for example, by a diminished capacity of adults to care for themselves, their young children, or sick household members.

How HIV/AIDS Impacts Agriculture and Other Livelihoods

When HIV/AIDS strikes, it strips away assets of all forms—human, financial, social, physical, and natural (see sidebar). Human capital is the first casualty. Infected individuals die prematurely, before which their productivity declines progressively as they succumb to opportunistic infections.

One strategy for the agricultural sector in areas hit hard by HIV/AIDS is to reduce the amount of work necessary to raise crops. For the majority of rural populations with high HIV-prevalence in Sub-Saharan Africa and elsewhere, farming systems that are less dependent on labor will be more resilient to HIV/AIDS morbidity and mortality, at least in the short term. But there are trade-offs. For example, the fact that the cultivation of tubers is less labor intensive than other staple crops may be beneficial in the short term, but tubers happen also to be less nutritious. This may seriously compromise long-term nutritional status—unless other means to ensure dietary diversification are found.

HIV/AIDS has serious consequences for the commercial agricultural sector as well as for subsistence farmers. The commercial sector may depend on migrant labor, a group that is at high risk of exposure to HIV, especially if the laborer lives apart

Possible Impacts of HIV/AIDS on Agriculture-Dependent Households

- Adult becomes sick.
- S/he reduces work.
- Replacement labor is "imported," perhaps from relatives.
- All adults work longer hours on the farm.
- Healthcare expenses rise (e.g., drugs, transport).
- Household reduces food consumption.
- Household switches to less labor-intensive crops and farming systems, small livestock.
- Nutritional status of sick adult deteriorates.
- Sick adult stops work.
- Family members spend more time caring for sick adult, less time on childcare.
- Divisible assets (e.g., livestock) are sold.
- Debts increase.
- Children drop out of school to help with household labor.
- Sick adult dies.
- Household incurs funeral expenses.
- Household may fragment as other adults migrate for work.
- Household reduces cultivation of land; more is left fallow.
- Inappropriate natural resource management may lead to increased spread of pests and disease.
- Effects of the loss of farming knowledge intensify.
- Mining of common property resources increases.
- Access to household land and property (particularly for surviving widows) may be affected.
- Solidarity networks are strained, possibly to the point of collapse.
- Surviving partner becomes sick.
- Downward spiral accelerates.

Source: Gillespie, S., L. Haddad, and R. Jackson. (2001). HIV/AIDS, Food and Nutrition Security: Impacts and Actions. In: *Nutrition and HIV/AIDS*, Nutrition Policy Paper No. 20. ACC/SCN: Geneva.

from his or her family. Conversely, the commercial sector could serve as a conduit for information and training on prevention, and might also provide opportunities for youth to learn essential agricultural skills.

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The full impact of HIV/AIDS on human capital goes well beyond the large number of workers lost to premature debility and death. HIV/AIDS diverts the labor of healthy individuals to other crucial activities, such as caring for the sick and attending the funerals of those who have died. It also drastically abbreviates the ability of parents and other elders to transfer knowledge, both within their own generation and to the next. Young people lose their role models and primary educators. Children cannot draw on the body of knowledge that dies with their parents. Nor can they learn by doing under the guidance of someone more experienced.

HIV/AIDS impairs the ability of children to acquire and use information through formal education, as younger generations are pulled out of school to bolster the family's ability to provide care for the ill, to maintain its current livelihood, or to develop new livelihoods. Depriving children of an education exemplifies the dilemma of the ultimately destructive "coping strategy." Tomorrow's livelihoods are sacrificed in order to survive today.

HIV/AIDS damages financial capital in a number of ways. Drug, burial, and related transport expenses strain already limited family budgets. In terms of financial capital services (credit, savings, and insurance), poor families either have to borrow money or sell stores of value (jewelry and livestock) and assets (equipment or tools). The poor invariably rely on informal credit at high interest rates or on group-based micro-finance services, both of which are vulnerable to aggregate shocks. A family affected by HIV/AIDS is less able to avoid default, and hence is less attractive to group-based liability schemes. The ability of microfinance institutions to respond to the changing needs of their clients will be crucial.

To defray large health and funeral expenses, poor families may sell productive equipment or mortgage land. Health infrastructure for the poor, if it exists at all, is overwhelmed as medical personnel sicken and die while demand for health services increases. As time becomes an ever-scarcer commodity in high prevalence areas, access to water and energy sources must be improved. This is critical, since these activities are socially determined to be the responsibility of women, who most often care for their family members, even when they themselves are sick.

HIV/AIDS may also undermine the ability of communities and user groups to pool risk and act collectively to manage common property, such as rangeland, cropland, and river basins, in a sustainable manner. Clear and equitable delineation of property and land rights becomes more important for individuals who leave their homes to search for alternative livelihoods or to help friends and families outside of their community. If

dwelling or land rights are linked to physical presence, property rights might be impaired, especially if widows and orphans are the primary claimants.

Social capital—the strength of associational life, trust, and norms of reciprocity—may be undermined by HIV/AIDS in several ways. Younger generations are not able to witness farming practices or experience the informal exchanges of knowledge, tools, and animal draught labor that occur under normal circumstances. Incentives for coordinated group action may be diminished because people discount the future benefits of such action. Formal institutions that also contribute to social capital formation, such as church groups, sports clubs, and professional associations, will be weakened as members die. Social networks whose members are highly mobile or live in urban areas will be more susceptible to HIV/AIDS. And finally, social capital may be weakened as existing networks ostracize people stigmatized by the disease.

Using an HIV Lens

HIV/AIDS has finally been recognized as a major global developmental crisis, not just an isolated health problem. Responses need to be commensurate with the scale of the pandemic—not only in terms of the coverage of those affected, but also with regard to the breadth and depth of sectoral involvement needed to address the wide-ranging impacts described above.

But how can HIV/AIDS be effectively mainstreamed into development policy? Advocacy clearly is key—both to communicate the dire consequences of a business-as-usual approach and to point to what works and where in prevention, care, and mitigation. An "HIV lens" is a useful conceptual tool to help understand appropriate policy and program modifications in the face of HIV/AIDS realities. Not everything will need to change, and it is important to avoid re-inventing the wheel. But a hard look is needed to reveal what needs to be done by different sectors to help stall the pandemic. Just as combination drug therapy revolutionized the effectiveness of HIV treatment, so too can combination prevention and mitigation stop the disease's spread and lessen its impacts.

Re-viewing Nutrition Policies and Programs

The notion of multiple responses will be familiar to many who have supported community-driven nutrition programming in the developing world. To sustain improvements in nutrition, it is usually important to build partnerships and foster convergence of relevant programs. But nutrition programs have always been vulnerable to bureaucratic inertia and compartmentalized



organizational structures that offer few incentives for integration. A single nutrient focus has generally been preferred. Witness the prominence of vitamin-A capsule distribution and salt iodization during the 1990s, which, though successful, did to some extent crowd out other, longer-term holistic approaches to nutrition.

While micronutrient supplementation (particularly vitamin A) will certainly have a role in providing nutritional support to people living with HIV/AIDS, food is a crucial requirement—not least because the disease significantly raises energy and protein requirements that cannot be met by pills alone. For individuals living with HIV/AIDS, nutritional care and support—in the form of the essential food, health, and care ingredients of good nutrition—is necessary to prevent or forestall nutritional depletion. Nutritional support has the potential to prolong the asymptomatic period of relative health and ultimately prolong the lives of individuals, for their own benefit and for the young children who depend on them.

Outside the clinical setting, how can interventions target beneficiaries in ways that do not stigmatize them? Targeting to affected communities, rather than to households, is likely to work best, with a second tier of targeting to young children and pregnant women, who are particularly susceptible and vulnerable at various stages in the life cycle.

When applying the HIV lens, program design may need to change to some degree. For example, the promotion of breastfeeding and complementary feeding should lay particular emphasis on the dissemination of clear information to policymakers, health providers, and communities about mother-to-child transmission, including the risks and benefits of breastfeeding. Such programs need to anticipate the fact that HIV/AIDS-affected households will have increased time and economic constraints for the provision, preparation, and feeding of appropriate complementary foods. Programs to address women's nutrition may not require substantial content changes, but they will need much greater support overall, especially for breastfeeding women.

HIV/AIDS-related nutrition programming should be not just community based, but as community driven as possible. Process is thus a major consideration. At the community level, the key is to create space and develop capacity for an iterative process of assessment, analysis, and action.

Re-viewing Agricultural Policies and Programs

The options for policy and program response in agriculture can be grouped around the main impacts of AIDS: lost labor, lost knowledge, and weakened insti-

tutions. These tend to be most noticeable after the initial phases of the epidemic. Whenever asset depletion is the short-term response, these losses may be compounded in a downward spiral.

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Discussion of HIV/AIDS issues can and should be included in agricultural services provision. For example, integrated pest management (IPM) programs in southern Africa and Southeast Asia have incorporated information on HIV prevention, care, and mitigation into IPM training. Scarce extension resources may need to be targeted to higher-risk groups, such as seasonal agriculture and estate workers, and fishermen. Perhaps the most profound challenge to the agriculture sector in countries threatened by HIV/AIDS is the need to develop agricultural and natural resource management systems that require less labor and use fewer purchased inputs while still supporting sustainable livelihoods. In the absence of new technology and techniques, farmers are switching to feasible low-input, low-output farming. This move is unlikely to be a sustainable solution if productivity drops over time. The agricultural research community must develop farming practices that adapt to the reality of HIV/AIDS and yet maintain productivity levels. Farmers should be more involved in research planning and implementation. The development of lighter-weight ploughs for use by women and youth is one example of such a technological adaptation to this new environment.

Some approaches already respond to the reality of HIV/AIDS and its impacts. To combat information and knowledge losses, farmer field schools employ experienced farmers to share their knowledge with youth and widows. An initiative in Zimbabwe involves participatory training for women widowed by AIDS in the production of cotton, a crop normally grown by men. Extension services, themselves severely depleted by the epidemic, must focus more on youth. Recent research has emphasized the importance of trader-farmer information exchange and of other social relations and networks that embody reciprocity based on trust. HIV/AIDS can undermine this form of social capital. Mobile traders are relatively susceptible to HIV/AIDS and, given the already thin nature of agricultural markets in many parts of Sub-Saharan Africa, the consequences are likely to be serious. We need to support these networks.

Recent experiences from some of the severely HIV-affected countries have demonstrated that microfinance institutions can innovate and develop products to meet the needs of this emerging clientele. The role of such institutions and the NGO community that helps animate them will be crucial in the new HIV/AIDS battlegrounds of South and Southeast Asia, where so much microfinance innovation has already taken place.

Successful efforts to strengthen the institutions that support farming in the face of HIV/AIDS are difficult to find. An important first step is to improve the access to HIV-prevention information and technology for members of such institutions. Second, it will be necessary to assess the institutional strengths and weaknesses before considering appropriate approaches to sustaining and enhancing the capacity to respond to the pandemic.

Mechanisms for sharing information and for giving those on the frontline a voice have to be found. This is the first priority.

Priorities for Research

Given the scale of the pandemic, the research base upon which HIV/AIDS impacts are assessed and interventions for prevention and mitigation are evaluated is remarkably narrow. A small number of good studies have been published in refereed journals, and more exist in the unpublished literature. But many experiences are not reaching as wide an audience as they need to. Innovative practitioners have little incentive to document their experiences, given the complex environment within which they work. In addition, the silence surrounding HIV/AIDS may mute demand for such information. Mechanisms for sharing information and for giving those on the frontline a voice have to be found. This is the first priority.

Other priorities include the need to develop and apply tools for the rapid assessment of capacity, to undertake more basic research on the dynamics of impacts at the household, community, and meso-levels, and to review existing food and nutrition policies and programs through the evolving HIV lens in order to seize opportunities for mainstreaming HIV/AIDS prevention and mitigation. The work must be timely and action-oriented for advocacy and ethical reasons, but it must conform to high scientific standards—a difficult but not impossible challenge.

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IFPRI's HIV/AIDS Initiative

Since 2000, IFPRI has been working with ISNAR and local partners on *HIV/AIDS, Food and Nutrition Security: Supporting Innovation*, an initiative to understand country-specific relationships between HIV/AIDS and food security and how such knowledge can make policies and programs responsive to the HIV/AIDS environment in each country.

Work under this initiative has begun in Malawi and Uganda and will start soon in Tanzania and Zambia. The project strengthens networks of concerned national agricultural and public health organizations, stresses national ownership and increased national capacity, and creates partnerships between members of two fields that, before the HIV/AIDS pandemic, may not have worked together. Now that they share a common cause, they are designing processes at the local and national levels to link their services for the benefit of people living with HIV/AIDS and their families. Stakeholders prepare and present background papers at workshops where participants seek consensus on governance and identify priorities for action and for research. Interdisciplinary country teams, with support from skilled persons within and outside their region, then carry out the research upon which action can be based.

To fully understand the impact of HIV/AIDS in severely affected countries, IFPRI is examining both macro and microeconomic effects. Due to the accumulated impact of a wide range of microeconomic effects, the pandemic will likely have a strong and sustained impact on the major channels related to overall economic growth. The most direct connection to growth is through a reduced population and labor force due to AIDS deaths. However, other indirect effects may be more important. For example:

- Deaths of teachers and widespread orphaning are likely to reduce educational attainment, resulting in reduced rates of human capital accumulation.

- HIV/AIDS patients often overwhelm the healthcare system, resulting in poorer average health even for non-afflicted populations. Combined with the generalized disruption associated with AIDS deaths, these health affects are likely to reduce productivity growth rates.

- As life expectancy declines, average savings rates are also expected to decline. This decline in savings, combined with greater caution on the part of foreign investors, can be expected to reduce investment.

Ongoing work under the auspices of a Trade and Macroeconomics Division initiative finds that since the pandemic can be expected to endure for a considerable period, even relatively small annual impacts combine to create large macroeconomic impacts over time. However, these impacts are not as well understood as they should be, particularly their poverty implications. Researchers in the Trade and Macroeconomics Division, with collaborators at Purdue University and elsewhere, are currently studying the links between HIV/AIDS, human capital accumulation, economic growth, and poverty reduction in Mozambique and Tanzania.