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AIDS AND FOOD SECURITY



Essays by Peter Piot and Per Pinstrup-Andersen
and by Stuart Gillespie and Lawrence Haddad

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INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

The International Food Policy Research Institute (IFPRI®) was established in 1975. IFPRI's mission is to identify and analyze alternative national and international strategies and policies for meeting food needs of the developing world on a sustainable basis, with particular emphasis on low-income countries, poor people, and sound management of the natural resource base that supports agriculture; to make the results of its research available to all those in a position to use them; and to help strengthen institutions conducting research and applying research results in developing countries.

While the research effort is geared to the precise objective of contributing to the reduction of hunger and malnutrition, the factors involved are many and wide-ranging, requiring analysis of underlying processes and extending beyond a narrowly defined food sector. The Institute's research program reflects worldwide collaboration with governments and private and public institutions interested in increasing food production and improving the equity of its distribution. Research results are disseminated to policymakers, opinion formers, administrators, policy analysts, researchers, and others concerned with national and international food and agricultural policy.

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AIDS AND FOOD SECURITY

Poor people in developing countries struggle continually to fight hunger, malnutrition, ill health, and deepening poverty. The alarming spread of HIV/AIDS has made their struggle even more difficult. Hit by this syndrome, the poor lose their ability to work, to feed themselves and their families, to ward off disease, to maintain their assets, to transmit essential farming knowledge to their children, and to remain connected to their communities.

Eventually they lose their lives. Families, communities, and whole nations in Africa are being devastated by HIV/AIDS at such a rapid rate that some expect almost a third of their populations to die prematurely. This demographic nightmare will substantially reduce economic growth in Africa. It will also affect the economies of Asia as the pandemic gains a foothold there. The multiple effects of HIV/AIDS at all levels of society make it imperative that the development community adapt all policies and programs to prevent the spread of HIV/AIDS and mitigate its effects. The following essays explore the reciprocal relationship between food security and HIV/AIDS and what it means for policy.



AIDS: THE NEW CHALLENGE TO FOOD SECURITY

by Peter Piot and Per Pinstrup-Andersen

W*hen you ask people living with AIDS in rural communities in the developing world what their highest priority is, very often their answer is food. Not care, not drugs for medical treatment, not relief from stigma, but food.*

It is easy to forget in the complicated world of global AIDS politics that for many people around the world, AIDS is one additional burden on top of many others. AIDS does not occur in a vacuum. People's basic concerns remain the same as they have always been: a secure, decent livelihood for themselves and their families.

In Africa, where the pandemic is currently the most serious, AIDS emerged against a backdrop of extreme poverty, hunger, conflict, and inadequate infrastructure. The impact of AIDS has been to make pre-existing problems and their consequences far worse, and to create daunting new problems. By killing people in the prime of their lives, when they would normally be raising their children and practicing their professions, AIDS erodes the social capital that makes communities function. AIDS has decimated the very generation of young adults poised to take Africa's future into their own hands.

THE PROBLEM IS MASSIVE

AIDS is one of the greatest threats to global development and stability and a long-term humanitarian crisis of unprecedented proportions. The death and misery it has caused in the past 20 years dwarfs all of the natural disasters that have occurred in that time combined.

Since the epidemic started, more than 60 million people worldwide have been infected with the virus, equivalent to the population of France or Britain, or nearly double the population of California. Twenty million have died.

HIV/AIDS is by a large margin the leading cause of death in Sub-Saharan Africa and the fourth-biggest global killer. AIDS has caused average life expectancy in Sub-Saharan Africa to drop from 62 to 47 years. In 2001 alone, an estimated 5 million people became infected with HIV, and half of them were between the ages of 15 and 24. An estimated 800,000 children under 15, mainly infants, were infected with HIV in 2001, and 580,000 children died of AIDS.

Sub-Saharan Africa is the region of the world where the epidemic has hit hardest and where its impact increasingly threatens the stability of whole societies. Average prevalence in Sub-Saharan Africa is 8.8 percent in the adult population (15 to 49 years old). There are seven countries, all in the southern cone of Africa, where more than one in five adults is HIV-positive, and another nine countries where infection rates exceed 10 percent.

While the scale and impact of AIDS in Sub-Saharan Africa is the worst in the world, HIV is rapidly expanding in other regions. In Asia, China, and India, overall prevalence is relatively small, but because of their huge populations, each country has large numbers of HIV-positive people. For example, the Indian states of Maharashtra, Andhra Pradesh, and Tamil Nadu, each with over 50 million people, have HIV rates above 3 percent for pregnant women, over four times the national average.

In Southeast Asia, Thailand and Cambodia have brought major epidemics under control, but there are emerging epidemics in Myanmar and elsewhere. In the Caribbean and Central America, a number of countries are over the 2 percent prevalence level. In Eastern Europe, the epidemic has been explosive, with a staggering 1,300 percent increase in infections between 1996 and 2000, mainly among young people, and fuelled by injection drug use.

This list of the most affected countries is depressingly familiar to those who have worked on food security and nutrition for many years. It is no coincidence that the maps of HIV prevalence and malnutrition overlap. The HIV epidemic is increasingly driven by the very factors that cause malnutrition: poverty, conflict, and inequality. Malnutrition exhausts the immune system, making people more susceptible to tuberculosis, malaria, and other infectious and parasitic diseases, even in the absence of AIDS.

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AIDS Is DIFFERENT

AIDS is not just another health or development problem. By its nature and effects, AIDS is unique.

- AIDS kills the most productive—and reproductively active—members of society, thus increasing the number of dependent household members, reducing household productivity and caring capacity, and interrupting the transfer of local knowledge and skills from one generation to the next. The effect on the household may be permanent.
- HIV is socially invisible, though the ravages of AIDS are everywhere apparent. The private nature of sex and the complex cultural attitudes toward it lead to silence, denial, stigma, and discrimination at many levels. Moreover, 90 percent of those living with HIV have no access to HIV testing. This makes effective prevention and mitigation efforts difficult.
- HIV has a very long incubation period between infection and major illness, during which the virus can be transmitted. Combined with invisibility, this increases the chances of HIV transmission.
- HIV/AIDS affects both rural and urban populations. The death of one or more income earners in rural households often forces survivors to migrate to seek work in cities. The death of an urban worker may force survivors to

send children back to rural areas to be raised in extended families. Migrant workers who become infected in cities go back home to their villages to die.

- HIV/AIDS infects people of all income levels throughout the developing and developed world. Everywhere, the poor face the most severe impact. AIDS prolongs and deepens poverty, making it harder to escape.
- HIV/AIDS affects both sexes but is not gender-neutral. Women, especially younger ones, are biologically more susceptible to contracting HIV than men in a given sexual encounter. The low social status of women in the developing world magnifies their vulnerability. Where women are marginalized and powerless, they are unable to negotiate sexual relations with men or control their reproductive lives. In many cultures, women are forced into early marriage, obliged to marry a dead husband's brother even if he is HIV-positive, and unable to refuse sexual relations with husbands who frequent prostitutes. Women in war zones are at great risk of sexual assault, including gang rape. Dire poverty and the inability to feed their children drive many women into prostitution, making exposure to HIV increasingly probable.

- As the pandemic intensifies, local capacity to respond decreases. Teachers, medical practitioners, and other essential professionals are dying in large numbers, leaving huge gaps in the social services most needed at this time. Organizations and businesses located in areas with high HIV/AIDS prevalence suffer high absenteeism, high staff turnover, loss of institutional memory, and reduced innovation. As individuals in government and non-governmental organizations die, the capacity gap—between what is needed and what can be delivered—is becoming an abyss.

These are some of the unique features of the HIV epidemic. But just how does HIV/AIDS relate to food and nutrition security? And what type of remedial policy and programmatic responses does such a relationship suggest?

Vicious synergies are at work from the individual to the macroeconomic and societal levels. After an individual becomes infected with HIV, the progression of the disease and the person's worsening nutritional status reinforce each other in a downward spiral that ends in death. At the household level, HIV/AIDS and food security are also linked by negative synergies. An HIV-affected household's risk



of food insecurity and malnutrition increases because sick family members can't work, well family members must spend time caring for the sick person instead of working, income declines, healthcare expenses increase, and less time is available for competent adults to care for young children. Food insecurity, in turn, may lead to the adoption of livelihood strategies that increase the risk of contracting HIV as well as rendering the household more and more vulnerable as the disease progresses. Important community-level impacts go beyond the aggregated household impacts.

But consider for a moment what is happening at the macro level. AIDS has a direct impact on rates of economic growth in the most affected developing countries. There is a direct relationship between the extent of HIV prevalence and the severity of negative GDP. When the rate of HIV in a population reaches 5 percent, per capita GDP can be expected to decline by 0.4 percent a year. And when HIV reaches 15 percent, a country can expect an annual drop in GDP of more than 1 percent.

The cumulative impact of HIV on the total size of economies is even greater. By the beginning of the next decade, South Africa, which represents 40 percent of Sub-Saharan Africa's economic output, is facing a real gross domestic product 17 percent lower than it would have been without AIDS.

In settings where subsistence agriculture predominates, measured economic productivity only scratches the surface of the total impact of HIV on livelihoods. For example, AIDS reduces long-term capacity for agricultural production, since livestock is often sold to pay funeral expenses and orphaned children lack the skills to cultivate crops or tend livestock.

AIDS kills people, not just economic activity. We should reflect on what it means for a society when 10, 20, or 30 percent of the population is HIV-infected. With today's rates of infection, a 15-year-old boy in Botswana has more than an 80-percent life-time risk of dying from AIDS. Nurses and teachers are dying faster than they can be replaced. Last year, around 1 million African schoolchildren lost their teachers to AIDS. In Malawi, 6 to 8 percent of the teaching workforce dies each year. AIDS has orphaned nearly 14 million children. In Sierra Leone, the war left 12,000 children without families; AIDS has already orphaned five times that number.

WHAT WE CAN DO

We are not powerless in the face of AIDS. The tide is turning. Over the past few years, there has been a revolution in the world's thinking about HIV. The epidemic has been understood not only as a health issue, which it will always remain, but



also as a major threat to development and to human security. HIV/AIDS is being mainstreamed across sectors in increasingly unified national responses.

But just how can sectors such as agriculture help? How should government policies be altered to meet the needs of the poor within the context of the HIV/AIDS pandemic? What should a minister of agriculture do? Should s/he accelerate and intensify the implementation of agricultural development and poverty reduction policies and programs, or should they be redesigned first? If so, how?

Filtering the problem of food insecurity through an HIV/AIDS lens is a way to re-view the relationship between hunger and HIV/AIDS and can help people in the agricultural sector choose livelihood strategies that minimize risk and/or mitigate impacts. Indeed, the very notion that the agricultural sector can ameliorate the consequences of the pandemic in the medium to long term is new to many. The fresh angle of vision further highlights the need to avoid compartmentalizing responses into prevention, care, support, and mitigation. Food and nutrition are clearly critical in the care and support of people with HIV/AIDS. But the ways in which livelihoods could be adopted and adapted to ensure that families avoid the virus have only recently been appreciated.

The HIV/AIDS lens will be fine-tuned over time based on improving knowledge, and will be different in different contexts, ruling out one-size-fits-all blueprint planning. In addition to re-viewing food security pro-

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grams through the HIV/AIDS lens, we can and should be re-viewing AIDS programs from the perspective of availability, utilization, and access to food.

THE BIG CHALLENGES

Despite what we know about how to combat the epidemic, we are still a long way

from achieving success. The major challenges for timely research and action on HIV/AIDS and food security are highlighted below.

Include HIV-impact statements in all development plans. Major investments for development are being planned as if HIV were occurring on another planet. We need to improve our understanding of the impact of rural development on the spread of HIV. Just as environmental impact assessment has become an integral part of development programs and major projects, HIV impact assessments should also become the norm. HIV has not yet been fully integrated into poverty reduction strategies, multilateral development bank programs, or in regional and global development strategies. Fortunately this is changing.

Will agricultural development plans break up family structures and add to HIV risk? What plans are there for addressing HIV risk if new transport routes are created? What is the HIV-related impact of cash cropping on food security? These are important questions to be addressed from the very outset of development planning processes, and need to be an integral part of the World Bank's Poverty Reduction Strategy Papers, as well as health planning.

Break the link between food insecurity and HIV vulnerability.

Along with responding to the immediate impacts of AIDS, we must continue to pay attention to program sustainability and to overcoming long-term vulnerability. What crops are nutritious enough to substitute for commonly raised labor-intensive crops? For example, cassava requires very little labor but contains very little protein. What are the long-term nutritional effects of switching to cassava for populations that require more protein?

How do we keep children in school when there is so much pressure for them to replace the labor of sick or dying parents? The United Nations Children's Fund (UNICEF), one of eight cosponsoring UN agencies that comprise the Joint United Nations Programme on HIV/AIDS (UNAIDS), is extending the role of schools as community resource centers. The World Food Programme (WFP) is using food aid to provide an incentive for children to stay in school. Along with the International Service for National Agricultural Research (ISNAR), IFPRI is working with local partners in several Sub-Saharan African countries as part of a newly launched multi-country initiative that aims to strengthen local capacity while undertaking action-oriented research on priorities generated at national stakeholder workshops.

Include nutrition as a core component of HIV care. Too often, care and treatment of people with HIV/AIDS is reduced to the issue of antiretroviral drug prices. This



reductive debate misses the complexity of the broad care issues facing people living with HIV. It also fails to recognize the synergies possible by advancing the care agenda simultaneously on multiple fronts. The UNAIDS Secretariat and cosponsors have delineated a care agenda that includes providing psycho-

social care, reducing the stigma against people living with HIV, and ensuring access to essential AIDS medicines, including antiretrovirals and treatment for opportunistic infections. The increased affordability of antiretroviral drugs should be used as an opportunity to demand that medications be provided with clean water supplies and with food. We are not dealing with step-by-step solutions, but solutions where progress in one area will support progress in others.

Give HIV-infected women real options to protect their infants. We know that breastfeeding by HIV-infected mothers carries a significant risk of transmission, up to 20 percent in the absence of drug therapy. We also know that exclusive breastfeeding for the first six months of life is one of the cheapest, most cost-effective practices in public health and social development. Currently, HIV-infected mothers are advised to avoid all breastfeeding when replacement feeding is acceptable, feasible, affordable, sustainable, and safe. But we are a long way from either exclusive breastfeeding or universal access to safe replacement feeding, and even further away from offering voluntary and confidential HIV testing and counseling as a routine component of antenatal care. A great deal of work

is required before mothers will be able to make an informed choice about breast-feeding. Such work is already underway by UNAIDS and its cosponsors, especially UNICEF, and by governments in the most affected countries, with boosted support from philanthropic foundations.

Success comes from long-term commitment. By delivering responses that are rooted in communities, we build to the scale of response required.

Eliminate the stigma

of HIV/AIDS. Stigma causes great social suffering, but it is also a nutrition issue. People with HIV have been thrown out of their homes or their villages and left hungry. One of the barriers to reaching those impoverished by AIDS with effective food replacement programs is the stigma-driven reluctance to identify those in most need. In order to overcome this problem, food programs are targeting AIDS-affected villages and areas rather than individual families. We also know that a woman may breast-feed in public to avoid stigma, but use formula in private to avoid transmission, unwittingly exposing her infant to the worst combination of feeding strategies.

Face the gender dimensions of AIDS.

Addressing relationships between men and women is at the core of successful behavioral change to prevent the spread of HIV, including gender inequalities that make the impact of HIV fall harder on women, such as inheritance laws that prevent women from holding land or livestock upon the death of their husbands. We know that women are the caregivers for children who have lost their parents. They also provide more than half the care for those sick with AIDS. Women do more than half the food gathering and production work. Now, they

make up more than half of those living with HIV in Africa. Who takes care of the caretakers? When the women die, who will care for family members then?

Take action on a scale commensurate with the epidemic.

The time for pilot or demonstration projects is over. Piecemeal approaches

waste money and accomplish little. We must mainstream every aspect of our work. Success comes from long-term commitment. We make a real difference when we ensure that local actors have the information they need to respond to the epidemic, and when systems and necessary resources are in place. By delivering responses that are rooted in communities, we build to the scale of response required.

AIDS, like malnutrition, is complex. The solutions to complex problems lie in adhering to the facts, and in building new partnerships, better coordination, and sustainable change. The partnership between those whose primary concern is food and nutrition security and those whose focus is HIV is in its very early stage and growing rapidly. We can be confident that the partnership will continue to grow, based on the knowledge that food and nutrition policies are integral to winning the race against AIDS.

Peter Piot is executive director of the Joint United Nations Programme on HIV/AIDS (UNAIDS) and assistant secretary-general of the United Nations. Per Pinstrup-Andersen is director general of IFPRI.

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.

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 insur-

HIV/AIDS also drastically abbreviates the ability of parents and other elders to transfer knowledge, both within their own generation and to the next.

ance), 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.

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.

The agricultural research community must develop farming practices that adapt to the reality of HIV/AIDS and yet maintain productivity levels.

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.

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

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

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.

Stuart Gillespie is a senior research fellow in and Lawrence Haddad is director of IFPRI's Food Consumption and Nutrition Division.



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 effects 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.



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IFPRI®

2033 K Street, NW
Washington, DC 20006-1002 USA
Tel. +1-202-862-5600
Fax +1-202-467-4439
Email ifpri@cgiar.org

www.ifpri.org

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