

AIDS, POVERTY AND HUNGER: AN OVERVIEW

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The AIDS epidemic is a global crisis with impacts that will be felt for decades to come. More than 28 million people have died since the first case was reported in 1981. In 2005, AIDS killed 3.1 million people and an estimated 4.9 million became infected —bringing to 40.3 million the number of people living with the virus around the world. 25.8 million of these people live in Sub-Saharan Africa (where in some countries one in three adults are infected) and 8.3 million live in Asia (UNAIDS 2005).

AIDS epidemics are multidimensional, long term and phased phenomena. First comes the wave of HIV infection itself, followed by a wave of opportunistic infections, the most common one being tuberculosis. This is followed several years later by AIDS illness and death. And finally, depending on the prevalence of the disease and availability of treatment, there is an accumulation of macroeconomic and social impacts at household, community and national levels. A few countries have brought down infection rates. But no country has yet seen a downturn in AIDS mortality and the fourth phase is only just beginning for the majority of affected countries. These multidimensional, long-wave characteristics – linked to the fact that AIDS disproportionately strikes the most productive members of society – are what sets HIV and AIDS apart from many other health shocks.

We do not know how severe the impacts of the third and fourth phases will be as little about this epidemic is linear over time, and little is generalizable across contexts. But we do know that, for many countries, impacts will continue to be felt for years to come. Owing to the vast numbers of people currently infected with the virus, and the slow roll-out of antiretroviral therapy (currently only one in ten Africans who need the drugs actually have access to them) this would still be the case even if HIV transmission magically ceased overnight.

Attempts to attenuate these various waves are conventionally grounded in the three core pillars of AIDS policy: prevention, treatment and care, and mitigation. While direct interventions are scaled out patchily and slowly, there is an urgent need for a deeper understanding of the integral role that food and nutrition can and should play. And there is a corresponding urgency to use this understanding to improve responses at all levels.

Against this backdrop, the International Food Policy Research Institute (IFPRI) felt there was an important need to bring researchers and practitioners together to review the existing evidence, its implications for future food and nutrition-relevant policy, and to highlight remaining knowledge gaps. In so doing, it also aimed to forge links between countries, sectors, and perspectives, in both research and action.

Conference

The “International Conference on HIV/AIDS and Food and Nutrition Security: From Evidence to Action” was held 14-16 April in Durban, South Africa. The conference was organized by IFPRI following broad consultation with a range of partners within national governments, the Consultative Group for International Agricultural Research (CGIAR), the United Nations, civil society, academia, along with bilateral and international donors. Around 200 international researchers and practitioners participated over three days during which over 50 papers were presented in a series of parallel and plenary sessions. Most papers were selected by an external review panel on the basis of a competitive call for abstracts released

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in October 2004 that yielded nearly 300 abstracts. The ensuing papers were revised and resubmitted following the Durban discussions, rigorously peer-reviewed, with the final selection being brought together in this book in early 2006.

The IFPRI conference was deliberately planned to follow on directly from the WHO Consultation on Nutrition and HIV/AIDS in Africa (10-13 April). Extensive discussions were held between organizers of both conferences to maximize their complementarity – with the hope this would help bring researchers and practitioners working on clinical nutrition in the context of HIV and AIDS together with others focusing at the broader level of household and community level food and nutrition security in the context of people's livelihoods. In this way the food and nutrition causes and consequences of HIV epidemics, and their policy and program implications, were systematically and comprehensively addressed over the full week.

The IFPRI conference adopted a thematic approach, with structure, format and conference participation being driven by the key issues and questions to be addressed, namely:

1. *Interactions.* What is known about the interactions between agriculture and other rural livelihood systems, the spread of HIV and the impacts of AIDS at different levels?
2. *Local responses.* What is known about the capacities and strategies of households and communities to reduce infection risk (resistance) and to respond effectively to the impacts of HIV/AIDS (resilience)? What do these strategies imply for the types of support needed from governments, civil society, the private sector and international agencies?
3. *Policies, programs, interventions.* What is known about the processes and impacts of food and nutrition-relevant policies, programs or interventions that have sought to prevent the spread of HIV and/or mitigate the impacts of HIV/AIDS?

In short: what's happening, how are people responding, and how can external support be best applied?

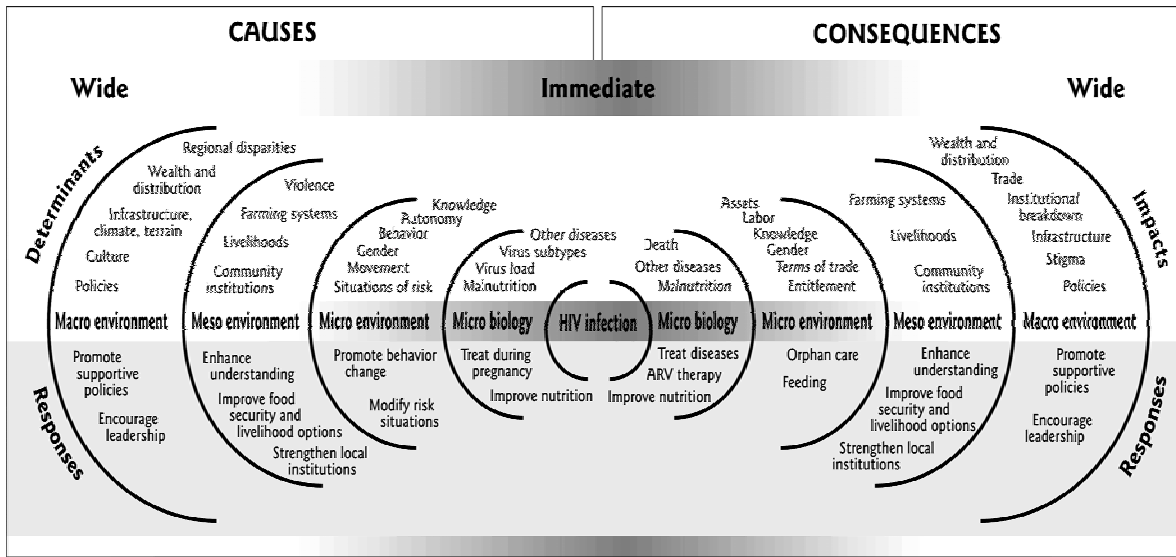
Concepts

In order to begin to answer these questions – to know what to look for, where – the conference took as its starting point the conceptual framework in Figure 1.1. The framework depicts the universe of factors and processes conditioning the causes and consequences of AIDS epidemics. With time broadly flowing left to right, it shows the waves of determinants of HIV infection, from macro to micro-levels, and the subsequent waves of impacts, from micro to macro (Loevinsohn and Gillespie 2003)².

Looking first at the top left hand quadrant, we can see the various levels and sources of *susceptibility* – that is, risk of exposure to HIV, and risk of infection by the virus. Infection is at the epicenter of Figure 1.1, and is followed, in the top right hand quadrant, by the various sources and levels of *vulnerability* to AIDS-related impacts. Turning to the bottom half of the diagram, we can see various responses – those that are broadly preventive (or aimed at strengthening resistance) in the bottom left, and those aimed at mitigating impacts (or strengthening resilience) in the bottom right.

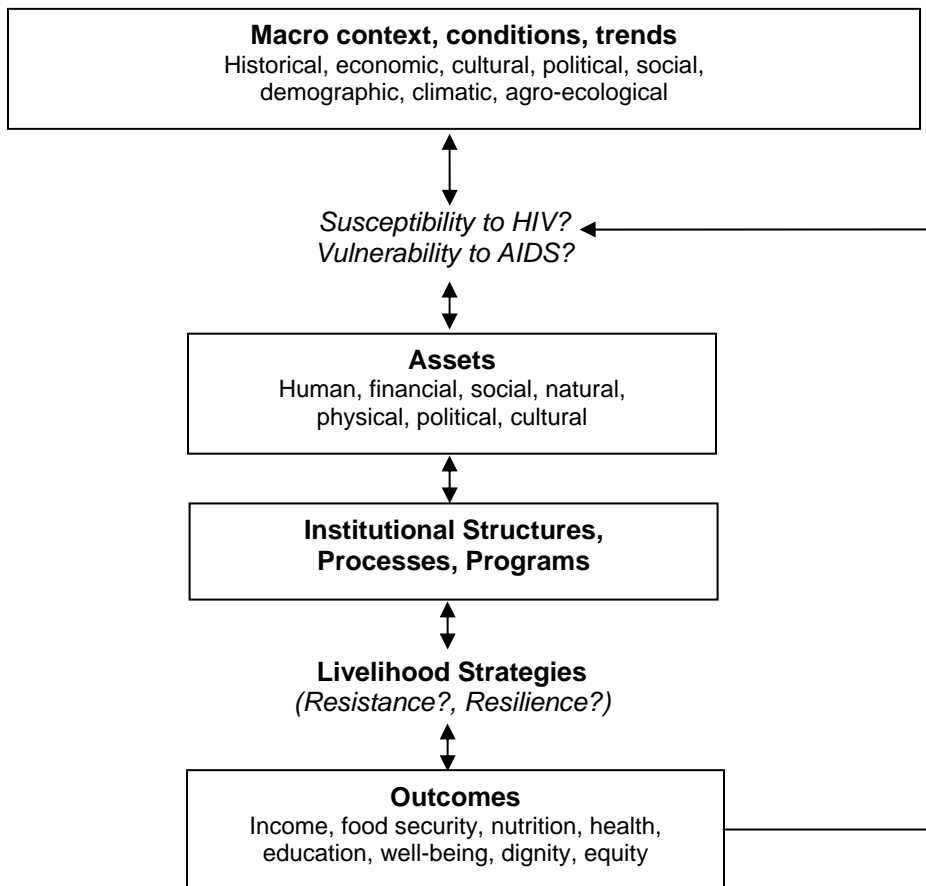
² The scope of the IFPRI conference essentially spanned the micro to macro-environmental levels, while the WHO consultation primarily focused on the two inner circles i.e. the individual-level microbiological and micro-environmental levels.

Figure 1.1: The Universe of HIV/AIDS Determinants, Impacts and Responses



Source: Loevinsohn and Gillespie 2003

Figure 1.2: Adapting the livelihoods framework to HIV and AIDS



It is also useful, as many authors did, to sharpen the focus on the household and community levels. This can be done by folding these concepts into an adaptation of the livelihoods framework that is complementary to the universe map. Figure 1.2 thus portrays the dynamics of household and community interactions with HIV and AIDS as an iterative cycle. HIV/AIDS both affects, and is affected by, people's livelihoods. The macro context, conditions and trends will to some extent determine both the susceptibility and vulnerability of different livelihood systems to HIV and AIDS. After HIV has entered a household or community, the type and severity of its impacts on assets -- mediated by institutional structures, processes and programs -- will determine the type of strategies that the household adopts. These strategies will differ, among other ways, in terms of the resistance to HIV or resilience to AIDS that they confer upon the household. Such strategies and responses in turn lead to various outcomes, including food and nutrition security. Finally, the diagram shows how these outcomes are also inputs -- for better or worse -- into future susceptibility and vulnerability. And so the cycle turns.

But this is just the pathway that HIV takes through households and communities. It is important, as will be repeatedly emphasized, that we do not lose sight of the many factors driving vulnerability, including such macro level conditions and trends as climate change, debt, international trade policy, and governance.

Context

Overall, AIDS epidemics are most severe in the region of the world where food insecurity is most severe -- sub-Saharan Africa -- although there are significant differences between countries. The majority of conference participants were from Africa, though the conference was designed to be international in order to ensure opportunities for cross-regional learning. Examples of such learning from the past include the Junior Farmer Field and Life Schools, an approach pioneered in Cambodia, and now being scaled out across eastern and southern Africa.

In Asia, India is fertile terrain both for the spread of the virus and for its impacts on poverty and hunger, given the existence of many known predisposing factors (such as gender and socio-economic inequality, caste, class, religious divisions, high population mobility, urban-rural linkages, food insecurity, and malnutrition). It should also be remembered that in just ten years from 1990 to 2000, the HIV prevalence in South Africa rocketed to 25% from 1% (the present prevalence in India). Using the case of India, one paper in this book looks at how bio-structural livelihoods interventions may reduce risk of people's exposure to HIV.

Table1.1: The Prevalence and Numbers of People Infected with HIV in Selected Countries (end 2003)

Country	Estimated total nos. adults and children	Estimated Prevalence (%) among adults (15-49 years)
Ethiopia	1,500,000	4.4
Kenya	1,200,000	6.7
Malawi	900,000	14.2
Mozambique	1,300,000	12.2
Rwanda	250,000	5.1
South Africa	5,300,000	21.5
Uganda	530,000	4.1
Zambia	920,000	16.5
Zimbabwe	1,800,000	24.6
India	5,100,000	0.9

Source: UNAIDS/WHO 2004

The latest available national-level HIV data for the countries highlighted in this book are provided in Table 1.1 (new data are expected in mid-2006). The data highlight the need to differentiate stages of the epidemic. Barnett and Topouzis (2003) delineate three principal stages that a community may pass through: *AIDS-initiating* with very low HIV prevalence rates and no AIDS impacts; *AIDS-impending* where HIV prevalence rates are rising but the majority of infected people are still in the asymptomatic phase before becoming ill; and *AIDS-impacted* when households and communities feel the impact of AIDS as infected people succumb to AIDS-related illnesses and eventual death. Clearly, response strategy needs to be tailored to stage of epidemic, with preventive approaches, aimed at strengthening resistance, taking precedence in the early stages (e.g, India, Ethiopia) – while impact mitigation or the strengthening of household and community resilience, needs to be at the fore in the latter stages of epidemics (e.g. Uganda which long ago reached its peak HIV prevalence, but is now in the midst of the death wave). There are two final points about these data – first, in representing the proportions of population living with HIV, prevalence is a delayed snapshot of incidence. Prevalence could decline because of high mortality rates and/or reduced incidence of new cases of infection. Second, there are often huge variations in prevalence between different regions within countries, as some of the following papers will demonstrate.

Content

The conference was subtitled “From Evidence to Action” for two reasons – first, to signal the breadth of coverage, with several detailed academic studies of interactions being balanced with descriptions of approaches and interventions aimed at responding to these interactions. And second, to signal that we are now, in a sense, at a watershed. The evidence base -- though still incomplete and in some places a little murky – has grown enormously in the last five years. In the time between the conference in mid-2005 and this book being published, numerous new studies have emerged, and more are in the pipeline. Given this, and given the context-specificity of interactions and necessary responses, it is not the intention here generate definitive policy conclusions. Rather, this overview attempts to build on earlier work (as, for example, summarized in Gillespie and Kadiyala 2005) to map the evolving breadth and depth of this field, capture new knowledge, and generate ideas to be built upon and operationalized in future work. In this way, hopefully, the dual agenda of research and action may be better advanced. Key emerging research priorities are highlighted in boxes as they apply to various parts of this overview.

The papers in this book represent the highlights of the Durban conference presentations. Again, reflecting the ‘evidence to action’ subtitle, they capture the range of activity in this field. Papers range from studies focusing on risks of HIV infection (Chapoto and Jayne), on the impacts of HIV and AIDS on rural livelihoods, including agriculture (Dorward and Mwale, Onyango et al., Donovan and Bailey, Masanjala, Jayne et al) to papers seeking to unravel interactions between HIV, AIDS and nutritional status (Stillwaggon). Most papers rely primarily on quantitative data, while some are largely informed by qualitative data (e.g. Bryceson and Fonseca, Bond). Eleven of the 19 papers are mainly concerned with examining impacts and interactions, as described in the section on “Understanding Interactions” below, while the remainder are mainly focused on policy and program responses to these interactions. Of the latter, Binswanger et al, and Gavian et al comprise broad-brush analyses of the policy and programming environment, highlighting the various limitations of the status quo, while Drimie and Mullins offer an NGO perspective and approach to mainstreaming. Two papers focus on innovations in response – Loevinsohn’s on bio-structural interventions, and Djeddah et al on Junior Farmer Field and Life Schools, while Strasser et al consider approaches to monitoring the impact of food aid on HIV-affected groups. A few papers (notably Jayne et al and Bishop-Sambook et al) look at both interactions and responses. The book concludes with the big challenges for the future, as set down by Tony Barnett in his riveting keynote address to the conference.

UNDERSTANDING THE INTERACTIONS

POVERTY, FOOD AND NUTRITION SECURITY, AND THE RISK OF BEING INFECTED WITH HIV

Looking at the top left quadrant of Figure 1.1, in investigating the risk of an individual being infected with HIV, we³ need to ask “*what* social, economic, political, cultural factors and processes are responsible for the spread of HIV (and specifically how is food and nutrition implicated, if at all), *who* is most susceptible, and *why* are they susceptible? A few important papers shed light on these questions (though this aspect remains relatively under-researched -- see Box 1.1).

Who is at risk, and why?

In line with earlier evidence of the disproportionate risks faced by women, especially younger women, more than 60% of the prime-age deaths observed in a nationally-representative rural Zambian sample between 2001 and 2004 were women (Chapoto and Jayne 2005). The marginal probability of dying from disease and AIDS-related causes rises steeply from age 15, peaking between ages 30 and 34 for females, and 50-54 for males. Young, single women were at most risk.

Addressing the question of whether *poverty* puts people at greater risk of being exposed to the virus, Chapoto and Jayne (2005) find – in line with findings in the early stages of the epidemic – that men in the upper half of the assets distribution are more likely to die of disease-related causes than poorer men. In contrast, poor women are equally likely to die as better-off women. Digging deeper, they find that within the group of relatively poor women, those having some form of formal or informal business income are 15% less likely to die of disease-related causes than those without any such income -- suggesting that efforts to provide greater income-earning opportunities for poor women may make at least a modest contribution to reducing female prime-age mortality.

The link between poverty and HIV risk may be mediated through the need to move in search of work. In Malawi, the search for work and food is conflated in the term *kusokola* – or “looking for food” (Bryceson and Fonseca 2005). Mobility here is not inherently risky, but it is a marker of increased risk. In Zambia, low-income men living one or more months away from home per year are more than twice as likely to die as men living at home (Chapoto and Jayne 2005). Among richer women, who are also more mobile, it is possible that the protection conferred by their greater financial independence may to some extent be negated by the heightening of mobility-induced risk. In Ethiopia, though there are significantly lower levels of HIV infection in rural communities than in urban areas, the disease is concentrated in higher-risk “bridging populations” that have substantial links with other more risk-averse sub-populations (Bishop-Sambrook et al. 2005).

At the macro level there is no obvious relationship between national wealth and HIV prevalence. Southern Africa is richer than other regions in Sub-Saharan Africa but has countries with particularly high prevalences e.g. Botswana and South Africa. Physical dislocation of families, driven by the need to find work, coupled with the ability to move around via relatively good transport routes, probably plays a large part in this. Men tend to live away from home for long periods, increasing the chances of both partners engaging in commercial sex. Strong urban-rural economic linkages in southern Africa may thus translate into both higher incomes and higher infection rates.

The links between livelihoods and risk suggest that HIV is an ‘occupational hazard’ for particular economic categories of people (Bryceson and Fonseca 2005). But again preconceptions may be challenged – for example, Campbell’s (2003) South African study found commercial sex workers to be less vulnerable to HIV infection than miners or youth due to their insistence on condom use.

³ The word “we” is used throughout this overview to denote the primary audience of this document, namely policy makers, national, regional and international planners, program managers, representatives of civil society, community-based organizations and researchers whose work (actually or potentially) contributes to combating food and nutrition insecurity, HIV/AIDS, or both.

In Malawi, poverty and HIV risk do seem to be increasingly linked, against a backdrop of major livelihood shifts. Bryceson and Fonseca (2005) highlight the ongoing collapse of the peasant household's coherence as a unit of production as livelihood portfolios have veered: i) from self-sufficient unpaid labor performed within the household (especially by women and children) towards cash-earning piecemeal work (or *ganyu*); ii) from agriculture towards non-agriculture with income-earning turning increasingly to trade and services, including sexual services; and iii) from household towards individualized work, whereby every able-bodied person works, including women and youth, to earn cash to cover their subsistence needs. Women and girls are now undertaking *ganyu* labor beyond the confines of the village, with poor women at particular risk as transactional sex is increasingly incorporated into *ganyu* contracts (Bryceson and Fonseca 2005).

“HIV/AIDS is not very threatening compared to the hunger which most households face. In fact it is hunger, which is contributing to the rise in HIV infections in the area”

(Religious leader in patrilineal village, Khongoni (TA), 8/12/03; Bryceson and Fonseca 2005)

Another major source of risk – and one that sets HIV apart from most other diseases – is the prior death of at least one adult in the same household. In Zambia, this was found to be the single most important factor influencing the probability that a prime-aged individual would die due to illness and AIDS (Chapoto and Jayne 2005). Irrespective of gender and income status, individuals experiencing a prior death in their household are 6-7 times more likely to die of disease-related causes than individuals in households with no prime-age deaths in the past eight years.

Box 1.1: Research Priority: HIV Spread and Food Insecurity

What is the role of poverty and food insecurity in driving risky behaviors? How prevalent is transactional sex, and how linked is it 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 food security and livelihood options of susceptible groups make a cost-effective and timely contribution to preventing the spread of HIV? Can options be identified that are economically and environmentally sustainable, that make use of local opportunities?

Malnutrition and ill-health as risk factors

Nutrition is the pivotal interface between food security and health security. An individual's susceptibility to any disease depends on the strength of the immune system, which among other factors is affected by nutrition, stress, and the presence of other infections and parasites. The risk of infection with HIV is heightened by high prevalences of such cofactor conditions, which decrease immune response in HIV-negative persons and increase viral load in HIV-infected persons (Stillwaggon 2005). Worms cause malnutrition through malabsorption and intestinal bleeding, and they weaken the immune response by forcing its chronic reaction to the non-self invaders. Infectious and parasitic diseases and malnutrition thus create an environment of enhanced risk.

Occupational hazards extend to domestic environments. Stillwaggon (2005) paints a picture of risk in Africa as a child gathering water for the family in a slow moving stream, or helping with the family laundry at the riverside. Any resulting schistosome colonization of the genitourinary tract may render him or her, as an adult, at much higher risk of sexual transmission of HIV than a healthy person with similar sexual behavior.

HIV/AIDS IMPACTS ON FOOD AND NUTRITION SECURITY

Moving now from a focus on the risk of being infected, to the downstream or post-infection *impacts* (i.e. the top right quadrant of Figure 1.1). How did the conference enhance our understanding of these impacts and the ways in which households and communities are responding?

The literature on impacts of HIV/AIDS has grown very rapidly in recent years (with numerous studies recently reviewed in Gillespie and Kadiyala 2005). Impacts are multiple and often inter-related, and often highly determined by context. Onyango et al. (2005) for example, found a variety of impacts on rural agricultural households in western Kenya struggling with the illness or death of an adult. Death-affected households spent on average \$462 per year, as compared to \$199 for illness-affected households and just \$21 for non-affected households. Illness-affected and death-affected households spent 56% and 61% respectively of the amount spent by non-affected households on agricultural inputs.

In Rwanda, Donovan and Bailey (2005) found death-affected households to show few significant differences in crop production as compared to matched non-affected households without a death or illness. All crops show lower production amounts for households with a death, but with variability between households, significant differences were found only for beans, beer bananas and fruit bananas. The difference in bean production (18% lower in death-affected households) however might be important as beans are a key food security crop for Rwandan households. Also, beer bananas are traditionally a major source of income for women, implying a relative decline in women's income earning potential in affected households.

Donovan and Bailey also highlight an important point that many earlier studies failed to take into account. Relatively small "death effects" may be a reflection that pre-death measurements occurred during the illness period, when the household was already adjusting to AIDS. The measured 'death effect' in such cases would thus be an underestimate of the extent to which the household was initially affected and had to change. Measuring the effects of adult illness and death separately provides insight into the possible need for interventions prior to death to mitigate the most severe effects (e.g. irreversible asset disposal) which may cause permanent livelihood declines. In a study in Zimbabwe, Senefeld and Polsky (2005) found households with chronically ill adults were more likely to have their children drop out of school, and more likely to resort to migration strategies to "cope".

But what exactly is "coping"? According to two commentators, it may be an illusion, a dangerous misnomer. "Coping is a way of escaping from the challenge of confronting how people's capabilities are stunted, how their entitlements are blocked, and how their abilities to function as full human beings with choices and self-definitions are frustrated" (Barnett and Whiteside 2002). More recently, Marais refers to the "coping fetish that exalts the presumed pluck and grit of the poor...the discourse of 'coping' is an acceptance, an endorsement even, of the way things are, a patronizing gloss on a reality of privation and marginality". The fact is that "coping" is an externally-applied value judgement that may or may not correspond to what is actually happening. Many responses are those of distressed households without much conscious strategy – "struggling not coping", as Rugalema (2000) pointed out. Responses may have a veneer of coping, but the costs may need to be paid further down the line (e.g. a child denied schooling).

As many impacts are revealed in actual responses that households and communities make in the face of HIV/AIDS, we need to examine these responses for their effectiveness and sustainability. Where households are not subject to additional stresses such as drought, and when viewed over a relatively short reference period (e.g. a couple of years), there are some indications from the literature that traditional responses can mitigate the worst effects of AIDS. However complex factors determine the success of these strategies. These include the sex, age and position in the household of the ill/deceased person, the household's socio-economic status, the type and degree of labor demand in the production system, the availability of labor support to affected households, other livelihood opportunities, available natural resources, the availability of formal and informal sources of support including credit and inter-household transfers, the length of time that the epidemic has been impacting upon the rural economy, and the existence of concurrent shocks such as drought or commodity price collapses (Gillespie and Kadiyala 2005).

This all shows the complexity and the context-specificity of impacts. But what happens when the household is subjected to multiple stresses over the longer term – including those relating to macro, meso

and micro processes depicted in Figures 1.1. and 1.2? And what happens to communities when the proportion of such struggling households increases significantly? Though HIV/AIDS is different in several important ways to other shocks and stresses, where it is most prevalent in sub-Saharan Africa, it is one among many concurrent stresses. We need to learn more about how increasing numbers of households and communities are struggling to respond to multiple overlapping vulnerabilities and interacting processes of change (see Box 1.2).

Box 1.2: Research Priority: HIV/AIDS, Multiple Stresses and Overlapping Vulnerabilities

How does HIV/AIDS -- as a source of vulnerability to food and nutrition insecurity -- intersect and interact with other sources of vulnerability? How to go beyond identifying who is "vulnerable" to better understand *why* households are, or why they become, vulnerable? Conversely, why are certain households more resilient than others in similar situations? What are the implications of this for vulnerability monitoring systems? How to develop approaches to identify options for households to reduce their vulnerability? What are the implications of overlapping vulnerabilities for approaches to addressing HIV/AIDS and food and nutrition insecurity?

One distinct aspect of AIDS as a stress, is its long-acting, slow-burning nature. AIDS can exert its effects over a relatively long period of time while rendering other stresses/shocks both more likely and more severe in their effects. Following a shock to household income, households in Malawi affected by HIV/AIDS were found to take up to 18 months to stabilize, with a new equilibrium income that was about half the pre-shock income levels (Masanjala 2005). Similar findings had been reported earlier in Kenya (Yamano and Jayne 2004). Such limited resilience is likely to increase vulnerability to other shocks.

Broader impacts on the agricultural sector

Using demographic projections and household survey evidence, Jayne et al (2005) consider the likely consequences of the HIV/AIDS pandemic for the agricultural sector of the hardest-hit countries of Eastern and Southern Africa. They suggest that, while AIDS is projected to erode population growth to roughly zero in the seven hardest-hit countries, the net result is a roughly stable number of working age adults over time. AIDS-related agricultural labor shortages are likely to induce labor migration out of the urban informal sector into agriculture. For poorer smallholder households, they suggest that land will remain a primary constraint on income growth. AIDS-induced decapitalization of highly-afflicted rural communities -- meaning a loss of savings, cattle assets, draft equipment, and other assets -- may come to pose the greatest limits on rural productivity and livelihoods for these communities.

Using data from Malawi, Dorward and Mwale (2005) highlight the challenges in determining the nature and magnitude of broader impacts of HIV/AIDS on labor markets and wages. Although affected households may face increased labor shortages, widespread reductions in household incomes and increased cash constraints will also depress labor and non-tradable demand in rural communities with high HIV incidence. Reductions in family labor may also lead to a shift out of more labour demanding cash crops. Depressed labor demand could cause wages to fall, posing serious problems even for poor households not directly affected by HIV/AIDS. They find some evidence for such a shift, driven primarily by reductions in labor-hiring by better-off households with HIV-induced cash constraints. The introduction of labor-saving technologies in such a context could be damaging, as discussed later. Cash transfers to help bolster labor hire may be more appropriate here.

Moreover, where HIV/AIDS does depress unskilled wages, this is likely to increase *inequality* within rural communities and impose further pressures on poor people and their livelihoods. Jayne et al (2005) also point to the inequality-driving aspect of capital asset loss. Unlike the loss of labour and knowledge, which represent a loss to entire communities -- capital assets lost by afflicted households are generally re-distributed within the rural economy rather than lost entirely.

Macro-economic impacts, poverty, and inequality

At a macro-level, the impacts of HIV and AIDS are not clear – at least not using current models, and/or not yet. Several researchers have criticized the use of per caput GDP growth rate as a metric of AIDS impacts, along with the assumptions underlying common macroeconomic models (e.g. McPherson 2002). Earlier models tended to assume an early peak in the epidemic and they omitted households that dissolved because of AIDS. Many important aspects of development are econometrically invisible e.g. women's work, the loss of information in social systems including intergenerational knowledge fracture, the loss of social capital as networks and information channels erode, relational goods, misery/happiness etc. What, for example, is the long-term cost to communities and nations of millions of psychologically damaged, poorly socialized children growing up as orphans? Put another way, looking at Figure 1.1, the indicators conventionally used at the macro-level often fail to pick up the aggregated effects of changes at the meso- and micro level environmental levels.

Due to the long incubation period between HIV and AIDS no country has yet reached the peak of AIDS impacts. A full timeline of impacts is thus not even available to use as a basis for projections in other countries (notwithstanding the possible problems in extrapolating from one country to another). Possible social unraveling as the AIDS impact waves hit, suggests the development of macro-economic effects may be non-linear, and may be some way off.

Given that our concern is primarily with *deprivation*, manifested by food insecurity and malnutrition, we should not however be overly focused on aggregates or means that effectively mask sub-national differentials. There is strong evidence first that inequalities (socio-economic, gender) drive the spread of HIV infection, and second that AIDS itself increases these inequalities – a potentially vicious cycle that is not captured by measuring income means.

Two drivers of inequality have been discussed above – declining unskilled wage rates and decapitalization of affected households. Land acquisition by better-off households is likely to increase as widows and orphans fail to keep access and/or ownership rights to land after the death of the husband/father. The fear of such a loss, may also foreclose the option of renting out land as a response – another example of the intertwining of vulnerabilities and inequities (in this case, relating to gender and HIV). The AIDS epidemic is thus intertwined with the way in which power, authority, value and opportunity are distributed within societies. Such land acquisition trends could lead to aggregate production increases at “community” level, while simultaneously increasing inequality, poverty and malnutrition.

The majority of impact studies are at the household-level. As well as suffering from an inability to track the dynamics of interactions over time (see “Research Challenges” later) household-level effects do not relate well to more aggregated sector level or national level impacts. Nor do they shine a clear light on what is happening *within* households e.g. intra-household division of labor, caregiving and other resources – especially impacts on women and children. Yet another problem with the notion of “household coping” is its implication of intra-household homogeneity of those affected. A conference participant highlighted this well in pointing out how the ‘extended family’ in most cases meant ‘extended women’.

AIDS, poverty, and stigma

Stigma itself is an impact of HIV/AIDS that may adversely affect the ability of individuals or households to respond -- both a consequence of HIV and AIDS as well as a cause of future vulnerability. Depending on the social environment, disclosure of HIV status may lead to stigma, or it may open up other response options. Where there is openness, disclosure may be a gateway to community support (Norman and Chopra 2005).

Stigma and poverty are mutually reinforcing (Bond 2005). Stigma may not be primarily associated with promiscuity and reckless behavior, but may be increasingly linked to the sense of being overwhelmed by

the work, expense and emotional strain of having to care for sick people, in the context of declining household resources. Bond (2005) quotes a 15 year old boy who describes how “in a *“biting economy”*, people living with HIV and AIDS are considered a *“burden”* because they are not able to contribute to household income when they are sick, they soak up money, energy and time. Both they, and relatives who come to visit them, take up space. The fact that illness takes a long time drags households down.

The AIDS impact literature has spawned a variety of labels including “afflicted households” (containing an individual infected with HIV), “affected households” (possibly caring for an orphaned child), along with the label PLHA (“persons living with HIV/AIDS”). But given the diversity of risk factors and processes, and the fact that HIV/AIDS is one among many interacting sources of vulnerability, these terms are increasingly questioned. They may in themselves stigmatize.

Box 1.3: Research Priority: Nutrition Security and HIV/AIDS

In addition to food security, nutrition security^a has emerged as an important dimension in the prevention, care, treatment and mitigation of HIV/AIDS. A focus on nutrition security can help reveal opportunities for effectively linking health services with food and nutrition policy in the context of HIV/AIDS. Current research indicates that good nutrition is important to the efficacy of medical interventions as it is to peoples’ ability to resist and mitigate infection. There is currently a strong focus on *clinical* nutrition and HIV/AIDS in the context of issues such as infant feeding, and the efficacy of antiretroviral therapy among malnourished populations (see annex). This relates primarily to interactions within the individual body and their implications for health policy. Yet there have been few attempts to link nutritionists with agricultural economists and/or program managers to investigate the broader issue of community-level nutrition security and broader food policy and programming in the context of HIV/AIDS. Many of the food responses to date have revolved around delivery of food aid. What other longer term options exist for ensuring nutrition security within affected communities? What does nutrition “through an HIV lens” look like, and what are the operational implications of rethinking nutrition from this perspective? Does nutrition offer an entry point for forging better links between public health and agricultural responses to AIDS?

^a *Food security* here is concerned with physical and economic access to food of sufficient quality and quantity. Food security is necessary, but of itself insufficient, for ensuring nutrition security. *Nutrition security* is achieved for a household when secure access to food is coupled with a sanitary environment, adequate health services, and adequate care to ensure a healthy life for all household members.

Orphanhood and vulnerability

Within the dynamic context of HIV and AIDS-induced risk and vulnerability, the rapidly growing orphan population in sub-Saharan Africa demands particular attention. Today, over 12 million children in the region have been orphaned by AIDS, a population that is increasing by the minute as HIV-positive parents become ill and die from AIDS (UNAIDS/UNICEF/USAID 2004). Millions more children are living with chronically ill parents, and about three million are themselves infected with the virus. Estimates differ, but some organizations predict a tripling of orphan numbers in the next five years.

Conventional wisdom holds that orphan-fostering households are particularly vulnerable. But some studies have shown that these are not necessarily the poorest households (Senefeld and Polsky 2005). Fostering households may be better-off households who can afford to take in extra dependents. In a meta-analysis of national nutrition and health surveys undertaken in Sub-Saharan Africa over the last five years (Rivers et al. 2005), households with more than one orphan were 3.2 times more likely to reported food insecurity and hunger than households with only one orphan or no orphans at all, taking into account potential confounders. While households can manage to absorb one orphan without being impacted significantly, they cannot continue to take on orphans without affecting their livelihood. As mortality rates increase and the population of orphans continues to rise, more and more households are going to be faced with the decision to foster more than one orphan or leave them to fend for themselves. Both options leads to increased vulnerability.

In the same study, orphaned children -- regardless of the way they were defined -- did not appear to be consistently more malnourished than nonorphaned children (Rivers et al. 2005). In her Zambia study, however, Bond (2005) found evidence of poverty-induced social discrimination against orphans, with orphaned children experiencing “differential treatment in the household” though nutrition was not specifically mentioned. In a recent review of child vulnerability, Gillespie et al (2005) found mixed evidence, related in part to the many types of orphans as well as orphaning arrangements. On the whole, orphaned children who were at most nutritional risk were young orphans sent to live with distant relatives, often outside the community and away from their siblings. For monitoring purposes, the Rivers et al findings provide two important implications. First, it is necessary to define vulnerability more specifically, and not reflexively assuming orphans are vulnerable. Second, it may be necessary to use other indicators, such as psychosocial development or educational attainment, to monitor the progress or relative disadvantage of orphans. Orphan populations are known to be older on average than non orphan populations simply because the probability of a parental death increases as a child grows older (Rivers et al. 2005).

RESEARCH CHALLENGES

The Durban conference highlighted the complex and systemic nature of the interactions between HIV/AIDS and food and nutrition security, with the challenges this poses for measurement and for response.

Measurement challenges include questions of how to measure the actual presence of HIV without testing (is “chronic illness” or adult death an appropriate indicator?), how to disentangle HIV/AIDS effects from other stresses and shocks, how to track the dynamic interactions between HIV and food security, and how to monitor and evaluate the various remedial responses and interventions?

As with the example of macro-economic impact assessment, Stillwaggon (2005) asserts, global health policy is trammled by reliance on tools of epidemiology and health economics that are too rudimentary for understanding a complex epidemic. Public health problems of populations in poverty are interrelated, synergistic and they are virtually ubiquitous in poor populations. Attempts to isolate the effects of vitamin A, or malaria, or worms on HIV transmission may be confounded by other endemic conditions, and treatment of any one condition may be constrained by the persistent impact of others. Global AIDS policy is paralyzed because epidemiological methods demand a “smoking gun” as evidence of relationships between HIV and the endemic conditions of malnutrition, parasites, and infectious disease. Such a burden of proof is inappropriate because interventions to reduce malnutrition, parasite load, and infectious diseases are beneficial in themselves (Stillwaggon 2005).

Propensity score matching (PSM) may be useful in the measurement of the impacts of adult illness and death on crop production. In Rwanda, Donovan and Bailey (2005) used a combination of cross-sectional and panel data to construct the counterfactual required to estimate HIV/AIDS impacts. This application demonstrates that, given appropriate variables and sample size, PSM enables analysts to estimate the impacts of adult illness and death using cross-sectional data with recall complemented with a small amount of panel information. While panel data are preferred for the econometric estimation of impacts, governments and development practitioners cannot always wait for the ideal data to inform local policy decisions.

Another research challenge lies in the handling of the temporal aspects of HIV epidemics and their impacts, that cannot be accommodated by cross-sectional studies. More longitudinal studies involving panel datasets are clearly needed.

A major challenge lies in capturing the diversity and context-specificity of impacts and interactions without thwarting action. How to achieve a policy-amenable synthesis of multiple findings that reflect the context-specificity of interactions? And how – against a backdrop of thousands of AIDS deaths every day -- to do this in real time? Though research on impacts has grown enormously over the last few years and

much has been learnt, more case study research is needed to respond to the diversity of interactions in different settings at different points on the epidemic curve. Tools such as the HIV/AIDS lens accommodate the ground realities and facilitate the use of local knowledge to generate appropriate responses in a timely way. Parallel to this, a well-publicized and accessible library of documented experience needs to be built up.

RESPONDING TO THE INTERACTIONS

Work aimed at elucidating the interactions between HIV/AIDS and food and nutrition security has been highlighted above. In this section, the focus switches to the responses being made by households and communities and -- through policies and programs -- by governments and international agencies.

To ensure food and nutrition security in the context of HIV/AIDS, there is a growing consensus, reinforced in Durban, on what is essentially a three-pronged strategic approach: to strengthen household and community resistance and resilience, preserve and augment livelihood opportunities for affected communities, and to ensure there are safety nets in place for those who need them. The emphasis in mitigation strategy needs to be on strengthening *resilience* – the ability of households and communities to adapt livelihood strategies so as to bounce back from the shock of AIDS. Policy needs to draw upon what is working already in communities, where proactive responses are underway. This is quite distinct from any notion of leaving it to the communities “to cope”. Rather, it is to maximize learning from community innovations (for reasons described in “Community-driven responses” below) as to what works, where and why. Where households and communities’ capacity to respond effectively has been exceeded, a broad-based social security system offering minimal benefits or specifically targeted support programs will in the short and medium term be important for mitigation. These three strategies should be pursued simultaneously, based on the different comparative advantages of all stakeholders from households to national governments and international agencies.

Given the evidence of interactions described in the first section, what type of options exist for responding to the AIDS -- food insecurity nexus? After a discussion of community responses, and the potential of renewed attention to community-driven development, the key issues of scaling up, multisectoralism and mainstreaming are discussed below. This is then followed by discussion of specific intervention options highlighted in Durban. Again, the intention is to capture and synthesize the key conference presentations and discussions, not to provide a comprehensive review. It is also worth remembering here that the rationale for responding to interactions is twofold – first, to raise the chances that food and nutrition security policies and programs can achieve their original objectives in a heavy AIDS context, and second to contribute to the multi-sectoral response to HIV/AIDS.

COMMUNITY-DRIVEN RESPONSES

The Durban conference highlighted the differentiated impacts of HIV and AIDS on communities and the variety of attempts they make to improve their resistance to HIV spread and their resilience to AIDS impacts. Communities have responded in innovative ways -- including labor sharing, orphan support, community based childcare, community food banks, credit schemes for funeral benefits and new ways of reducing the time and energy of domestic tasks e.g. fuel and water collection, food preparation, to name but a few (see Gillespie and Kadiyala 2005).

In the context of high HIV prevalences, and associated stigma, community-driven approaches, with their advantages of local knowledge, may represent an untapped resource for addressing the HIV/AIDS—food insecurity nexus. Like the problem itself, community-led approaches are naturally more “multisectoral” and crosscutting. Unlike vertical sectoral programs that tend to focus narrowly on infected individuals, they focus on affected communities.

The issue of *capacity to respond* is critical, particularly as AIDS itself is eroding local capacity. In the keynote address, Tony Barnett spoke of the need to beware of "installed capacity" -- the fact that certain vertical program infrastructures are in place, does not mean these are the most appropriate ones to employ. Binswanger et al. (2005) pointed to evidence from the field on the existence of latent community-level capacity e.g. unemployed or underemployed youth. Resources could be applied to developing appropriate community responses to AIDS, thus obviating personnel constraints experienced in scaling up vertical programs. Investing in local institutions through support to decentralization could go a long way in addressing remaining evidence gaps too, as communities have local knowledge, but they often lack power and resources. To support such new approaches, donors need to alter their time horizons and they need to be more flexible.

In the context of AIDS, this is new ground – important questions to address include: what scope is there for new approaches to pooling labor and resources in affected communities? Can win-win approaches be found? Can communities find ways to protect the entitlements of affected households, enabling them to equitably exchange what they have (e.g. land they can no longer cultivate) for what they need (e.g. food)?

SCALING UP

Responses need to recognize the diversity of impacts, but they also need to be large-scale. In a study of a community-led program in Malawi cited by Binswanger et al. (2005) the importance of contextual factors for scaling-up, including an enabling policy environment and a strong governmental commitment. The adoption of a community mobilization model through capacity strengthening of district, community, and village AIDS committees, a commitment to documenting and disseminating lessons learned, and the drive to reach more affected populations through establishing partnerships were key organizational factors. Community-specific factors include leadership within the community, whether the communities are urban or rural (rural communities are easier to mobilize), the nature of livelihoods, and the history and culture of the communities with respect to collective action. Joint planning with communities for a phasing down of NGO presence and scaling up of the role and responsibilities of the local AIDS committees and funding mechanisms were also identified as critical in enabling and sustaining the scaling up of collective action (Kadiyala 2004).

Scaling up may be pursued along various dimensions. Quantitatively, it may be viewed as the rolling out of various programs to reach more people who can benefit from them. The development of networks for research and action (e.g. RENEWAL) is another approach to simultaneously increase capacity, communications and the coherence and scale of response. Community radio and internet portals are useful for communicating, strengthening capacity and scaling up ideas and innovations. Another approach to increasing the breadth and scale of the organizational response is through mainstreaming.

MULTISECTORAL APPROACHES AND MAINSTREAMING

AIDS is a multisectoral issue requiring a multisectoral response. Several rationales have been raised in the literature and at the Durban conference. Multisectoral programming is needed to increase the organizational scale of the response to HIV/AIDS:

- Because the difference between behaviors of people in high and low prevalence areas is smaller than that between their environments, which in turn are shaped by many sectors. Many sectors both affect, and are affected by, AIDS. The fact that HIV epidemics are endogenous to livelihood systems, not exogenous, implies a responsibility for different sectors to be part of the solution.
- Because there are positive synergies between prevention, care and treatment, and mitigation which may be better exploited in a multisectoral approach
- Because original international and sectoral goals (e.g the Millennium Development Goals in many countries) may not be achieved unless HIV/AIDS implications are taken on board.
- Because it is simply not enough to only mainstream HIV/AIDS within one or two sectors (e.g. just health and agriculture).

UNAIDS has recognized this in its promotion of the “Three Ones” principle: one agreed national framework of action against AIDS, one national AIDS coordinating authority with a broad *multisectoral* mandate, and one agreed country-level monitoring and evaluation system.

Multisectoral approaches to HIV/AIDS control will involve (but not be limited to) mainstreaming of HIV implications into the policy and practice of many sectors. But, as Gavian et al. (2005) stress, multisectoralism is more than simply “many sectors” and it goes well beyond policy mainstreaming. Communities are not sectors, but they are, or they should be, part of multisectoral responses. Binswanger et al (2005) highlight lessons learned from “Integrated Rural Development,” a failed centralized and state-driven approach to rural development, and show why highly decentralized and community driven approaches (as discussed above) with strong private sector involvement, hold great potential for avoiding difficulties in the coordination and execution of multisectoral programs.

Mainstreaming is not a one-off event, but a continual *process* of learning, synthesizing, and acting. It has two dimensions – first, the personal: adjusting the mindsets of the organisation and its individual staff in order to internalize the HIV/AIDS issue into the core of their perceptions and programming. The second (professional), is specifically technical or operational: identifying the most beneficial ways of giving practical expression to these concerns through the design and delivery of appropriate project activities. As well as workplace policies, mainstreaming HIV/AIDS encompasses strategic planning and all stages of the program cycle from situation analysis and project design to implementation, monitoring and evaluation.

Mainstreaming does not imply an organization should suddenly start undertaking new tasks for which it is not equipped. Rather it should continue to focus on its core business, but view it through the lens of its interactions with HIV/AIDS. Drimie and Mullins (2005) employ a livelihoods approach to focus on risk and vulnerability (and their positive flipsides, resistance and resilience) using an HIV/AIDS lens, but move on to use a more generic ‘health and development’ lens.

Reviewing progress on the ground, Gavian et al. (2005) found an upswing in the number of countries with comprehensive, multisectoral national AIDS strategies, but that implementation lags. The World Bank’s “Turning Bureaucrats into Warriors” 2004 publication and Multi-country AIDS Program (MAP) Interim Review 2004 speaks of a “somewhat half-hearted” introduction into many ministries, with “cookie cutter” sectoral plans tending to ignore the local context; line ministries adopting workplace action plans, yet failing to consider programs for their constituencies and failing to submit fundable proposals and workplans. A 2003 UNAIDS survey in 63 countries found only 13% had actually made progress in implementing sectoral plans.

Tracking the progress or the bottlenecks in multisectoral implementation requires appropriate HIV-relevant indicators to be built into routine monitoring and evaluation systems of many sectors -- including gender-sensitive indicators of livelihoods, food and nutrition security, stigma, etc.

ENHANCING LEARNING AND INNOVATION

The large-scale, long-wave and crosscutting nature of HIV epidemics have challenged both learning and implementation processes, creating tensions between research and action, between researchers and activists – as well as between proponents of different strategies e.g. prevention vs treatment. In the face of complex interactions, researchers are hesitant in generating policy recommendations. And yet, the epidemic (or “endemic”, as Barnett terms it) continues regardless.

There are lags between HIV and AIDS and there are lags between policy change and results. Because many policies and programs take years to implement and provide tangible results, there is urgency to put in place an appropriate set of public investments and programs that can cushion the blow by the time the long-wave impacts of AIDS are in full force (Jayne et al. 2005). Proactivity not reactivity is the emphasis to ensure that policy gets ahead of the epidemic curve. To facilitate this, there is thus an urgent need for research to be linked with action, both ways – with research informing action, while implementation generates challenges and questions for operational research. This is the essence of action research.

Part of the shift "from evidence to action" will come through a wider adoption of learning-by-doing approaches. Policy needs to support and encourage timely and locally-relevant community responses that naturally respond to diversity. But for the 'doing' to actually be accompanied by real-time 'learning', good systems of process and outcome monitoring, and communications are required.

In his keynote address, Tony Barnett spoke of a 5-10 year window of opportunity presented by the ongoing (albeit slow-moving) antiretroviral drug rollout. Due to likely difficulties for large numbers of people meeting and sustaining drug adherence thresholds of greater than 95%, there is a significant likelihood that viral resistance will develop and spread, undermining the efficacy of existing drug regimes. During this window of time, Barnett asks -- how do we literally get ahead of the epidemic curve, and promote/enable the development of innovations that will be useful for current and future AIDS control? Such innovations moreover will need to be for collective, not simply personal, gain.

The Farmer Life Schools approach is one example of an innovative modification of any earlier approach to agricultural extension (Djeddah et al 2005). Farmer Life Schools originated from Farmer Field School discovery-based learning approaches to help groups of farmers gain a deep understanding of ecological concepts as well as their practical implications. In the Farmer Life Schools adaptation this was extended to human ecology, and the same processes have been translated to HIV/AIDS and other livelihood issues.

INTERVENTIONS

When it comes to interventions aimed at combating the HIV/AIDS-food insecurity nexus, the evidence base remains weak. Where organizations have launched such interventions, they are usually isolated, small-scale with minimal monitoring, and they are rarely well-evaluated. The conference made a plea for more rigorous evidence of what works, where and why. Better links are needed between programmers and researchers to achieve *informed* action. Interventions with well functioning management information systems that are amenable to operational research become more effective over time, as well as promoting wider learning. Many NGO participants in particular recognized the need for learning, documentation and dissemination to become higher priorities in their work.

Interventions aimed at responding to the interactions described earlier, may be categorized in various ways. A multiplicity of impacts translates into a potential role for many interventions. Again, without any claims to being comprehensive, here are some of the main intervention options that were discussed in Durban.

Agriculture

Conventional wisdom prioritizes technologies and crops that save labor in the context of HIV/AIDS. Jayne et al. (2005) however believe this to have been over-generalised, although such technologies may be appropriate for certain types of households and regions. Dorward and Mwale (2005) concur, arguing that labor-saving technologies may even be harmful if they further drive down wage rates that are already falling due to HIV-induced cash-constraints on ability to hire. Emphasis may need to be placed on other ways of assisting these households, such as cash transfers to help them with labor hire.

With high population density and very small average agricultural holdings, Donovan and Bailey (2005) found Rwandan households appear to use labor *replacement* strategies rather than labor-saving technologies to deal with labor shortages. They found a disturbing trend of households shifting away from crops that provide erosion control, thus endangering future soil fertility. Since affected households ex post tend to be in the lower income groups, agricultural policy that can generate rural income growth from diverse sources will assist these and other poor households.

Raising living standards of households and communities over the long-run -- through productivity-enhancing investments in agricultural technology generation and diffusion, improved crop marketing systems, basic education, infrastructure, and governance -- will improve their ability to withstand the social and economic stresses caused by HIV/AIDS (Jayne et al. 2005)

But what type of modifications are needed to ensure that agriculture is “HIV-responsive” and that it plays its part in strengthening resistance and resilience to HIV/AIDS? Bishop-Sambrook et al (2005) address this through applying an HIV/AIDS lens to the commercialization of agriculture in Ethiopia. Initiatives to strengthen the market orientation of agricultural production present both an opportunity and a threat in the context of a rural AIDS epidemic. Whilst any contributions towards reducing poverty and the need to migrate to find work may reduce susceptibility to HIV, the authors state there are very real risks that the additional cash and the stimulus to travel further afield to market produce could have the opposite effect. Hence activities associated with promoting the marketing of agricultural products need to be designed with care to ensure they play a role in arresting, rather than hastening, the spread of the disease in rural communities. They go on to outline several opportunities for addressing HIV/AIDS through market-led growth strategies. Examples include:

- *Raising awareness* and understanding about HIV and AIDS among groups associated with agricultural production and marketing initiatives who are traditionally overlooked because they do not usually belong to formal associations (such as petty traders and retailers, ambulant traders, transporters, owners of hotels and drinking houses);
- *Reducing risk of exposure to HIV infection* For example, reducing the need and desire to migrate by improving livelihood options in and around the community, extending the growing season through developing small-scale irrigation, product diversification, agro-processing, strengthening existing, and creating new, market linkages, and developing the farm input supply chain;
- *Reducing vulnerability to AIDS impacts* For example, overcoming barriers to participating in agricultural production and marketing by affected households, such as their depleted resource base, their need to be close to home to tend to the sick, loss of key skills and their inability to take on risk; using cooperatives and farmer organisations as entry points for mitigation, care and support activities in communities e.g. by developing income generating activities, savings, health insurance, or establishing a social fund to provide care for orphans.

Jayne et al (2005) conclude their extensive work by discussing four types of potential agricultural policies and programs – factor use and input markets, agricultural research and extension systems, commodity markets and gender-differentiated resource allocation. In each category they describe clear options for strengthening the HIV-responsiveness of these policy instruments.

Another element of early conventional wisdom in this field suggested that AIDS was driving a shift to less labor-intensive and less nutritious crops among smallholders e.g. cassava. But how much of such a shift is actually driven by HIV/AIDS? Jayne et al. (2005) point to major changes in agricultural policy that have shifted some farming systems from maize toward tuber crops. Many countries in eastern and southern Africa had formerly implemented state-led maize promotion policies and subsidies on fertilizer distributed on credit to small farmers along with hybrid maize seed. These policies were either eliminated or scaled back significantly in the 1990s as part of economy-wide structural adjustment programs, reducing the financial profitability of growing maize. Cropping incentives have shifted toward other food crops, especially those relatively unresponsive to fertilizer application, such as cassava.

Bio-structural interventions

Bio-structural interventions refer to efforts to i) enhance the benefits people derive from living natural resources, e.g. through agriculture, and ii) to ensure that a part of these benefits supports HIV/AIDS control objectives (Loevinsohn 2005). In India, rural “distress migrants” are at heightened HIV risk and may spread the virus when they return home. Such risky migration has been reduced by some watershed development (WSD) programs through efforts to restore degraded soils and vegetation, capture rainfall and extend irrigated cultivation. Drawing on recent data from South India, Loevinsohn used an epidemiological model to simulate various scenarios. Results suggest that WSD, through reducing

migration, may already be preventing significant numbers of HIV infections -- in some contexts at a cost per infection averted comparable to single-purpose interventions like condom promotion. But such programs may also harm the landless, so securing these benefits and avoiding any adverse effects require attention to precisely those issues that have challenged large WSD: inter-institutional cooperation, sustained and flexible local management, equitable sharing of benefits and effective participation by women, the landless and other marginalized groups. Loevinsohn concludes that AIDS effectively sharpens the incentives to get WSD “right”.

Nutrition, public health and environmental health

“AIDS is a development issue” may be an oft-repeated mantra, yet even in the health sector itself, accumulated knowledge and experience in the field of public health has hardly influenced AIDS policy and programming. Stillwaggon (2005) argues that it is the same conditions that promote high prevalence of other infectious diseases and parasites that are responsible for the spread of the AIDS epidemic in poor populations. She calls for AIDS policy to address the mundane risks of growing up in environments that burden people with sickness and make them more vulnerable to HIV. Programs to prevent HIV transmission are unlikely to succeed unless they address the underlying causes of its spread. HIV prevention must be based on scientific evidence regarding cofactor conditions, not, as they currently are, on unproven assumptions about the primacy of behavioral factors. In addition to food security, deworming, schistosomiasis prevention and treatment, and malaria control programs should thus be integrated as critical components of a broad-based approach to HIV prevention (Stillwaggon 2005).

The WHO Consultation on Nutrition and HIV/AIDS in Africa (10-13 April) that preceded the IFPRI conference, concluded with several key nutrition-relevant recommendations detailed in the annex. In sum, these were aimed at: strengthening political commitment and improving the positioning of nutrition in national policies and programs; developing practical tools and guidelines for nutritional assessment for home, community, health facility-based and emergency programs; expanding existing interventions for improving nutrition in the context of HIV; conducting systematic operational and clinical research to support evidence-based programming; strengthening, developing and protecting human capacity and skills, and incorporating nutrition indicators into HIV/AIDS monitoring and evaluation plans.

Social protection, including food aid

AIDS can be viewed as a “long wave crisis” (Barnett 2005), where people don’t recover well in between crises (as in classic, fast-onset emergencies); as a “slow-onset disaster” (Wisner et al. 2004) as well as an urgent development challenge that requires massive short- and medium-term support and capacity strengthening. Until now, AIDS has tended to be addressed *either* as a humanitarian issue (notably during the 2001-2 food crisis in southern Africa) *or* as an ongoing threat to development. In recent years, however, discussion has turned to whether these two perspectives need to be better linked. The notions of “developmental relief”, “relief in development” and a *contiguum* approach (as opposed to an emergency to development continuum) have gained currency. Barnett (2005) also argues for the need to review current paradigms of development and relief and strengthen the ability to switch rapidly between activities as people’s needs and priorities change. Oxfam too is firmly behind such a contiguum approach, viewing the concept of a development path periodically interrupted by short emergencies as a fiction in the context of AIDS. Oxfam’s support to social protection is predicated on the likelihood that at all times in all places people require *access* to support and interventions in relief, rehabilitation and development to ensure their basic needs are covered in the short term while longer term development opportunities are made available.

‘Social protection’ means different things to different people, with several definitions currently in existence – mainly differentiated by the degree to which the envisioned protection extends to enhancing livelihoods, includes social insurance as well as assistance, and is advocated as a right rather than a reactive form of relief (Adato et al 2004). Increasingly recognized as an essential part of social policy, social protection systems have been used to enable individuals, families, and communities to reduce risk

and/or mitigate the impacts of stresses and shocks to their livelihoods. They may also be used to support people who suffer from chronic incapacities to even secure livelihoods, including people living with HIV. Interventions may include conditional and unconditional cash transfers, direct distribution of food or nutritional supplements, school-based food programs, price subsidies, agricultural inputs, public works programs, social health insurance, asset insurance, life insurance, and microfinance. Yet, few presentations at the Durban conference focused on broad-based AIDS-relevant social protection. In the context of AIDS, there is still very little experience to document or build on, though there are signs that this is now changing.

In contrast, food assistance is a widely employed safety net in the context of HIV and AIDS, despite a serious paucity of evaluations of impact on HIV related target groups (Strasser et al 2005). Key areas of expected effect include increases in daily food consumption by all household members, in money available for other needs, and an overall increase in household food security. These key effects should in turn generate a cascade of secondary effects measurable by indicators such as anthropometrics, treatment adherence, school attendance, productivity, and the degree of reliance on risky response strategies and on caregivers. Food aid targeting design however tends to be oriented by certain types of people rather than the determinants of vulnerability, and this may lead to significant inefficiencies. Not all female-headed households for example are vulnerable, nor are all orphan-fostering households. Drimie and Mullins (2005) discuss ways in which a livelihoods approach can guide analysis to go further, to a better understanding of who is actually at risk or vulnerable, why, and how to improve their resilience.

Where food assistance is required, there is an emerging consensus on the need for multiple criteria to target beneficiaries. Useful criteria include the presence of a chronically ill adult, the number of orphans (not simply “orphans vs no orphans” following Rivers et al. 2005). Analyzing Community Health Surveillance data, Strasser et al (2005) suggest targeting efficiency could be improved by first differentiating households according to wealth category (using, for example, assets as a proxy) and then applying other criteria such as chronic illness.

CONCLUSIONS

In many ways, HIV/AIDS is exposing the fragility of people's livelihoods -- a fragility that derives from multiple sources of vulnerability, many of which interact and are worsened by AIDS. Poverty, malnutrition and hunger have been around a lot longer than the virus. We should thus not be blind to AIDS, but nor should we be blinded by it. An HIV lens, not a filter, needs to be employed. Any move toward ‘AIDS exceptionalism’ will not improve understanding of these important interactions, and may even close off some important opportunities for effectively responding.

Three overlapping sets of problems therefore need to be kept in focus: HIV/AIDS, food insecurity and malnutrition. Not only do these problems overlap significantly, they interact too. We need to keep track of the nature, magnitude and outcomes of these interactions - so that responses are appropriate and effective in the context of high or rising HIV prevalences.

Geographically and disciplinarily, there is a need for breadth as well as depth. Much past work on the HIV/AIDS–hunger nexus has been undertaken in Sub-Saharan Africa where the risks and impacts are most common and most serious, and where there is more experience to build upon. But it is imperative that future work extends beyond Africa – especially to Asia -- in order to be better prepared in other areas where such impacts may soon be experienced. In terms of disciplinarity, diversity of impacts needs to be matched by diversity of researchers, working collaboratively. In order to come to grips with this dynamic new universe, and effectively fill these knowledge gaps, bridges need to be built between social scientists, epidemiologists, public health specialists, nutritionists and agricultural economists.

The conference concluded with an urgent call for large scale responses that can cope with the diversity, complexity and context-specificity of the interactions between HIV/AIDS and food and nutrition security. These responses will need to avoid defaulting to the “installed capacity” represented by existing vertical programs and structures, but rather be driven by innovation in technologies and in approaches to intervention.

Towards this, greater emphasis needs to be placed on supporting and enabling community-driven responses and innovations. Communities have better, more relevant information (that responds to the diversity and context-specificity) and they often have latent, untapped capacity. Transparency and accountability may also be enhanced through local peer-oversight. Communities have incentives to act and they are responding – albeit not always optimally. But in general there’s a need to start with an understanding of which community-driven responses are working, before looking at ways to provide relevant support where local capacity is exceeded. This in turn requires a clear articulation of roles of other stakeholders, including the state, in a broad-based system of social protection.

In the face of the challenges posed by the interactions between HIV/AIDS, food and nutrition security, there is no convenient magic bullet intervention and no blueprint. The fact that "business as usual" is not working however does not mean that everything needs to change. Rather, a truly multisectoral involvement is required. This is fundamentally different to simply adding more (usually vertical) HIV activities on to sectoral plans. Mainstreaming starts with decisionmakers internalizing AIDS as a development issue, leading in turn to a critical review of existing policies and programs through the lens of their growing knowledge of AIDS interactions. It is a process involving continual reflection, and the progressive application of principles and processes for responding -- rather than pulling pre-designed interventions off the shelf.

Mounting awareness of the links between HIV/AIDS and food and nutrition security creates an opportunity for food and nutrition professionals to develop the conceptual links that, as Gavian et al (2005) point out, are lacking in current multisectoral frameworks, provide an empirical basis for assessing impacts and costs, propose indicator and monitoring systems and design appropriate food and nutrition-relevant interventions.

How to balance the urgent need to act now with the need to know more? As Binswanger et al (2005) cautioned, we must not fall into the “evidence trap” – a lack of knowledge is rarely an impediment to action. While gaps remain in the literature that will require dedicated research to address, the conference clearly called for a shift in emphasis toward “learning-by-doing” – or action research. For the “doing” to be accompanied by learning, as mainstreamed programs come on stream, the development and maintenance of good systems of HIV-relevant monitoring, evaluation and communications will be crucial. The heterogeneity of much recent evidence may preclude generic policy recommendations, but the fact that knowledge gaps remain is no excuse for inaction.

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