HIV/AIDS AND FOOD AND NUTRITION SECURITY: WHAT IS KNOWN AND WHAT CAN BE DONE?

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Abstract

Despite the major upsurge in interest and research on the interactions between HIV/AIDS and food and nutrition security, significant gaps remain in our current state of knowledge, and guidance is needed to turn what we know into what we do. To address these linked issues, the International Food Policy Research Institute organized the International Conference on HIV/AIDS and Food and Nutrition Security: From Evidence to Action, held in April 2005 in Durban, South Africa. A diversity of stakeholders from Africa and elsewhere discussed three core sets of issues – what do we know about the interactions, how are local communities responding, and what can be done in terms of external support and interventions.

The biggest challenge of all is how to act now, and act at large-scale, when much of the emerging knowledge of what is happening in affected communities is so context-specific, and not necessarily amenable to universal policy prescriptions.

Ultimately, a broad consensus emerged on a three-pronged strategic approach aimed at strengthening household and community resistance and resilience to HIV/AIDS; enhancing and expanding livelihood opportunities for affected communities, and ensuring appropriate safety nets for those households that require them. These three strategies should be pursued simultaneously, based on the different comparative advantages of all stakeholders from households to national governments and international agencies.

Introduction

We are at a watershed. Knowledge of the interactions between HIV/AIDS and food and nutrition security has been growing in recent years, but the next step of using this knowledge to improve and scale up effective actions – has yet to be taken. The heterogeneity of much recent evidence may preclude generic policy recommendations, but the fact that knowledge gaps remain is no excuse for inaction.

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.

The "International Conference on HIV/AIDS and Food and Nutrition Security: From Evidence to Action" was thus 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, with a majority from Sub-Saharan Africa, were present for three days (14-16 April 2005) during which 54 papers were presented in a series of parallel and plenary sessions.

Key questions addressed were:

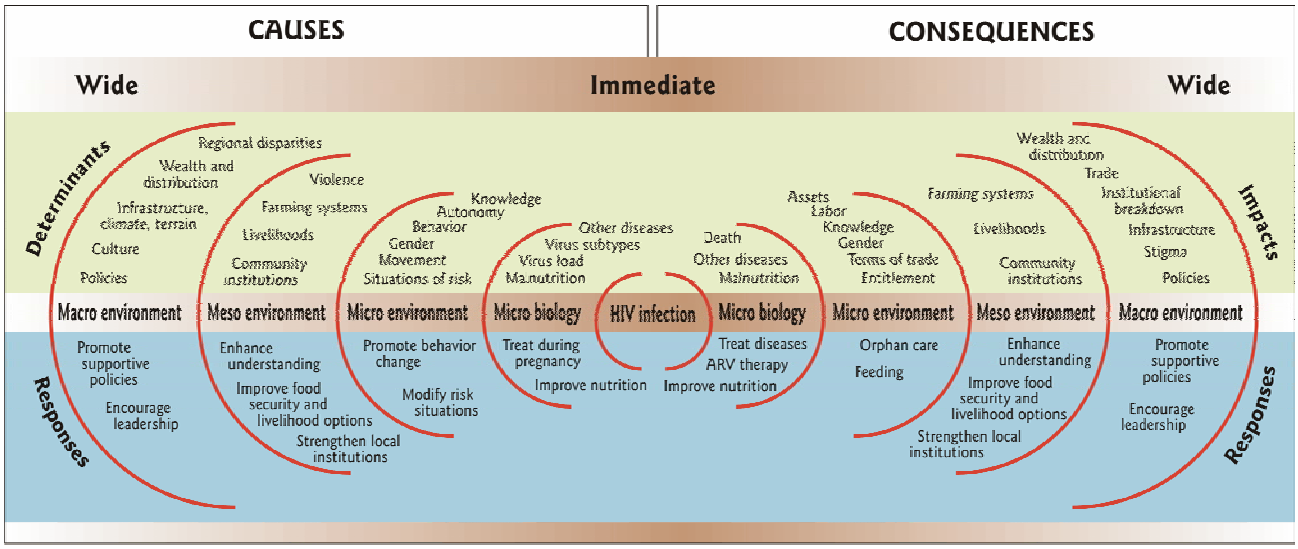
- *Interactions.* What is known about the interactions between agriculture and other rural livelihood systems, the spread of HIV and the impacts of AIDS at different levels?
- *Local responses.* What is known about the capacities and strategies of households and communities to reduce infection risk (resistance) 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?
- *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?

Conceptually, we can view the universe of factors and processes driving the causes and consequences of HIV epidemics as in Figure 1. This 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).

Looking first at the top left hand quadrant, we can see the various levels and sources of *susceptibility* to the HIV virus. Susceptibility has two components: risk of exposure to the virus, and risk of infection. HIV infection of an individual is the epicenter of Figure 1. Following HIV infection, in the top right hand quadrant, we can see the various sources and levels of *vulnerability* to AIDS-related impacts.

Figure 1: HIV/AIDS Determinants, Impacts and Responses



Source: Loevinsohn and Gillespie 2003

2 Food and nutrition security, and risk of being infected with HIV

In investigating the risk of an individual being infected with HIV, we 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), w*ho* is most susceptible, and *why* are they susceptible? A few important conference papers shed light on these questions though this aspect remains relatively under-researched.

2.1 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.

Does poverty put people at greater risk of being exposed to the virus and being infected with it? Consistent with findings in the early stages of the epidemic, Chapoto and Jayne (2005) find that men and women in the upper half of the income distribution in Zambia were actually 44% and 23% *more* likely to die of disease-related causes than men and women from low-income households. Such evidence runs counter to the prevailing view that poverty leads to risky behavior and is the major pathway through which the disease is spread, although it may certainly be one pathway. They also find that single women having some form of salary or wages are 5-10% less likely to die than women with similar socio-demographic characteristics not having wage income -- suggesting that efforts to provide greater income-earning opportunities for women may make at least a modest contribution to reducing female prime-age mortality (Chapoto and Jayne 2005).

The link between poverty and HIV risk may be mediated through the need to move in search of work. 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 than men living at home (Chapoto and Jayne 2005). 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 infection 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. South Africa and Botswana are also heavily reliant on mining which forces men to live away from home for long periods of time, increasing the chances of both partners engaging in commercial or transactional 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 prostitutes to be less vulnerable to HIV infection than miners or youth due to their insistence on condom use.

In Malawi, poverty and HIV risk do seem to be increasingly linked, as major livelihood shifts are underway.

Bryceson and Fonseca (2005) highlight the ongoing collapse of the peasant household's coherence as a unit of production as shifts in household assets and livelihood portfolios have veered from: i) 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 doing *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).

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 8 years.

2.3 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 prevalence of such co-factor 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 creekside. Any resulting schistosome colonization of the genitourinary tract may render him or her, as an adult, at much higher risk of sexual transmission or acquisition of HIV than a healthy person with similar sexual behavior.

2.4 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). 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 (numerous studies are reviewed in Gillespie and Kadiyala 2005). Impacts are multiple and often inter-related. 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. Total mean annual expenditure of death-affected households was US$462, 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.

Many impacts are revealed in responses that households and communities make in the face of HIV/AIDS. How are households and communities responding, and how effective are these responses? 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 indications that traditional rural Africans' coping strategies can mitigate the worst effects of AIDS (e.g. De Waal et al 2005). But 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 (De Waal et al 2005; Gillespie and Kadiyala 2005).

HIV/AIDS is different in several important ways to other shocks and stresses. But where it is most prevalent, in sub-Saharan Africa, it is one among many concurrent stresses. An increasing number of households and communities are struggling to respond to multiple overlapping vulnerabilities and interacting processes of change. Vulnerability is not a static condition, it is enmeshed in a dynamic cycle, and generated by exposure to change, by the inability to respond to change, and by the outcomes of these processes (Quinlan et al. 2005). We need to learn more about these interactions.

AIDS is one of many stresses, but it is a distinct one that 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. In Tanzania, the cumulative impacts of such overlapping and interacting vulnerabilities in certain parts of the country are driving communities into a long-term structural crisis, similar to the 'triple

crisis' of HIV/AIDS, food insecurity and lack of government capacity identified by the United Nations (De waal et al 2005).

AIDS can thus be viewed as a "long wave crisis" (Barnett 2005), where people don't recover well in between crises (as in "classic" 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.

2.5 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 state, land is likely to remain a primary constraint on income growth. There are strong reasons for anticipating that AIDS will progressively decapitalize highly-afflicted rural communities, meaning a loss of savings, cattle assets, draft equipment, and other assets. Such decapitalization may come to pose the greatest limits on rural productivity and livelihoods for these communities (Jayne et al 2005).

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/AIDS incidence. Reductions in family labor may also lead to a shift out of more labor demanding cash crops. The multiplier effects of this depressed demand could cause reductions in labor demand to the extent that wages also fall, posing serious problems even for poor households not directly affected by HIV/AIDS. They find some evidence for a mild loosening of the market in Malawi in that the highest modelled incidence of morbidity and mortality leads to a 5% fall in wages. 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. Such new evidence cautions against the prescription of any universal response such as labor-saving technology, and highlights the need to investigate the critical stresses of those affected.

2.6 Macro-economic impacts, poverty and inequality

At a macro-level, the impacts of HIV/AIDS are not clear – at least not using current models. 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, 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 it may be some way off.

Given that our concern is with 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 HIV/AIDS itself increases these inequalities – a potentially vicious cycle that is not captured by measuring income means. AIDS may simultaneously promote land acquisition from poor to wealthy leading to aggregate production increases at "community" level, while increasing inequality, poverty and malnutrition.

De Waal et al (2005) address the apparent paradox of robust macro-performance coexisting with multiplying indicators of distress in Tanzania, pointing to the creation of a new (and largely invisible) underclass of disadvantaged people, particularly vulnerable children, women, and the elderly who have been plunged into poverty by the impact of AIDS at the household level.

Even AIDS *programs* can increase inequality. Chopra (2005) cites the example of settings where breast milk substitutes are made available, free of charge, to HIV+ mothers who meet the AFASS criteria (formula feeding is "affordable, feasible, acceptable, safe and sustainable") Those who don't meet these criteria, including many poor, disadvantaged women who live in the most insanitary environments, are being further marginalized by their inability to access this source of support for their infants. Moreover, because they are lactating, such women will have greater nutritional needs than the non-lactating women receiving food support. Chopra provides a rough cost-estimate demonstrating that it costs 1200 rands to provide free formula to the 'better-off' mothers for 6 months, while at the same time, poorer mothers are expected to spend 600 rands (from their own resources)

to meet their increased nutritional needs. In addition, it is normally the non-poor, urban dwellers who have the best access to antiretrovirals.

While HIV/AIDS contributes to poverty it is by no means the only or even always a major cause. The earlier discussion of multiple vulnerabilities is clearly relevant here.

The majority of studies of HIV/AIDS impacts are household-level studies, As well as suffering from an inability to track the dynamics of interactions over time household-level effects do not relate well to more aggregated impacts e.g. sector level or national level (GDP). 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.

2.7 Orphanhood and vulnerability

Conventional wisdom holds that orphan-fostering households are particularly vulnerable. But some studies have shown that these are not necessarily the poorest households (Seaman and Petty 2005; 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 reported significantly more food insecurity and hunger than households with only one orphan or no orphans at all. 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 lead 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). For monitoring purposes, these findings provide two important implications. First, it is necessary to define vulnerability more specifically, looking for specific pockets of vulnerability within the group of "orphans and vulnerable children". 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).

2.8 Child growth failure

During the food crisis of 2001-3, Mason et al. (2005) showed that child nutrition deteriorated substantially in many areas (provinces or districts) of Malawi, Mozambique, Zambia and Zimbabwe. The pattern was usually one of child underweight prevalences increasing more rapidly in better-off areas – at first sight a counter-intuitive observation, but one that was later attributed to the fact that HIV infection is more common near transport routes and places where trade is more common, which tend to be the more socio-economically advanced areas with less malnutrition. Underweight prevalences appeared to increase more rapidly in areas with high HIV prevalence affected by drought, than with either HIV or drought alone (Mason et al, 2005).

Are these effects concentrated on certain ages of children? Using surveys from the previous ten years or so from Malawi, Zambia, and Zimbabwe, growth failure was found to persist more frequently at older ages, with the largest effect seen on children between 18 and 59 months of age who are unable to bounce back after substantial (yet expected) declines in nutritional state in the first two years of life (Hudspeth et al. 2005). The most likely reason cited was reduced household/caregiver capacity to care for these children. Analysis of the changing growth patterns by areas within countries revealed that in the case of both Zimbabwe and Zambia urban children were most affected.

3 What can be done ?

3.1 Community-driven responses

The Durban conference further highlighted the differentiated impacts of HIV/AIDS on communities and the variety of attempts they make to improve their resistance to HIV spread and their resilience to HIV/AIDS impacts. Communities have responded in innovative ways -- strategies reviewed in Gillespie and Kadiyala (2005) include 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 etc.

In a study in Malawi, resilience of households in different agriculture systems was conceptualized by Ngwira et al. (2005) as deriving from four core components of well being: opportunity; capability, security and empowerment, with outcomes or indicators being grouped similarly. Programs to help such households need to be responsive to the nuanced needs in communities and households. As well as strengthening sources and types of resilience, the environmental context may be modified through policy change to make it more enabling.

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 cross-cutting. Unlike vertical sectoral programs that tend to

focus narrowly on infected individuals, they focus on affected communities.

But 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.

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 (Kadiyala 2004), 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)

3.2 Enhancing learning and innovation

The large-scale, long-wave and crosscutting nature of HIV epidemics have challenged both learning and implementation processes. It has created 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). To facilitate this, research should be better 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. One example of research linking directly with action through evolving national networks of researchers and policymakers is the Regional Network on HIV/AIDS, Rural Livelihoods and Food Security (RENEWAL), now active in eastern and southern Africa .

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 (Ou Chhaya et al 2004). 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.

3.3 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 overgeneralised, 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.

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 HIV/AIDS epidemicWhilst any contributions towards reducing poverty and the need to migrate may reduce susceptibility to HIV/AIDS, the authors state there are very real risks that the additional cash and the stimulus to travel further afield to market produce could result in increasing the risk of exposure to HIV. 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 – for example, avoiding evening markets that often require traders to stay overnight.

3.4 Public health and environmental health

"AIDS is a development issue" may be an often-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 the same conditions that promote high prevalence of other infectious diseases and parasites are responsible for the spread of the AIDS epidemic in poor populations. She calls for an 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 will thus be unsuccessful unless they address the underlying causes of the spread of AIDS. HIV prevention must be based on scientific evidence regarding co-factor 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).

3.5 Nutrition

Home gardening offers potential for households to raise income and ensure access to nutritious food, close to home. In their work in Lesotho, Abbot et al. (2005) cite a fourfold rationale for the selection of homestead gardens as a key intervention strategy: 1. almost every household has access to land for a homestead garden on its residential plot – while many, often including the most vulnerable, lack fields. Water for supplementary irrigation is also more likely to be available in residential areas than in the fields.

2. being close to the house and relatively small, homestead gardens can help labour-scarce households continue at least some food production and to maintain comparatively labour-intensive production techniques.

3. homestead gardening, with its emphasis on a range of vegetable crops rather than the single grain staple usually grown in fields, has important potential for enhanced household nutrition, especially significant for HIV-positive household members with special nutritional needs.

4. there is significant scope for marketing homestead garden produce, enabling vulnerable households to raise some cash income (Abbot et al. 2005).

Few, if any, AIDS treatment programs have incorporated nutrition care, yet most prescription refills are followed by instructions to take drugs after meals. In recognition of this fact, the Academic Model for Prevention and Treatment of HIV/AIDS (AMPATH) – an interesting Kenyan/US university partnership -- has developed the HAART 'n' Harvest Initiative (HHI) in western Kenya (Siika et al. 2005). The HHI is an innovative system of small scale, low cost, high production farms that use locally available technology. All HIV-infected patients undergo comprehensive nutritional assessment and those found to be malnourished or food insecure are given nutritional counseling and a "nutrition prescription". Prescriptions are presented at the HHI farms or distribution points for supply of fresh, locally acceptable food, calculated to meet the needs of the patient and their household. Additionally, patients and the surrounding community receive education on nutrition, agriculture as well as on HIV prevention, treatment and care. The impact of HHI on food insecure HIV-infected patients is currently under study.

In Guinea, Africare is using an adaptation of the Positive Deviance-Hearth approach to rehabilitate severely malnourished children infected or affected by HIV/AIDS. In the PD-Hearth model, "positive deviant caretakers" whose household caring and feeding practices, despite poverty, result in well-nourished children work with trained volunteers to teach other caretakers how to sustain nutritional practices and adopt appropriate behaviors regarding prevention and care for HIV/AIDS affected children. Links are made to health services for deworming, immunizations and micronutrient supplementation. A study by Kadio et al. (2005) demonstrated significant results in reducing malnutrition among children.

The WHO Consultation on Nutrition and HIV/AIDS in Africa (10-13 April 2005?) that preceded the IFPRI conference, concluded with several key recommendations 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

3.6 Linking short-term with long-term approaches

AIDS has been referred to as a slow onset disaster and a long-wave crisis. It has been addressed as a humanitarian issue (notably during the 2001-2 food crisis in southern Africa) and an ongoing threat to development. In recent years, 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 been floated a lot recently. Barnett (2005) 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. 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.

Conclusions

"The past is no guide to the future" [Tony Barnett, April 2005]

In many ways, HIV/AIDS is exposing the fragility of people's livelihoods – this fragility 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 blinded by it. Any move toward 'AIDS exceptionalism' will not improve understanding of these important interactions, and may thus close off some important opportunities for effectively responding.

We thus need to keep the focus on three overlapping sets of problems: 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.

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. Diversity of impacts needs to be matched by diversity of researchers, working collaboratively. In order to come to grips with this new universe, and effectively fill these knowledge gaps, bridges need to be built between social scientists, epidemiologists, public health specialists, nutritionists and agricultural economists. Only in this way will the causes and consequences of HIV/AIDS be mapped in ways that build the evidence base, in ways that ultimately lead to more effective action.

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.

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 HIV/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.

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.

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