



WORKING PAPER

Hyperendemic AIDS, food insecurity and vulnerability in southern Africa: a conceptual evolution

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Abstract

The rapidly accelerating AIDS epidemic of the 90s and its current state of “hyperendemicity” in southern Africa have affected the levels, intensity and nature of vulnerability. Not only does HIV co-exist with widespread food insecurity and economic inequality in time and space, it interacts with these conditions. HIV incidence rates are fuelled by food insecurity while subsequent AIDS-related morbidity and mortality, in turn, further exacerbate food insecurity. These interactions play out at household and community levels. In addition, HIV and nutrition interact negatively within the human body itself.

Although often hidden, interactions play out in real time at different levels from the individual to the nation state. During the evolution of AIDS epidemics there are three sequential phases of vulnerability – upstream (relating to risk of infection), midstream (individual risk of developing opportunistic infections after HIV infection) and downstream (risk of serious impacts in households or communities living with HIV). Each of these phases have particular drivers and consequences. Among poor southern Africa households, vulnerability is also dynamic in the sense that its multiple ingredients are in constant flux – and because people proactively respond to try to reduce their vulnerability. Such responses determine their resilience in the face of concurrent shocks and stresses.

Highlighting work undertaken by the Regional Network on AIDS, Livelihoods and Food Security (RENEWAL), this presentation will map out the evolution in the conceptualization of vulnerability in the context of AIDS and food insecurity in southern Africa over the last decade.

Introduction

The last decade has seen an upsurge in the enquiry and understanding of the linkages between HIV, AIDS, food security and nutrition – more often than not, through the lens of livelihoods of people affected directly or indirectly by the AIDS epidemics that have been underway for nearly three decades in eastern and southern Africa.

The notion of “vulnerability” has been employed ubiquitously in these discourses. Its actual meaning in different contexts is usually implied and rarely defined -- largely because it encompasses complex relationships. As researchers dug deeper, the word “vulnerability” was increasingly used alongside others such as “risk”, “susceptibility”. “resistance” and “resilience”. Clearly definitions were needed, and several conceptual frameworks duly emerged.

This brief paper aims to track the evolution of the theory of vulnerability in the context of AIDS, food and nutrition and its practical application over this last decade. This is done with particular reference to the conceptual work of the Regional Network on AIDS, Livelihoods and Food Security (RENEWAL), as this network and process has grappled with complexity of inter-relations between AIDS and food insecurity in southern Africa over the last decade. It is *not* intended to review actual evidence for interactions between AIDS epidemics and food and nutrition security, nor of the responses of people or institutions to these interactions. This has been done elsewhere (e.g. Gillespie, 2006; Gillespie and Kadiyala, 2005).

The focus of the paper is on the evolution of concepts and approaches to understanding and responding to a complex web of interacting problems. We aim to delineate the different types, sources, levels and stages of vulnerability, and shed light on the following core issues and questions:

- Vulnerability to what?
- When? Stage of vulnerability (e.g. before, during and after HIV infection)
- Who is vulnerable? (individuals, households, communities?)
- Why? Determinants and sources of vulnerability
- How to counteract vulnerability? What is the “flipside”? (resilience)

We conclude by asking how useful these evolving concepts have actually been in practice – in terms of effectively responding to HIV, food and nutrition interactions – and also in terms of reflecting on broader critiques of other related conceptual frameworks such as that of sustainable livelihoods.

Early perspectives

In the early years of the AIDS epidemic, the initial response of public health specialists, epidemiologists and scientists was to attempt to understand what was causing the disease and how it was spreading. Early responses were predominantly scientific and technical in nature. The focus was on “risk”, on “high-risk groups”, and on prevention, particularly through efforts to change behavior of members of “risk groups”, mainly through information and education. The perspective was strongly biomedical. This led to early ‘Knowledge Attitude and Practice (KAP)’ surveys, which sought to understand high-risk behaviors.

Some exploratory work was underway in the late 1980s by UN agencies (e.g. FAO) that considered whether the AIDS epidemic may have significant long-term effects on food security. The first paper on AIDS and food security, published in 1989, considered the vulnerability of farming systems (not people or households) to the loss of labor from the disease (Gillespie 1989). This early interest in non-health aspects of the epidemic waned in the early-mid 1990s, as the misplaced view that HIV would be contained and controlled by the health sector prevailed.

By the late 1990s, a new perspective was developing. There was growing interest in the individual, social, and economic milieu that lead to vulnerability to HIV infection. The role of biological susceptibility linked with chronic malnutrition and ill-health, for example, was largely ignored by public health authorities with the emphasis on sexual behavior. Detailed social research began to reveal the complex factors which affect behavior and which extend far beyond the influence of people. Academics and program officers began to recognize that social justice, poverty and equity issues were driving the uneven spread of the virus within and between communities and societies.

The notion of “risk” in relation to certain individuals who adopted certain behaviors – was now balanced with a broader focus on *structural* drivers of the epidemic, for example the underlying dimensions of vulnerability to exposure to HIV.

With recognition of the structural underpinnings of AIDS and particularly the broader factors which contribute to the development of social and economic “risk environments”, there was an increasing focus on how infectious disease can expand and develop rapidly into an epidemic. Thus AIDS was increasingly viewed as a development issue, not purely a health problem. This brought in many new researchers and development professionals.

As impacts of AIDS mounted, a greater focus was also applied to the downstream issues. Around the turn of the millennium, the question of the interaction of AIDS with food and nutrition security was raised -- could AIDS precipitate food insecurity? This again brought in the focus on another form of vulnerability -- to impacts, not infection -- and to its converse: resilience. Resilience can be seen as the ability of a system to absorb perturbations (such as the impact of HIV and AIDS), or the magnitude of disturbance that can be absorbed before a system changes its structure by changing the variables and processes that control behavior (Holling et al. 1995, cited in Adger 2000). It is the ability to persist and the ability to adapt.

Biomedical approaches continued to be the basis for the core strategies, but more attention was being given to the wider socio-economic and political elements of vulnerability in a broader sense. Although significant funding is allocated to research into vaccines and microbicides, there is recognition that even when these interventions are ready they will only provide part of the solution.

The watershed year was 2000 when HIV/AIDS was placed firmly on the global development agenda by UN Security Council Resolution 1308 that recognised: *‘the spread of HIV/AIDS can have a uniquely devastating impact on all sectors and levels of society’*. A year later, in July 2001, there was a UN General Assembly Special Session on HIV/AIDS – the first of its kind ever to focus on a single specific disease. Over the past decade our understanding of the epidemic and its potential impacts has deepened, and changed.

The evolution of vulnerability thinking in RENEWAL

Twenty years ago, Robert Chambers stated that *“Vulnerability... refers to exposure to contingencies and stress, and difficulty in coping”* (Chambers, 1989). That is, it has two aspects – one that relates to exposure to a stress, shock or threat, and the other that relates to the ability to manage the consequences. Vulnerability has two dimensions -- “external” and “internal”. Although vulnerability is often considered in relation to a particular stressor, such as drought, it is becoming increasingly clear that it is generated and shaped by interacting biophysical and socio-economic factors. These include not

only physical changes, but also economic, social, and political changes brought about by processes such as economic globalization, urbanization, the spread of infectious diseases, conflicts and environmental changes (McCarthy *et al.* 2001). In the case of HIV, we need to distinguish the virus (HIV) from the disease (AIDS).

Certain factors and processes make a person, or a group of people, more or less likely to come into contact with HIV – that is, the “upstream” side. And certain factors make them more or less likely to be able to “cope” effectively with the impacts of AIDS, the disease. This is the “downstream”.

In the early days of RENEWAL in 2001-2, we attempted to capture the myriad factors and processes that drive AIDS epidemics and determine their consequences. Our starting point and particular interest was to shine a light on the interactions between HIV, AIDS and the food and nutrition security of individuals, households and communities who were affected by the epidemic. For the purposes of this paper, we employ the shorthand term: “*HIV-hunger nexus*” to encompass these interactions. When looking at this nexus, we are dealing with interactions between several multidisciplinary, fundamentally cross-cutting issues.

At this point, we highlight here some early working definitions of key concepts that helped to understand how food insecurity and rural livelihoods interact with HIV and AIDS.

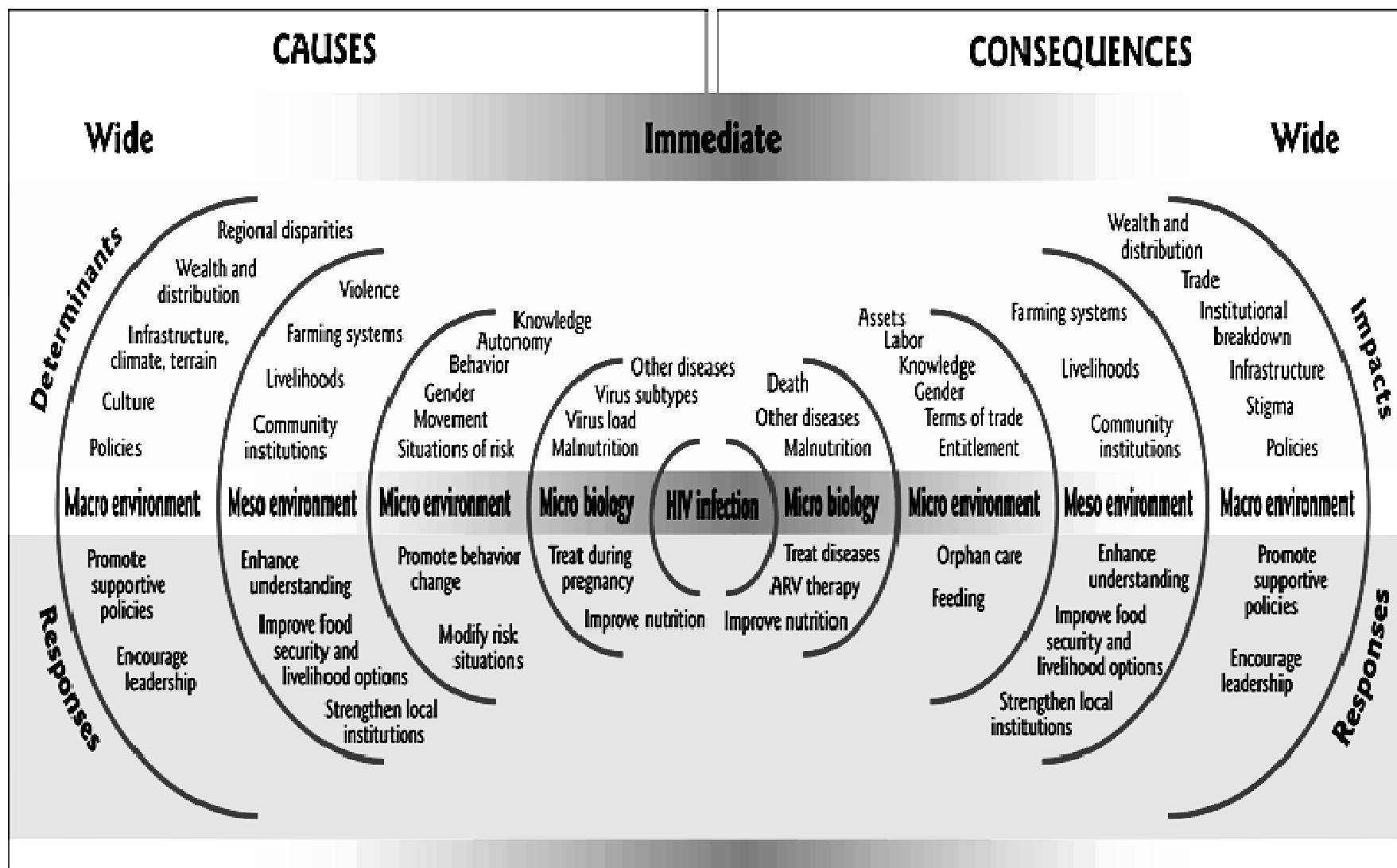
- *Susceptibility* was used to connote the chance of an individual becoming infected by HIV. It had two components: i) the chance of being *exposed* to the virus, which in turn relates to the risk environment and specific situations of risk that the person confronts and the *riskiness* of her/his behaviors (both of which may be related); and ii) the chance of being *infected* with the virus once exposed.
- *Vulnerability* was initially used differently to susceptibility – to refer to the likelihood of significant *impacts* occurring at a certain level (e.g., individual, household, community). These impacts are not one-time events, but rather processes that are often hidden, slow-moving, and destructive. These processes are often punctuated by events, such as the sale of assets, some of which are irreversible, leaving the household—if indeed it survives—significantly impoverished.

The flip sides of these two terms were also defined at this time, in this way:

- *Resistance* was the term that described the ability of an individual to avoid infection by HIV, either by escaping exposure or, if exposed, by escaping infection.
- *Resilience* was to vulnerability as resistance was to susceptibility. It referred in particular to the active responses that enable people to avoid the worst effects of AIDS at different levels or to recover faster to an acceptably normal level.

Having sketched out these definitions, it is possible to understand the framework presented in Figure 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 (although many processes run concurrently), 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).

Figure 1: The Universe of HIV/AIDS Determinants, Impacts and Responses

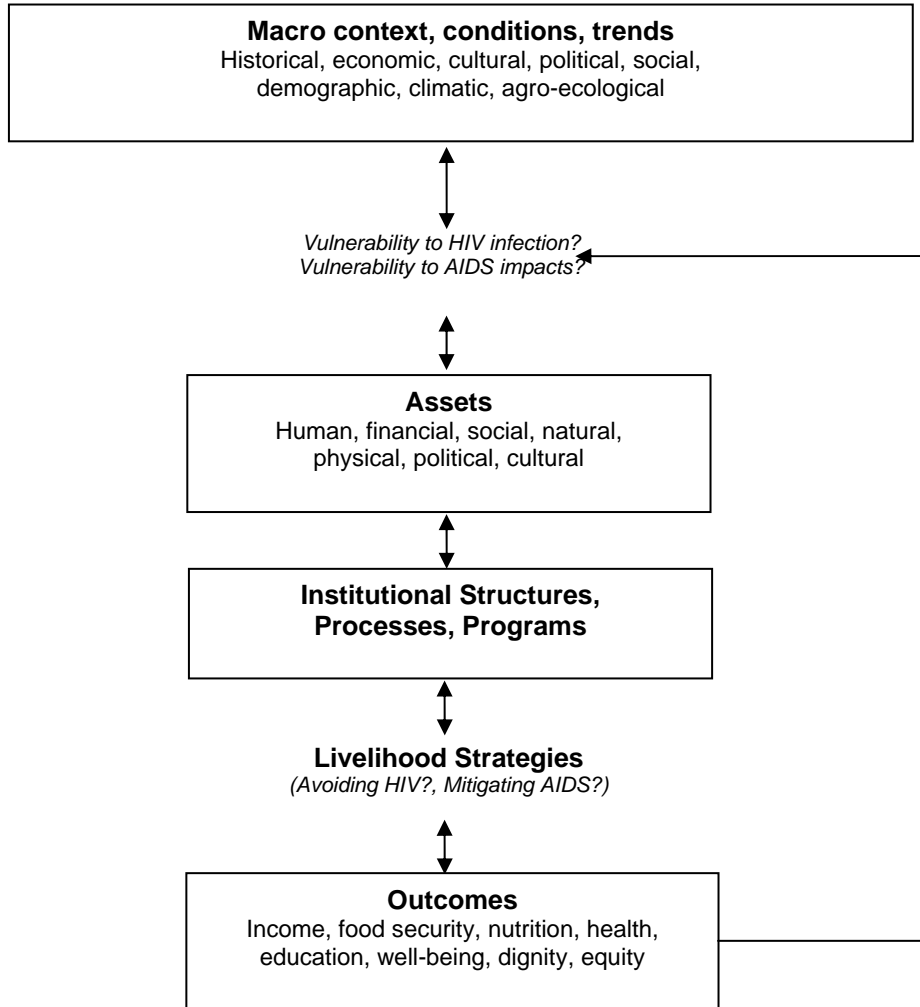


Source: Loevinsohn and Gillespie 2003

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, 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.

Figure 1 was useful – if only because it employed a wide-angle lens to show the multitude of actual or potential drivers, determinants and impacts of AIDS epidemics. It depicted the dynamic nature, and the different sources and levels of susceptibility and vulnerability, and it showed the positive flipsides of these traits in focusing also on actual or potential responses, again at different levels and by different people.

Figure 2: Adapting the livelihoods framework to HIV and AIDS



But it was never intended to be a research tool for household or community-level analyses. For this, it was necessary to focus on people's livelihoods, as well as local institutions. A second conceptual "map" was drawn, to help understand dynamic interactions at the level of households and communities (Gillespie 2006). Essentially an adaptation of the sustainable livelihoods framework (Chambers and Conway, 1992; Carney 1998), this was intended to be complementary to the universe map, to be used as an organizational tool, and to show how HIV and AIDS affect, and are affected by, people's livelihoods in an iterative cycle (see Figure 2).

By this time, it was felt that the use of a separate word "susceptibility" (to refer to upstream vulnerability), was not necessary – rather it was better to always clarify the object. The word "vulnerability" should not be used in isolation – a person or a household is always vulnerable to something – whether to HIV infection or to the impacts of AIDS, in this case. Second, the term "resistance" was also felt to be potentially confusing given the increasing discussion of resistance of the virus itself to certain antiretroviral drugs. Better simply to directly refer to the ability to reduce or avoid exposure and infection.

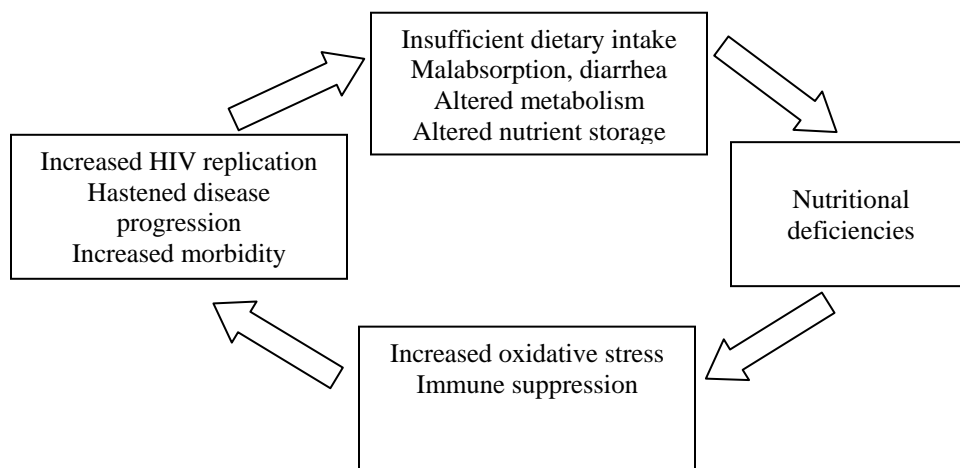
Considering this, and reviewing Figure 2, HIV and AIDS can be seen to both affect, and are affected by, people's livelihoods. The macro context, conditions and trends will to some extent determine vulnerability of different livelihood systems to upstream HIV exposure and to the downstream impacts of 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 their ability to a) reduce people's exposure to HIV and b) increase their resilience to AIDS impacts. 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 vulnerability or resilience. And so the cycle turns.

The framework captured the diversity of interactions at different scales, while providing a simple, common frame of reference for researchers and practitioners (often from quite different disciplines) to communicate effectively.

Finally, a third map (Figure 3) was developed -- although in many ways this should be the starting point as it depicts the way in which the virus infects the human body, interacting with an individual's nutritional status. The focus falls within the inner two layers of Figure 1, and is often overlooked by scientists attempting to understand the developmental impact of HIV and AIDS. It emphasizes that human vulnerability to HIV has to be conceptualized not only in terms of broader socio-political issues but also from the perspective of physiology. As such Figures 2 and 3 effectively fit into Figure 1 reminding us to take cognizance of the complete universe of HIV/AIDS determinants, impacts and responses.

Nutrition and immunity in HIV-positive individuals can interact in two ways. First, HIV-induced immune impairment and heightened subsequent risk of opportunistic infection can worsen nutritional status. HIV infection often leads to nutritional deficiencies through decreased food intake, malabsorption and increased utilization and excretion of nutrients, which in turn can hasten death (Semba and Tang 1999). Second, nutritional status modulates the immunological response to HIV infection, affecting the overall clinical outcome. Immune suppression caused by malnutrition is similar in many ways to the effects of HIV infection (Beisel 1996).

Figure 3: The vicious cycle of malnutrition and HIV



Source: Semba and Tang 1999

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.

AIDS, vulnerability and disaster theory

Shortly after the landmark UNGASS 2001 on AIDS, as the wider determinants and consequences of HIV and AIDS were better recognized, southern Africa was hit by a major food crisis. This in turn gave birth to the "new variant famine hypothesis" (de Waal and Whiteside 2003).

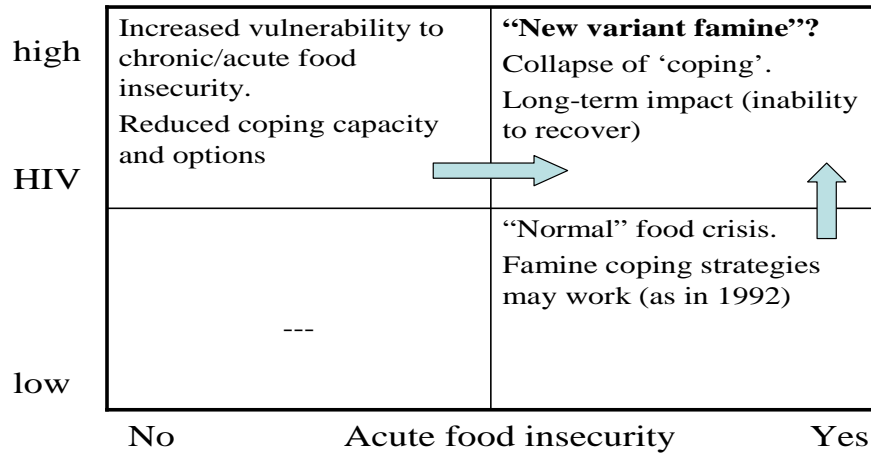
A lot has since been written about this hypothesis. In simple terms, the hypothesis states that the coexistence and interaction between acute food insecurity and high HIV prevalence could precipitate a downward spiral of households and communities into destitution, thus precipitating famine. Not only does AIDS interact with and worsen other livelihood shocks – the hypothesis stated -- but it selectively undermines the very strategies that historically were employed to respond or cope with such shocks.

Figure 4 depicts this in another way, plotting HIV prevalence against existence or not of acute food insecurity. The new variant hypothesis would suggest that high-HIV without acute food insecurity (top left square) might undermine vulnerability over time, while acute food insecurity without the presence of high-HIV (bottom right) might still be managed with traditional coping strategies. The new variant famine might be expected to materialize where high HIV prevalence and acute food insecurity co-exist (top right). The figure also shows how this dangerous co-existence may be reached through two routes,

which themselves may become increasingly entwined – increasing HIV spread in a situation of acute food insecurity, and/or increasing food insecurity where HIV prevalence is high.

Figure 4:

AIDS, food crises and famine



Source: Gillespie and Kadiyala 2005

New variant famines are hypothesized as being qualitatively and quantitatively quite different to ‘normal’ famines. They would therefore demand qualitatively and quantitatively different responses. In southern Africa the response has largely been around the provision of food aid supported by longer-term development initiatives intended to move people back into sustainable livelihoods. Yet this chronic food security crisis has continued to unfold across southern African since early 2000, with many more people than during the 1990s now living ‘close to the edge’ and increasingly unable to absorb shocks or stresses. (Wiggins, 2003; Maunder and Wiggins, 2006). Arguably, something dramatic has changed in the region, and most assessments understand this to be as much a crisis of livelihoods or of development in general, as a series of simple food shocks. Understanding the underlying causes of this crisis inevitably means untangling the knot of ‘multiple stressors’ which lie at the root of regional food insecurity, compounded in particular by the AIDS epidemic (Drimie and Casale, 2009).

A recent paper focused on Swaziland interrogates recent data to evaluate whether the four key indicators of NVF explain the current food security crisis in that country (Naysmith et al, 2009). The authors concluded that Swaziland was indeed experiencing a new variant famine. The indicators include:

1. Household-level labor shortages due to adult morbidity and mortality, and the related increase in numbers of dependents;
2. Loss of assets and skills due to adult mortality;
3. The burden of care for sick adults and children orphaned by AIDS;
4. The vicious interaction between malnutrition and HIV.

Thus NVF examines the processes of increasing vulnerability that lead to destitution, malnutrition and death. NVF fits into 'New Famine' thinking by emphasizing the ways that HIV/AIDS exacerbates pre-existing social, political and economic pathologies in a society (de Waal, 2007a; Devereux, 2007: 7).

In addition the NVF hypothesis enabled two parallel fields to connect around the issue of HIV, at least theoretically. Until this time, there had been little interaction between the humanitarian and development communities on the challenges posed by AIDS epidemics. This was despite calls for better integration between these processes over a long history in the development literature (Buchanan Smith and Maxwell, 1994).

In current disaster theory, Wisner et al (2004) convincingly argue that disasters should not be segregated from everyday living. The risks involved in disasters are connected with 'normal' vulnerabilities -- they are thus as much the product of social, political and economic environments as of natural events *per se*. According to the Pressure and Release Model (PAR), a disaster occurs at the intersection of two opposing forces -- processes generating vulnerability on one side, and the natural hazard event, on the other. The risk of disaster is a compound function of the natural hazard and the number of people characterized by their varying degree of vulnerability to that specific hazard, who occupy the space and time of exposure to the hazard event.

$$\text{Risk} = \text{Hazard} \times \text{Vulnerability}$$

The 'pressure' then is exerted from both sides -- like a nutcracker. 'Release' may come through a reduction of vulnerabilities which relieves the pressure. As Wisner et al point out the 'new variant famine' hypothesis is compatible with the PAR model (2004). But what is interesting here about AIDS is that it may be exerting an influence on *both* sides of the 'nutcracker' -- that is, as HIV prevalence increase, the biological hazard worsens, while as AIDS impacts deepen, vulnerabilities increase. Another interesting aspect is the time of exposure. As Wisner et al point out AIDS is a slow onset disaster, and we know it is "long-wave". Unlike a flood, this particular hazard will be around for a long time.

Towards social protection

The implication of this "long-wave hazard" entwined as it is with a range of other multiple stressors affecting southern Africa is that there is a need for sustained welfare support implemented through a comprehensive strategic analysis of the nature of the crisis and how to reduce vulnerability. As demonstrated in Figure 4, when a household or family is affected by a shock or a stress, temporary adjustments, often referred to as 'coping strategies' will become necessary for survival. Research has reiterated the factors that determine a household's resilience or ability to cope; these include access to resources, household size and composition, access to resources of extended families and the ability of the community to provide support (Mutangadura, Mukurazita and Jackson, 1999). These factors are linked to Chambers' (1989) definition of 'internal vulnerability. With the increase in internal vulnerability any external 'shock', whether it is due to an "AIDS death", climatic factors, civil disturbance or economic mismanagement, becomes increasingly difficult to absorb. In other words, households are finding it more difficult to 'cope'. This has particular ramifications for children.

A clear argument thus emerges for more comprehensive interventions that are sustainable and enabling for families to underpin livelihoods and children's security. Given the many and varied challenges, no single intervention can achieve significant or sustained support for wellbeing. This becomes particularly

important when looking at the extended time scale of the AIDS epidemic in southern Africa. By increasing the resilience and range of options that families have, through services and safety nets, one can optimize the positive outcomes for children (Drimie and Casale, 2009). This raises the issue of the role of social protection in reducing vulnerability and in appropriate frameworks to help comprehend this complex area of development thinking.

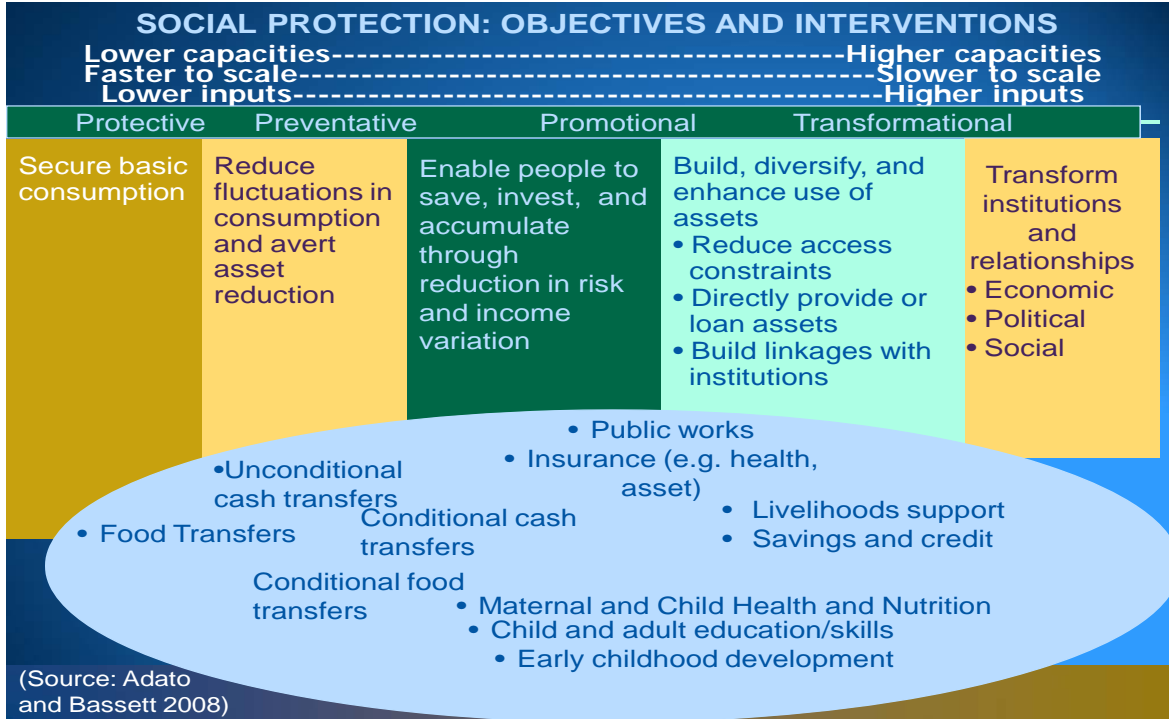
The depth and breadth of food insecurity in southern Africa suggests scope for expansion of social protection systems (Adato and Basset, 2008). These are institutionalized policies and programmes that *protect* against shocks and *promote* livelihoods and welfare of poor and vulnerable people, thereby building their resilience to such shocks via strengthened and expanded asset holdings and livelihood options. They include both *entitlement-based instruments* (such as unconditional cash and food transfers, employment guarantee programs, nutrition programmes, and school feeding) and *incentive-based instruments* (such as conditional transfer programs, drought insurance and targeted subsidies).

Figure 5 presents an asset-based social protection conceptual framework, which was developed as part of a RENEWAL and Joint Learning Initiative on Children and AIDS (JLICA) (Adato and Bassett, 2008). The framework demonstrates what social protection can achieve, and how different types of interventions align with different objectives. In addition to the global challenges of growing the economy, creating jobs, and improving living standards, countries in sub-Saharan Africa face the added challenge of livelihoods being threatened by HIV and AIDS. Most children affected by AIDS are being cared for by extended families and communities, many of whom are already very poor, and are now in even greater need of external support. In addition to orphaned children, millions more children are also affected by HIV and AIDS, as illness in families and communities undermine livelihoods systems, human capital, and physical and psychological well-being. While preserving basic levels of comfort and human dignity among the sick, social protection interventions may also be the only means of preventing destitution of entire households, and irreversible health, nutrition and education deprivation among children—with lifelong consequences.

The different uses of social protection are demonstrated in Figure 5 as one moves from left to right: 1) Securing a basic level of consumption needs; 2) reducing fluctuations in consumption in order to avert the reduction of assets; 3) enabling people to save, invest in, and accumulate assets through reduction in risk and income variation; 4) building, diversifying, and enhancing use of assets, by reducing access constraints, directly providing or loaning assets, or building links with institutions; and 5) transforming institutions and economic, social, or political relationships.

The programs in the oval represent a range of interventions that provide forms of social protection. They are loosely placed under the objectives with which they are most normally associated. Although programs have tendencies to be used to achieve particular objectives, each can be used to achieve any of these five objectives depending on first, how they are designed (and, importantly, the ability to implement the design as planned); and second, the capacities that people have to take advantage of these design features. A cash transfer program thus can assist AIDS-affected families by, for example, i) securing basic subsistence for families where illness prevents them from securing a livelihood; ii) keeping children from leaving school because of inability to pay fees or labor needed at home; iii) enabling people to invest in a small income-generating activity; and iv) increasing the agency of communities where local organization participate in targeting, monitoring or service delivery.

Figure 5: Conceptual framework on asset-based social protection



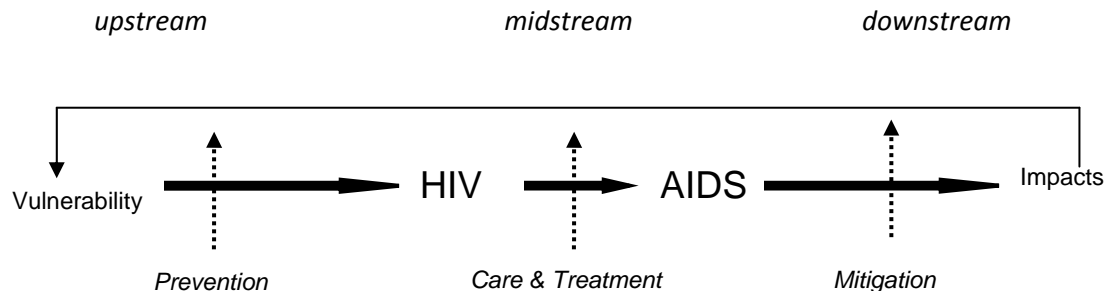
From vulnerability to resilience

In recent years, following declines in the prices of ARVs, there emerged an increasing focus on treatment of individuals who were living with HIV. Developments in treatment have resulted in declining mortality rates from HIV, particularly amongst those that can access and afford it. Around this time (mid-2000s), Edström and Samuels contributed to the evolution of the concept of vulnerability through a comprehensive review of the literature distilled into several frameworks dealing with HIV-related vulnerability.

This evolving notion of the multiple facets of vulnerability offered an intellectually rigorous framing of complex issues. However, questions remain around its practical application and its usefulness in practice. Edström (2007), for example, argues that vulnerability – particularly related to health, nutrition, reproduction or child development – combines embodied and personal physical and psychological dimensions of susceptibility/resistance and sensitivity/responsiveness, with contextual inter-personal and environmental factors. In order to be useful, such concepts need to be measurable, communicable and actionable. A significant contribution at this time however was to emphasize a third stage of *midstream* vulnerability that applied to the individual living with HIV (Edström and Samuels, 2007).

Responses to upstream, midstream and downstream vulnerability can be mapped onto the three core pillars of AIDS policy: prevention, care and treatment, and mitigation. If we schematize an HIV timeline, as in Figure 6, we can identify the entry points for the three strategies.

Figure 6: The HIV timeline showing core strategies



Examining this timeline, we thus need to understand the main role of food and nutrition research, policy and programming in terms of these core strategies. It is important to recognize how the strategies themselves can overlap and reinforce each other.

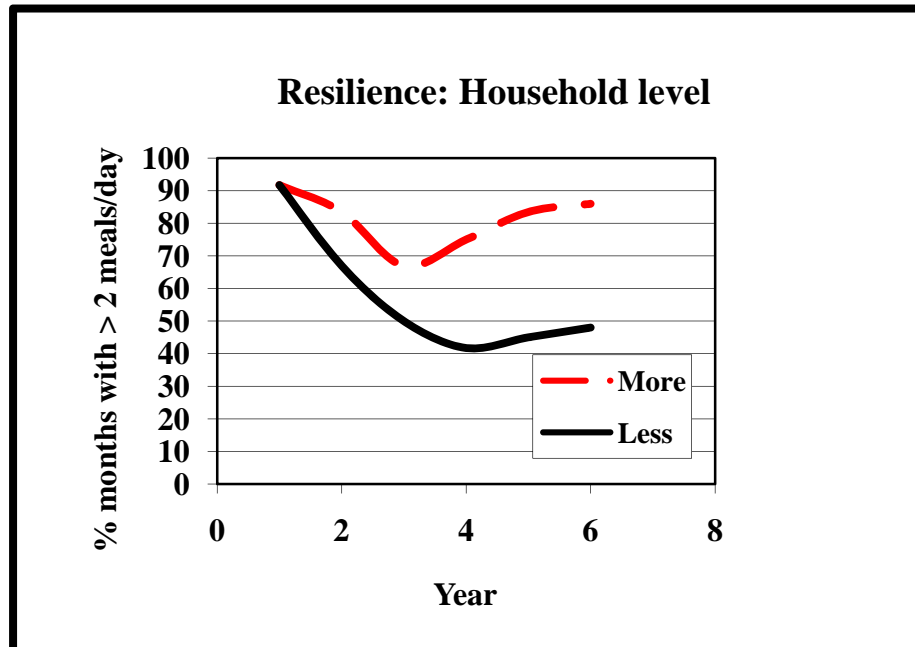
Research in the last five years or so, including by RENEWAL, has shown the importance of various inequalities (socio-economic, gender, age) in terms of *upstream* vulnerability. Mobility, food insecurity (especially of young women), community-level social cohesion are other important drivers here. All these factors will condition and affect the success of prevention strategies.

With regard to *midstream* vulnerability, an individual’s nutritional status is critically important – given the significantly higher energy requirements following infection. Coexisting sexually transmitted infections (especially HSV-2), household food security and the time and capacity of the household to care for the individual with HIV, are key too. Such midstream factors will affect the viability of care and treatment programs.

Finally, regarding *downstream* (post-infection) vulnerability, there are numerous factors and processes that will determine vulnerability (or its converse, resilience). The quality and quantity of assets at household and community levels (see Figure 2), and the local institutional context and processes are important – but there are also major intra-household effects. Vulnerability is not homogeneous within households – women and children tend to shoulder a disproportionate share of the burden of AIDS. While poverty *per se* may not be as clear-cut as a driver of upstream vulnerability (as compared to economic inequality for example) it is clear that AIDS impoverishes households both directly and indirectly (Gillespie 2006). Again, such factors will determine the success of any mitigation approach.

At this point, let us further examine the notion of resilience. In Figure 7, the experience of different households is compared in terms of a food security indicator. Other aspects of well-being or other indicators could be considered; the choice could probably best be made in consultation with people in the community. The dotted red curve shows the two facets of resilience: lesser depth of drop-off and shorter time to return to a level accepted as normal. It is also possible to identify resilience at the level of communities and with regard to different indicators. For example, adult mortality may be used as a proxy for AIDS prevalence, and resilience may be assessed in relation to community averages of child malnutrition. The mere fact that one community may be a positive outlier (ie has significantly lower child malnutrition than would be expected from its adult mortality) is not sufficient evidence of resilience. One would want to identify the specific responses, the innovations that enable some households or communities to fare better than others.

Figure 7—Illustration of resilience to AIDS at the household level
(Time is measured from the death of a male household head.)



In trying to identify sources of such resilience, we need to turn to the livelihoods framework in Figure 2 as a guide, complemented by the generic system maps in Figures 1 and 3. The six capital classes—human, social, economic, physical, natural, and political—that the framework highlights and on which resilience can draw may be situated at more than one spatial or social scale.

In addition to measuring the concepts, we need a process for turning our growing understanding into better responses.

Applying a lens

One tool to help move from understanding to responding is the HIV/AIDS lens, developed in the early days of RENEWAL by Loevinsohn and Gillespie (2003). Essentially, the “lens” is a tool that comprises the concepts described above, and the current state of knowledge of the interactions between food/nutrition security and HIV/AIDS in any one situation. The lens is designed to support reflection on how a particular situation or particular policy may be increasing or reducing the risks people face, either of contracting HIV or of suffering severe consequences flowing from AIDS-linked illness and death. It thus helps clarify options for response.

In its more recent form, the lens is *tri-focal* in that it focuses on the upstream, midstream and downstream stages of vulnerability. It may be used internally within the workplace or externally on policies and programs. It can help reveal trade-offs as well as positive-sum solutions, and it is both context-specific and dynamic -- evolving over time, as our knowledge of these interactions develops.

A process for using the lens to review food and nutrition-relevant policy is illustrated in Figure 7. First, a situation analysis is undertaken of HIV/AIDS, food and nutrition security to summarize what is known about the nature and extent of their interactions, and what forms of institutional response currently exist. This helps construct the lens. Second, key food and nutrition-relevant policies and programs are reviewed in terms of their potential contribution – positive or negative – to HIV/AIDS prevention, care/treatment and mitigation. This may be carried out in workshops, primarily by the researchers, program managers or policy makers responsible for them, with outside facilitation and the involvement of key stakeholders.

Looking through the lens, participants ask themselves the following questions:

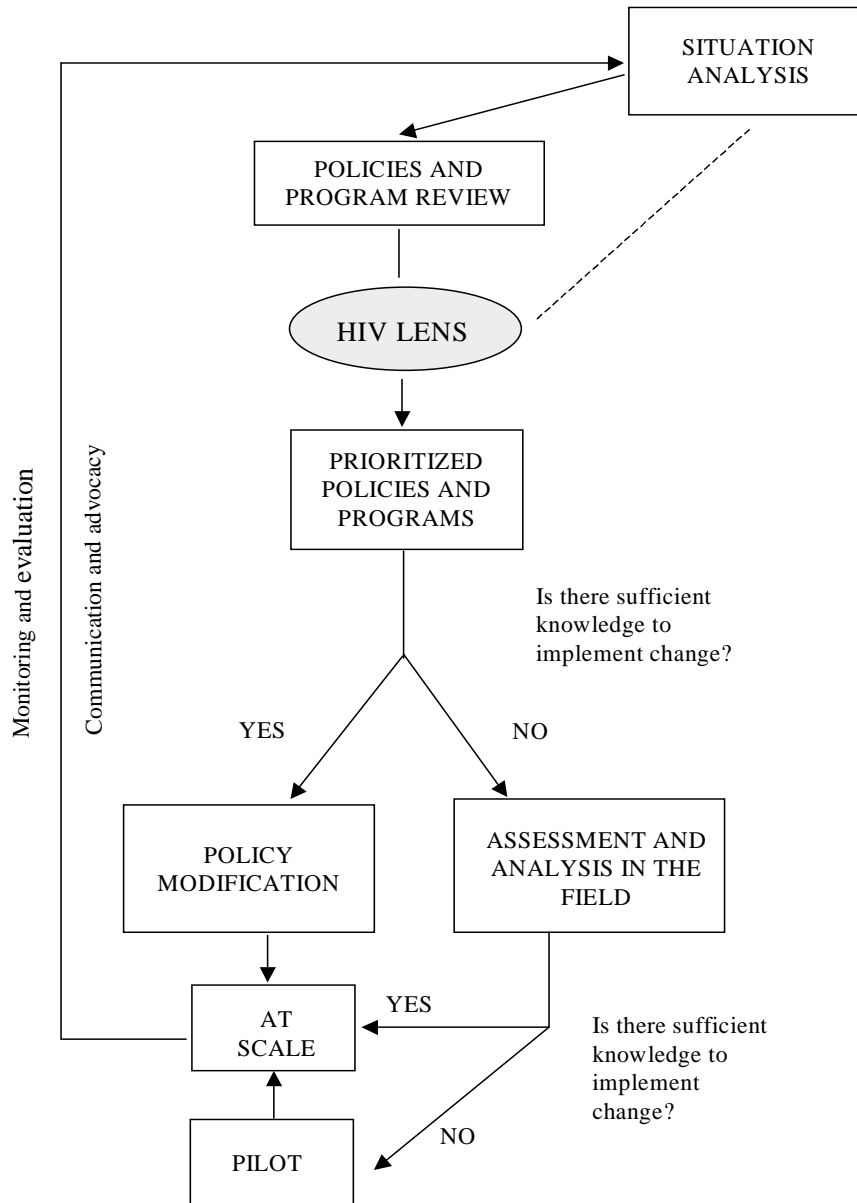
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| <i>Prevention.</i> | How might this food/nutrition policy or program be increasing or decreasing people's exposure to HIV and to their chances of being infected with the virus? (upstream vulnerability) |
| <i>Care and treatment</i> | How might this food/nutrition policy or program increase or decrease an individual's ability to enjoy a healthy and productive life after being infected with HIV? (midstream vulnerability) |
| <i>Mitigation.</i> | How might this food/nutrition policy or program increase or decrease people's ability to respond effectively to the downstream impacts of AIDS? (downstream vulnerability) |

In each case, there are subsequent questions about the degree to which the policy/program is "HIV-responsive" and how to take steps to maximize the positive, and reduce the negative.

The output of applying the lens is a list of policies and programs prioritized in terms of their potential positive or negative contribution to HIV prevention, care and treatment, and mitigation. Depending on the state of existing knowledge, further field-level evidence may be required prior to policy modification – or enough may be known to act now. Action research in the field would involve researchers, in liaison with those responsible for the program or policy, gathering quantitative and qualitative evidence on whether the policy or program is helping or hindering affected households in avoiding HIV risks and/or dealing with AIDS impacts. This may be followed by the modification of the policy or program, drawing on the results of these field assessments – with the spectrum ranging from changing nothing to changing everything (i.e. stopping the existing program or initiating a new one). Different aspects – the what, how, who, where -- may need to change. In some cases, the changes can be made at full scale, while in others small scale pilot trials may be required initially. Whatever changes are made, it will be critically important to monitor the pathways of effect of these revised policies, and feed the results back into the refinement of the lens.

The lens is flexible and adaptive – it may be used in different ways by a range of actors, not just policymakers. At the community level, the lens can also be used to reveal options for relevant responses.

Figure 8: Illustration of process of using an HIV lens to improve policy



Source: Loevinsohn and Gillespie 2003

Some reflections

This review of conceptual frameworks developed over the past decade demonstrates in many ways how knowledge of the interactions between HIV, AIDS and food and nutrition security has been growing in recent years. As the evidence has been built so new concepts have been integrated into the frameworks, which in turn have informed the various calls for research proposals that have fed back into the growing body of knowledge. That is probably the greatest contribution that these frameworks have made. A key objective has been to ensure that they help translate intellectually complex issues into digestible concepts for diverse users including practitioners and academics. However, critique is still required if an ongoing contribution to “vulnerability science” is to be made.

Embedded as it is within the livelihoods approach, it is useful to apply points made by Scoones (2009) on livelihoods perspectives as a way of critiquing the “dominant” framework depicted in Figure 2. Scoones offers an historical review of key moments in debates about rural livelihoods, identifying the tensions, ambiguities and challenges of such approaches with particular emphasis on the development of the “sustainable livelihoods approach” (SLA), which is the core underpinning of Figure 2. In particular he is critical of livelihoods approaches in terms of a number of core challenges, centered on the need to inject a more thorough-going political analysis into the centre of livelihoods perspectives. He argues that this will enhance the capacity of livelihoods perspectives to address key lacunae in recent discussions, including questions of knowledge, politics, scale and dynamics.

In tracking the development of the SLA, Scoones identifies how the approach became a more central part of development programming. He argues that the more interesting applications of the SLA were areas where clearly cross-cutting themes could be opened up by a livelihoods perspective – citing the early RENEWAL work by Loevinsohn and Gillespie (2003). Studies that adopted and adapted the early conceptual frameworks developed by RENEWAL, include papers by Deborah Bryceson and Jodie Fonseca in 2006, Michael Drinkwater, Margaret McEwan and Fiona Samuels in 2006, which were commissioned during the second phase of RENEWAL, and more recently a paper by Pauline Peters, Daimon Kambewa and Peter Walker in 2008.

The study led by Deborah Bryceson clearly identified the “transforming structures and process” and the “drivers of change” underway in rapidly changing agrarian systems in southern Africa, compounded by HIV and AIDS. Drinkwater’s group argued that “mediating institutions and organizations” were required to enable clustered households facing the onslaught of AIDS mortality to survive the new environment and the new context of vulnerability. Peter’s group, considering AIDS related illness and death on Zomba households in Malawi over time reveal the failure to link poverty and AIDS from policy to implementation levels as the root cause of the absence of external support that consistently and effectively reaches poor households impacted by HIV and AIDS.

Drawing only on these studies it is clear that RENEWAL has attempted to engage the social and political structures and processes that influence livelihood choices. Power, politics, social differentials– and their governance implications – were all central to these concerns. Another influential paper by Gillespie, Suneetha Kadiyala and Robert Greener on HIV and inequality, highlighted the pervasive role of inequality, rather than poverty per se, in fueling the epidemic partly as a result of the structural inequalities that characterize regions such as southern Africa. The analysis here went well beyond the local level to examine wider structures of inequality. However, this approach also needs to go further to ensure that basic questions of political economy and history are engaged more coherently. HIV needs to be understood in southern Africa in the context of its complex “history of vulnerability” ranging from

factors within colonialism, apartheid, labor mobility, climatic stress, environmental degradation, the nature of the state, the influence of private capital and terms of trade, alongside other wider structural forces.

Similarly RENEWAL has attempted to engage debates about long-term shifts in rural economies and wider questions about agrarian change – partly fueled by interactions with HIV and AIDS. For example, in Malawi, poverty and HIV risk do seem to be increasingly linked, as major livelihood shifts are underway. Bryceson and Fonseca (2006) 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 2006).

An additional dimension is the temporal – we need to go beyond local-level description of complex livelihoods to ask what future livelihoods will look like – in 10, 20 or 50 years? Without attention to the long-run variables in dynamic change, any snapshot view may miss slow-burn transformations for the better – as people intensify production, improve environmental conditions, invest or migrate out.

The frameworks described above have facilitated an intersection of academic debate and practical action, which in turn has provided numerous insights and lessons. As such attempts were made to link livelihoods to debates on rights, governance and agrarian change. However, in retrospect, it may be argued that not enough was made of these frameworks to attempt to shift dominant policy discourse. Perhaps the limitations were due to what Scoones identifies as “the weak and sometimes confusing and contradictory theorisation of politics and power, meant that an intellectual articulation with both mainstream political science governance debates and more radical agrarian change discussions was missing (2009)”. In other words, did the RENEWAL team do enough to embed these arguments adequately in theories of power and politics that would enable change to take place?

Similarly to other livelihoods approaches, the RENEWAL frameworks, have challenged fundamentally single-sector approaches to solving complex development problems. Such livelihood approaches can permit a bridging of divides, allowing different people to work together – particularly across the natural and social sciences. Their focus on complex, local realities provides an ideal entry point for participatory approaches to inquiry, with negotiated learning between local people and outsiders.

Finally, the team working with RENEWAL have been acutely aware of the danger of AIDS exceptionalism, particularly in understanding the complexity that is southern Africa today. Open to collaboration, RENEWAL engaged with the Southern African Vulnerability Initiative (SAVI) to undertake a study of HIV, AIDS, multiple stresses and overlapping vulnerabilities. Apart from generating new research on a key issue, the study aimed to “test” the SAVI framework as a means of “untangling” a range of stressors enmeshed with HIV and AIDS in southern Africa. The intention was that in this way the SAVI framework would contribute another important dimension to the conceptual tools developed by RENEWAL.

The argument was that in many ways, AIDS was exposing the fragility of people's livelihoods -- a fragility derived from multiple sources of vulnerability, many of which interact and are worsened by AIDS.

Although there was a growing body of knowledge on the links between poverty, inequality and the spread of HIV, there were still large gaps in understanding of how and why the interaction of forces vanquish some while others survive, adapt and may even prosper. Understanding and distinguishing the effects of AIDS within this complex set of forces is a key challenge for scientists and policy-makers. Without that knowledge, it is not possible to understand the dynamics and nuances of vulnerability and, hence, to revise interventions as necessary. Such an approach also ensures that a framework is developed that recognises HIV as one amongst many issues.

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. As such no single conceptual tool or framework can capture that complexity. Continual reflection and engagement are required to bring us closer to finding lasting solutions to such dynamic vulnerability.

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