

The evolving contexts of AIDS and the challenges for food security and rural livelihoods

by **B. Rau, G. Rugalema, K. Mathieson and L. Stloukal**

AIDS
challenges

September 2008



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"The more we learn about the interaction between HIV and AIDS and livelihoods, the more complex the picture seems to become."

Senefeld and Polsky, 2006

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Acronyms

AIDS	acquired immunodeficiency syndrome
ART	antiretroviral therapy
ARV	antiretroviral
CBO	community-based organization
ESW	Gender, Equity and Rural Employment Division (FAO)
FAO	Food and Agriculture Organization of the United Nations
HIV	human immunodeficiency virus
NGO	non-governmental organization
TB	tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
VCT	voluntary counselling and testing
WHO	World Health Organization

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Foreword

Over the past 30 years, the HIV virus has spread unevenly around the world, causing very large epidemics in parts of East and Southern Africa, and relatively small epidemics outside Africa. By the 1990s, it had become clear that the HIV epidemic was undoing years of slowly earned progress in rural development by triggering significant increases in rural poverty and producing widespread destitution in the most affected countries. In response to this unprecedented threat, FAO has been mandated by its main governing bodies to monitor the impact of the disease on food security and rural livelihoods, as well as to support member countries in their efforts to prevent increases in HIV incidence in rural settings and to mitigate the negative effects of the epidemic on agriculture and rural development.

Recent evidence about the dynamics of HIV and AIDS indicates that over the last decade the percentage of the population infected with HIV has stabilized everywhere except Eastern Europe. Worldwide, approximately 0.8 percent of adults aged 15 to 49 years are infected with HIV. HIV prevalence is 1 percent or lower in all regions except sub-Saharan Africa, where it is 5 percent overall, ranging from less than 1 percent in several West African countries, to more than 15 percent in some East and Southern African countries. Although the rate of new infections has probably peaked in all world regions, the absolute number of HIV-positive individuals is expected to continue to grow in sub-Saharan Africa. As a result of continued high population growth rates and the only moderate success of prevention programmes in reducing HIV incidence, a large number of adolescents and adults in sub-Saharan Africa are still likely to become infected. This situation poses a challenge to policies and programmes aimed at preventing further spread of HIV and mitigating its effects on people's lives and livelihoods.

This paper focuses on the changing context of the HIV epidemic, with the aim of generating new insights into what it means for rural societies. The paper argues that although there are signs that the epidemic is stabilizing or even declining in some highly affected countries, the socio-economic effects associated with HIV and AIDS will continue to be considerable for many years to come – and as such they require innovative, well coordinated and appropriately planned responses from the agriculture sector. The authors trust that readers will find the paper informative and stimulating.

Marcela Villarreal

Director

Gender, Equity and Rural Employment Division (ESW)



1. Introduction

For more than a quarter of a century, the AIDS epidemic has spread across the world. As it intensified in the 1990s, a growing number of studies documented aspects of its impacts on households, businesses and national economies. FAO conducted and supported numerous studies that provided examples of the impacts of HIV and AIDS on agriculture, food and nutrition security and rural livelihoods. Such analyses continue to influence policy and programmes.

There are signs that in the last ten years or so the epidemic has been stabilizing or declining in some of the heavily affected countries (UNAIDS, 2008). This does not necessarily mean that the disease burden (morbidity and mortality) and the socio-economic effects associated with AIDS have lessened significantly, but it is obvious that some of the epidemic's contexts (epidemiological, socio-economic, treatment and care) have been changing. The changing epidemiological context can be seen in a number of countries where the epidemic has moderated, with prevalence either stabilizing or declining. The changing treatment and care context is exemplified by the growing availability of antiretroviral (ARV) drugs and other services to test for HIV, suppress HIV viral load and improve the care of AIDS cases. These are allowing hundreds of thousands (and likely soon to be millions) of people to live longer and near-full productive lives. In terms of the socio-economic context, we see that in places where the epidemic is more mature and the impact has evolved over time, the burden may be different from when the epidemic was at its peak (Beegle *et al.*, 2006).

This paper looks at the implications for agriculture and rural societies of the changing contexts of the AIDS epidemic. Very little work has been done on this topic, so the paper seeks to navigate uncharted waters with a view to identifying some likely implications for the agriculture sector in the next five to ten years. The paper is designed to stimulate discussion, not only about the implications of the future trends of HIV and AIDS, but also about adapting these implications for effective agricultural and rural development policies and programmes. Much of the focus is on East and Southern Africa, where the epidemic is generalized and its impact on the rural sector is clear. Where possible, examples are drawn from other regions as well. Many of the initial studies of rural societies and the impacts of HIV and AIDS were essentially short-term views from which many advocates drew long-range conclusions and generalizations. This was partly because, for many years, resources were concentrated on demonstrating the effectiveness of awareness and

education programmes. Only a handful of studies in the area of agriculture and food security were available, and most of these were initiated by FAO. It took several years of advocacy based on the limited information available to get the issue of AIDS and agriculture recognized as a legitimate area of concern. Thus, geographically limited and time-specific data were used to suggest longer-term consequences. A number of the worst scenarios that were suggested during the 1990s have not come to pass: national economies have not collapsed, rural communities have not imploded, and agricultural production has not stagnated. In many cases, either the projected intensity of the epidemic trajectory has not occurred or the cumulative impact on households and communities has been less intensive or extensive than had been estimated. Responses to the epidemic have been more flexible and diverse than had been anticipated by many researchers and analysts in the 1990s. At the same time, much of the impact has been born at the household rather than the national level. As shown in Table 1, cereal production in selected countries with generalized AIDS epidemics (more than 5 percent HIV prevalence among the adult population) actually increased throughout the years when HIV was at its peak.

TABLE 1 - CEREAL PRODUCTION IN COUNTRIES WITH GENERALIZED AIDS EPIDEMICS, 1989 TO 2004 (TONNES)

Country	1989–1991		1999–2001		2003		2004	
	Food production	Adult HIV prevalence ¹	Food production	Adult HIV prevalence ²	Food production	Adult HIV prevalence	Food production	Adult HIV prevalence
Cameroon	890	1.3%	1 272	6.0%	1 584	5.7%	1 684	5.5%
Kenya ³	2 958	3.9–5.2%	2 921	7.4–9.8%	3 351	6.0–8.0%	2 730	5.8–7.8%
Malawi	1 560	3.6%	2 336	13.3%	2 142	12.8%	1 843	12.5%
Mozambique	629	1.8%	1 591	10.3%	1 813	11.5%	2 007	11.9%
Zambia	1 467	11.8%	934	15.4%	1 365	15.2%	1 364	15.1%

¹ and ² refer to adult (15 to 49 years) HIV prevalence in 1991 and 2001 respectively.

³ Data currently available from the Joint United Nations Programme on HIV/AIDS (UNAIDS) give ranges of prevalence, as analyses are still being undertaken to incorporate data from a population-based survey into data from other sources.

Sources: FAO, 2004c; UNAIDS/WHO, 2008.

At household level, prolonged illnesses associated with HIV and AIDS sap household resources, and death adds to the losses. As well as a long period of economic pressure on households as the epidemic runs its course, this means that affected households may also find it difficult to recover from the impact and may thus become more dependent on welfare support from governments and non-governmental organizations (NGOs).

Recent studies are finding that the impacts of HIV and AIDS are more diverse than initially assumed (Wiegers, 2008). In addition, many households face similar livelihood problems regardless of whether or not they are affected by HIV and AIDS. These include inadequate incomes, limited income-generating options, food insecurity, and shortages of labour and land. Impoverishment and gender and class inequalities exacerbate the impacts of AIDS for some people in rural societies, but the levels of poverty are shared by many people, not only those affected by HIV and AIDS. In a study in southern Zambia, for example, there was only a minor difference between the incomes of affected and non-affected female-headed households (FAO/Farming Systems Association of Zambia, 2003: 27).

Less well understood are the complex determinants of household vulnerability to HIV and capacity to resist or recover from the impact of the disease. Less is also known about how the impacts of HIV and AIDS (and poverty) on households affect wider community relationships, operations, systems and structures (examples are explored in Chapter 3).

Central to addressing the implications of both HIV and AIDS is recognition of the following three interrelated factors:

- *Much still has to be learned about the socio-economic and institutional implications of the epidemic:* As a long-wave series of events, impacts may multiply and accumulate, particularly on households and communities, although both households and communities can also be highly adaptive and resilient to adversity. These realities lead to the second factor.
- *There are few, if any, clear and broadly generalizable findings applicable to all rural societies:* Instead, contradictions abound, making broad conclusions risky.
- *To identify the diversity of HIV and AIDS dynamics and responses in rural societies there is need for studies that are statistically representative, geographically diverse, localized, spread across numerous sections of society and covering months or years:* Follow-up studies will help to outline changes experienced in the wake of HIV and AIDS and other pressures on societies.



Current epidemiology

In its 2008 *Report on the global AIDS epidemic*, UNAIDS reported that 33 million people were living with HIV in 2007.¹ In that year alone, an estimated 2.7 million new infections occurred and an estimated 2 million people died of AIDS-related illnesses. Sub-Saharan Africa continues to be the region with the highest HIV prevalence. To illustrate this trend, Table 2 presents HIV prevalence figures for 2001 and 2007.

¹ In its 2007 figures, UNAIDS significantly reduced the total global numbers of HIV-infected people and of people newly infected with the virus. The changes were the result of more accurate survey data and various methodological changes/improvements (UNAIDS/WHO, 2007: 9–12).

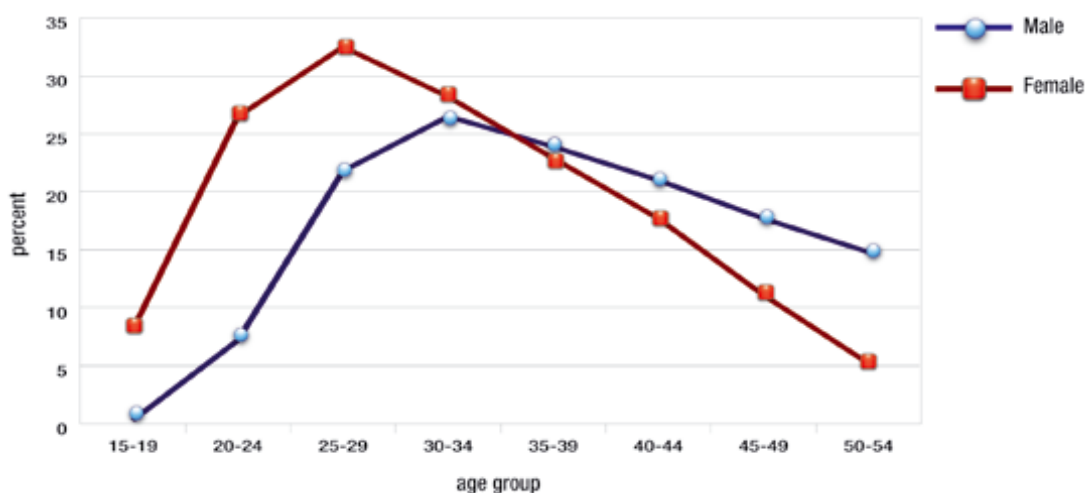
TABLE 2 - REGIONAL HIV FIGURES, 2001 AND 2007

	Adults and children living with HIV	Adult (15–49 years) prevalence	Adult and child deaths due to AIDS
Sub-Saharan Africa			
2007	22 million	5.0%	1.5 million
2001	20.4 million	5.7%	1.3 million
Middle East and North Africa			
2007	380 000	0.3%	27 000
2001	300 000	0.3%	22 000
South and Southeast Asia			
2007	4.2 million	0.3%	340 000
2001	4.2 million	0.4%	250 000
East Asia			
2007	740 000	0.1%	40 000
2001	490 000	0.1%	15 000
Latin America			
2007	1.7 million	0.5%	63 000
2001	1.4 million	0.5%	47 000
Caribbean			
2007	230 000	1.1%	14 000
2001	210 000	1.1%	15 000
Eastern Europe and Central Asia			
2007	1.5 million	0.8%	58 000
2001	650 000	0.4%	6 700

Source: UNAIDS, 2008.

The epidemic continues to be concentrated among younger adults, particularly young women, who tend to be two to five times more likely to be HIV-positive than young men in the same age group (Figure 1). In sub-Saharan Africa, more women than men are HIV-positive. Deaths from AIDS-related illnesses continue to increase in most countries in sub-Saharan Africa, Asia, and Eastern Europe and Central Asia, illustrating the sustained long-term cycle of the disease. UNAIDS' most recent analysis of country data indicates that HIV prevalence has decreased in rural areas in several sub-Saharan countries, although the decrease is not statistically significant (UNAIDS/WHO, 2007: 13) and the distribution of the epidemic across age groups has remained more or less static (Figure 1).

FIGURE 1 - HIV PREVALENCE BY AGE AND SEX, SOUTH AFRICA



Source: Dorrington et al., 2006.

Notwithstanding the mixed picture, there is growing epidemiological evidence that the epidemic has reached its peak in a number of countries, as is explored in more detail in Chapter 3. Several countries have witnessed a decline in HIV prevalence over the past five years or so. The growing availability of antiretroviral therapy² (ART) has reduced the number of deaths from AIDS-related illnesses.

The revision of total HIV infections and AIDS deaths by UNAIDS, and the actual decline or stabilization of infections mean that in many countries the epidemic appears less intense than had been estimated at the beginning of the twenty-first century. However, in many areas (such as eastern Democratic Republic of Congo, northern Uganda and southern Sudan), the situation remains hidden because of social and infrastructural difficulties. Even where HIV prevalence figures have been revised downwards, much remains to be learned about the impacts across societies.

Part of the challenge is knowing where and how the epidemic is evolving, both epidemiologically and in terms of impact, and what these changing contexts imply for food security and the livelihoods of rural households (Nombo, 2007; Wiegers, 2008). For example, little is known about the extent to which the death of one or both parents affects the transfer of agricultural and social knowledge to a younger generation. To date, many analysts have assumed that the knowledge link is broken, but the nature and degree of the loss of knowledge has not been adequately assessed. Neither have the training and skills needs of various groups of orphans (rural, urban, preschool, in-school, out of school, etc.) been analysed. Very little is known about the disruption of community dynamics resulting from HIV and AIDS: Does it occur? If so, in what ways? Is disruption offset by the emergence of new community-based organizations (CBOs) designed to respond to orphaned and vulnerable children, widows' needs, loss of labour? Who has benefited from pressures created by the epidemic, and what has this meant for national aggregate and community-level agricultural production? What mechanisms have communities employed to mitigate the impacts of AIDS? These and other questions are part of the rethinking taken up in this paper in response to the changing contexts of the AIDS epidemic.

² ART refers to not only the ARV drugs designed to lessen the burden of HIV in the body, but also to the accompanying laboratory, medical and other care that goes along with effective application of the drug regimen.

Structure of the paper

This introductory chapter is followed by three others. Chapter 2 reviews the findings of earlier studies on the impacts of HIV and AIDS on agriculture. A key lesson from these findings is that the impact of AIDS is generally borne at household level. Although it is tempting to generalize from small studies, broad generalizations about impacts are often countered by local realities (Binswanger, 2006). An understanding of how and why different rural communities and different gender and age groups are affected by and respond to HIV and AIDS is critical to appreciating the future dynamics between HIV and AIDS and rural societies.

Chapter 3 looks at the changing contexts of the epidemic, especially in terms of its epidemiology and the increasing availability of ART. It seeks to analyse the implications of the changing contexts on agriculture and food security.

Chapter 4 offers concluding remarks, reiterating the need to view the epidemic as a changing rather than a static phenomenon and to posit it within broader social, economic and ecological contexts. Ideas pertaining to prevention and mitigation interventions in rural agricultural societies are outlined.

2. Impacts of HIV and AIDS on agriculture and food security in rural societies: a brief review of the literature

Introduction

A vast amount of literature (of varying quality) has been produced on the impact of the AIDS epidemic on agriculture and food security. A quick search on the Internet reveals about 174 000 mentions of relevant documents. Even assuming that several of these will be multiple mentions of a smaller number of documents, there are still probably a couple of thousand original documents on this subject available on the Internet. The chapter does not seek to review all of these documents. Instead, it reviews and discusses the findings of some of the research studies that are familiar to the authors of this paper. A complex picture emerges. While many of the studies are revelatory, there are still many aspects of the impact about which little is known.

Demographic and household impacts

Household-level impacts of the AIDS epidemic have received extensive attention from researchers for nearly two decades, beginning with a seminal paper commissioned by FAO (Gillespie, 1989) on the potential impact of AIDS on the farming systems of Rwanda. A number of studies, mostly from

Africa, but also including parts of Southeast Asia, have documented the effects of HIV and AIDS on household demography as well as household labour availability and consequently agricultural production (Gillespie and Kadiyala, 2005 provide a thorough overview of impact studies; for Asia, see Du Guerny, 2002a and Gari, 2004). Several general conclusions about the impacts of HIV and AIDS have been broadly accepted. These include:

- loss of household labour, which affects income and crop production potentials;
- increased rural inequality and deepening levels of poverty arising from the disproportionately severe effects of HIV and AIDS on relatively poor households;
- reduction in household assets and wealth due to HIV and AIDS, leading to less capital-intensive cropping systems for severely affected households;
- deaths of rural women and men to HIV- and AIDS-related illnesses, which undermine the transfer of knowledge about crop and livestock husbandry and marketing to subsequent generations of farmers;
- undermining of nutritional status and health as diets worsen because of decreased food security and shifts to less nutritious but easier to cultivate crops such as cassava;
- reduction in land cultivated;
- gender inequalities, particularly regarding access to productive resources.

A central point of this summary (and of an increasing number of site-specific studies) is how existing societal-level impoverishment and socio-economic and gender differentiation shape HIV and AIDS impacts at the household level.

Table 3 provides a further summary of what is known or assumed about the interaction of HIV and AIDS and farming communities.

TABLE 3 - IMPACTS OF HIV AND AIDS ON FARMING COMMUNITIES AND HOUSEHOLDS

Immediate impacts	Noted* agriculture-related responses by households	Assumed longer-term consequences for agriculture and related activities
Loss of labour due to illness, death and caring	Decreases in area cultivated and changes in crop mix; less attention to care of livestock, soil and/or water	Potential decreases in overall food production (food availability, access and stability)
Cutbacks in food availability and consumption	Decreased energy for farm or market tasks	Increased child and adult malnutrition (food utilization and access)
Loss of income and increased medical and funeral expenses	Disinvestment of assets, including sale of livestock and equipment; renting of land; piece work on other farms	Increased socio-economic inequalities and new or deeper impoverishment for some
Increased dependency, with women and older adults assuming greater household responsibilities	Less time spent on farm production or marketing	Growing gender and age inequalities
Loss of knowledge and skills essential for agriculture	None known	Loss of efficiency, greater stress on natural resource base, increased food insecurity
Loss of access to land and equipment/livestock for widows and children	Female- and child-headed households' dependence on non-farm employment and/or begging	Deepening impoverishment for affected household members

* Noted means cited in at least one study of a localized impact.

Sources: Adapted from Slater and Wiggins, 2005; FAO, 2006.

Due to very limited resources, many of the initial studies of the impact of HIV and AIDS relied on relatively small samples and were specific to a certain period. In other words, they were snapshots of what appeared to be happening at the time of the study. It should be remembered that their main objective was to verify whether or not an impact existed. Most of these studies did not look beyond households affected by HIV and AIDS, so comparisons with non-affected households were not made, limiting the context of impact studies. Many early impact studies did not refer to other socio-economic studies conducted in the area, thus excluding useful comparisons with factors other than HIV and AIDS that affect these societies (for a fuller discussion of the strengths and weaknesses of HIV and AIDS impact studies see Gillespie and Kadiyala, 2005).

Changes in agriculture

Various studies noted changes in farming methods as rural societies seek to respond to the loss of labour due to AIDS and related illnesses. A study by FAO/UNDP-SEAHIV in 2002 analysed mechanisms over time, along with the energy budget constraints and trade-offs at the farm-household level. For example, many small-scale producers in northern Zambia are returning to a traditional form of slash-and-burn land preparation – an agricultural method that both the colonial and the post-independence governments sought to ban (FAO, 2004b: 36–37). Burning has an impact on forests and forest products, which are often essential sources of food and income for some households. Changes in crop mixes, including a decline in cash crop production, are assumed to be occurring as HIV- and AIDS-affected households turn to less labour-intensive crops. Other studies have noted that significant changes in the structure of rural societies are intensified by the presence of HIV and AIDS. An example is rural Malawi, where policy changes, limited income-earning opportunities, extreme food shortages and HIV have pushed many household members into daily or piecework for others. Some rural households are leasing their land to wealthier urban residents, thereby increasing both intra-rural and rural-urban inequalities. One study found that: “Male farmers have recently been seeking urban or other patrons to help finance their access to fertilizers and land rentals and sharecropping arrangements have ensued” (Bryceson, *et al.*, 2004: viii).

Although earlier studies pointed to a shift from labour-demanding crops to less labour-demanding ones, this pattern is neither general nor permanent. Attempts have been made to estimate the extent of rural labour loss due to AIDS mortality. Using existing epidemiological data, FAO had projected that by 2020 the nine most severely hit sub-Saharan African countries would lose from 13 to 26 percent of their agricultural labour force to HIV and AIDS (FAO, 2000a). It was postulated that this would open the region to a “new variant famine” in which the loss of young and middle-aged people would leave households more vulnerable to food shortages caused by drought, policy change or conflict (de Waal and Whiteside, 2003). Both of these arguments are open to qualification and revision, especially in light of the stabilization and decline of the epidemic and the increasing availability of ARVs in these countries.

Rural differentiation

A feature of rural societies that is increasingly evident from a range of studies is the likelihood that HIV and other illnesses contribute to increasing social differentiation along gender and class lines. Unlike salaried workers who continue to be paid when they miss work or who are covered by insurance schemes, “agricultural households, which typically combine off-farm wage employment of some family members with on-farm engagement of the rest of the members, suffer double effects from the impacts of HIV and AIDS on family labour” – loss of wage income and loss of labour (Page, 2007: 5–6). Increased numbers of female-headed households, which tend to be among the poorest in rural societies, have been noted in many studies (FAO, 1994: para. 2.3.1). A study in eastern Zimbabwe found that about four out of five people who died were primary household income earners, and 60 percent “lost their jobs during their illness. In addition, one in seven caregivers had to give up employment to provide care for the sick family member, and about one in four households had to relocate soon after the adult death” (Zimbabwe National AIDS Council, 2004: 41). A study in Kenya found children orphaned by AIDS less likely to be in school than non-orphaned children, and absent from school more than non-orphans. Girls were nearly 20 percent more likely than boys to drop out of school following the death of a parent (Desmond, *et al.*, 2000).

Insights from recent studies

By 2000, the impacts of HIV and AIDS on rural societies were receiving greater attention. Food shortages in Southern Africa early in the twenty-first century added to the impetus to improve understanding of the types of changes that were occurring in rural societies. A growing number of local studies suggest that the general conclusions made from earlier impact studies need to be modified and that geographical and gender- and age-specific findings need to be more fully appreciated in understanding the range of impacts of HIV and AIDS. Some researchers are beginning to argue that impact analyses should not be static but should take into account the time dimension, as both the epidemic and its impacts are not static but dynamic phenomena. Initial studies should not be regarded as wrong, however, as most provided important insights and helped alert policy-makers and programme planners to the multiple dimensions of the epidemic. Impact studies moved the understanding of the epidemic away from an exclusive focus on biomedical and behavioural dimensions to a broader socio-economic perspective.

14 | Stressing the need for greater specificity in describing the impacts of HIV and AIDS does not diminish the realities faced by individuals, household members and communities in the wake of the epidemic. The epidemic is an important part of a combination of ongoing factors that contribute to rural differentiation and undermine rural livelihoods. The need for greater specificity arises because no simple explanation of common, across-the-board changes for affected rural societies is emerging. Evidence from case studies and anecdotal stories should be taken seriously, but care is needed in framing broad conclusions from these findings, including geographically, such as by generalizing to a national or continental (sub-Saharan African) level.

As observed by Chapoto and Jayne (2005; 2008), in most cases the impacts of HIV and AIDS on households depend largely on the particular characteristics of the household: size, the gender of the main income earner (head of household), the size of landholdings, ability to hire or call in labour, and the number and type of livestock and equipment owned. Death of either a male or a female is another factor in household ability to manage in the context of HIV and AIDS. The diversity of rural societies is reflected in the diverse responses to HIV- and AIDS-related illnesses and death. All these factors have long been known and promoted as part of rural development studies, but the linkages with other socio-economic disciplines were not fully appreciated during the first decade of research and response to the AIDS epidemic.

Recent rural impact studies have found fewer differences between HIV and AIDS-affected and non-affected households than had been earlier thought. This is especially the case among lower-income households, which are diverse in their own right. A study in several parts of Mozambique found that households that experienced an adult death compensated by bringing in new members. For example, a surviving male would likely remarry; a surviving female would seek the help of another female, perhaps a relative. Households that lose a prime-age male or female are not more likely than non-affected households to send away adult members “to engage in off-farm work” (Mather *et al.*, 2004: 7). The authors conclude: “Although some literature and popular discussion suggests that affected households face severe agricultural labour constraints, this paper presents several basic demographic findings that suggest that such constraints are not likely as severe as predicted, at least for many affected households” (ibid.: 9–10). The findings of a Kenya land study led the authors to conclude: “...it does not necessarily follow that the worse the epidemic the worse the impact on land rights. ...the link between HIV/AIDS and tenure insecurity depends on the interaction between different factors...” (Aliber *et al.*, 2004: 153–154).

Other studies are reconfirming earlier impact studies and adding depth to the understanding of changes occurring in rural societies. For example, a study in Rwanda indicated the choices that households make when affected by HIV and AIDS. As the time women devoted to care giving increased, the production of beer bananas, which were a source of income for women, declined. At the same time, sweet potato (food crop) production increased, as it permitted a more flexible labour schedule than beer bananas (Donovan and Bailey, 2006: 117). A recent study from Zambia found that when an adult male household head died, households already in the lowest half of income level experienced a decline of nearly 20 percent in crop output (Chapoto, 2006: 205). In north and central Mozambique, analysis found that farm income fell by 50 percent following the death of an adult male household member and by 13 percent after the death of an adult female. By contrast, off-farm income fell by more than 90 percent following the death of an adult female household member and by nearly two-thirds following a male death (Donovan and Mather, 2007).

Food security is undermined (or further compromised) in AIDS-affected households. A recent study in two districts of Zimbabwe found that less than a quarter of acutely affected households had three meals per day, compared with more than half of households coping with the impacts of AIDS. Similarly, the former households had less diversity in their diets (Food Security Network of Zimbabwe, 2007: 26). A study in Kagera region in northwest Tanzania found: “significant and robust

evidence that the impact of a prime-age death results in a 7 percent drop in consumption in the first five years after the death. After five years the effect remains negative, but becomes smaller and more imprecise” (Beegle *et al.*, 2006: 21).

Knowledge of the choices that are available to specific groups of people – such as women, larger or smaller households – and the availability of food and income is important in improving understanding of the impacts of HIV and AIDS. Not surprisingly, differences exist among different countries and from one society to another within a country. As in other aspects of rural society, the effects of HIV and AIDS on land issues are varied. In the Kagera region of Tanzania, land sales by men without the consent of their wives were reported, but were not found to be a generalized practice. In Uganda, after the death of their husbands, widows faced claims to land from in-laws. In KwaZulu-Natal, South Africa, young people who inherited land were particularly vulnerable to land losses as they had not established a clear presence and security on the land (Aliber *et al.*, 2004: 6–8). In-depth studies in Kenya in 2003 produced varied findings. In Embu district, where HIV prevalence was high but the full impacts were not yet being felt, “no examples [were found] of AIDS-affected widows being pushed off their land and very few accounts of distress sales”, but there were instances of land sales or transfers to cover the costs of medical care (Ibid.: 59). As previously noted, in central Malawi, sharecropping is increasing as people lose control of their land in exchange for loans for crop production. This diversity of experiences is a critical lesson learned from recent socio-economic impact studies.

“Coping is a way of escaping from the challenge of confronting how people’s capabilities are stunted, how their entitlements are blocked, and how their abilities to function as full human beings with choices and self-definitions are frustrated”

(Barnett and Whiteside, 2002)

In the mid- and late 1990s, few hard data documenting the impacts of HIV and AIDS on households and communities were available. At the time, many politicians and international development agencies commented that rural societies were coping with the impacts of HIV and AIDS (King Mswati III, 2001; Barnett and Whiteside, 2002). As other studies became available, especially after 2000 from Southern Africa, NGO and international agency programmes argued that traditional coping mechanisms were not functioning under the duress of AIDS. Numerous impact studies have pointed to the

survival mechanisms and, in some cases, resilience that households call on when responding to long-term illness and death. However, too frequently, authorities have cited the coping mechanisms of rural societies to avoid facing up to and understanding the changes – including those induced by HIV and AIDS – occurring in those societies. This is part of the general neglect of rural areas, as many national policy-makers and donor agencies assumed that rural households and communities were able to adjust to the changes resulting from AIDS and other external pressures.

Rugalema (2000) has drawn attention to the trade-offs that some HIV- and AIDS-affected households must make to manage AIDS-related illnesses and death. For example, the level of care provided to a chronically ill family member determines the amount of time available for child care, field work or market sales. As medical expenses rise, children may be withdrawn from school for varying periods to help with care giving or household labour (Rau, 2002). In other cases, households cut expenses in several ways. A study in Zimbabwe noted that households with chronically ill (for 3 to 12 months) members were “more likely to report an avoidance of education costs..., a reduction of spending on health care in order to purchase food..., and a reduction of spending on agricultural and livestock inputs...” (Senefeld and Polsky, 2006: 133). Thus, although rural communities may show remarkable resilience and adaptation to mitigate the impacts of HIV and AIDS, there may still be costs.

At some point, as households seek to deal with HIV and AIDS, a threshold for recovery may be crossed. One study provided the example of livestock sales: “Sales of chickens, goats or cattle are classic coping strategies that households all over sub-Saharan Africa employ. Some level of livestock sales is normal and does not result in increased poverty. At a certain point, however, household livestock holdings reduce to the level where they are no longer sustainable. At this point, livestock sales as a coping strategy become erosive” (Southern Africa Partnership Programme, 2005: 8). A study in Namibia argued that livestock sales in response to AIDS-related expenses also have implications for crop production: “Widespread sale and slaughter of livestock to support the sick and to provide food for the mourners at funerals not only jeopardize the livestock subsector but also the crop production subsector due to reduced availability of draught power and manure” (FAO, 2000b). Four key factors influence the recovery of households after an AIDS-related illness and death: continued availability of household labour (including the ability to solicit labour from outside); level of support from extended family members; availability and types of support from external sources (e.g. governments, NGOs); and access to alternative income sources.

Most impact studies examine the losses incurred (or not) by AIDS-affected households. Loss of property, livestock and equipment are frequently noted, but studies have not assessed who benefits as a result of the impact of HIV and AIDS on rural societies. Are there groups that gain from the losses incurred by others? Too little work has been done to answer this question with any certainty. A study from Malawi found: "HIV and AIDS...has unexpected opportunities for *increased* access to land for some. This is so in cases of custodianship over land that is due to an under-aged orphan(s). Older relatives in such positions, such as siblings of the deceased parents, find themselves with access to additional land, possibly for many years before having to relinquish such land" (Mbaya, 2002: 11). As previously noted, wealthier people in Malawi extend loans to desperate farmers in exchange for sizeable portions of crops produced. The view emerging from these studies is of increasing inequality, but to what extent is this due to AIDS? What are the internal dynamics of the increasing inequality? There is need for good data to answer these questions and help mould appropriate interventions.

Another finding emerging from recent impact studies is that AIDS is one of several factors affecting rural households. Most of these studies note that HIV- and AIDS-affected households and communities are, in many cases, already negatively affected by rural poverty. AIDS alone does not explain the situations faced by households, especially given the diversity of prevailing conditions among households before and as the implications of HIV and AIDS illnesses and death are experienced. Where households are already impoverished, AIDS exacerbates these conditions. In other words, the epidemic has a knock-on effect on ongoing processes. Poor rural living conditions, poor infrastructure, weak institutions serving rural areas, and AIDS all make it more difficult for many households to break out of the cycle of poverty and other crises that are common in rural communities (Iliffe, 2006).

Community-level impacts

Although many papers refer to the impacts of HIV and AIDS on families and communities, little work has been done to assess fully the community-level changes arising from the AIDS epidemic (Drimie and Gandure, 2005: 8). Often, "community" is neither defined nor described, and it is assumed that a community is roughly equivalent to a specific place, such as a village or neighbourhood. A more comprehensive use of the term can incorporate these meanings, while also including communities

as economic and social units. Thus, union members in a business can be a community, as can a religious congregation or a women's savings club.

Jayne *et al.* (2006b) argue that differential impacts of AIDS occur as a result of prevailing conditions within communities. For example: "The negative impact of mortality on land cultivation is mitigated in relatively wealthy communities..." and "current adult mortality rates have little independent impact on changes in crop output or output per hectare" when assessed at the community level. In addition: "There is little independent impact of mortality or chronic illness rates on community income levels" (Jayne *et al.*, 2006b: 6 and 7). The main point is that factors beyond HIV and AIDS are important for determining the severity of the impact. The study also draws attention to the need for adequate understanding of the changes affecting rural societies and for contextualizing AIDS and its impacts. As summarized by Jayne and colleagues:

...we find that communities with relatively high mean education levels are more adversely affected by adult mortality. This may be because educated adults tend to be relatively productive, and as they become sick and die, households and their wider kin networks lose the income and fruits of their labour. We also find the relatively wealthy communities, as measured by mean value of productive assets, are better able to maintain their cereal production than poorer communities suffering similar mortality rates. Communities with bigger farms suffer greater declines in output per hectare than more populated areas with smaller farm sizes, suggesting that labour constraints may be less severe in the latter areas. Lastly, mortality rates in the preceding three to eight years have a persistent negative impact on crop output per hectare, indicating a need to take into account communities' prior as well as current mortality rates in AIDS mitigation strategies (ibid: 8).

The epidemic is having a recognizable impact on rural service delivery, especially on the personnel responsible for providing services to rural communities. Agricultural research and extension services, health centres and local markets have all suffered to some extent as staff become too ill to work, are absent from work for care giving, or die and are not replaced (Rau, 2004). Here too, however, the epidemic is not totally responsible for the adverse effects on rural infrastructure, but is an exacerbating factor. Three decades of structural adjustment followed by neglect of rural services and infrastructure are the base on which AIDS has stressed rural structures further. In an analytical overview, the following factors that make communities more vulnerable to the impacts of AIDS were noted (FAO, 2004a: 11):

- weak social cohesion and an absence of social networks and labour exchange among households to provide support to each other in time of crisis;
- limited opportunities to substitute labour-intensive livelihood activities with those requiring fewer labour inputs;
- limited opportunities to diversify livelihood activities into non-farm employment;
- regular experiences of food insecurity;
- insecure land tenure and a weak system of property rights;
- widespread poverty;
- limited access to external support such as information, home-based care, food for work, school feeding programmes;
- weak infrastructure, which makes many aspects of rural living very labour-intensive, requiring household members to travel considerable distances – often on foot – to collect water, seek health treatment, etc.;
- advanced state of the epidemic, which has exhausted any tradition of welfare assistance within the community.

Although hard evidence to support these factors is not offered, it is important to note that pre-existing structural factors feature prominently in the list.



challenges
AIDS



challenges

AIDS

3. The emerging contexts

The evidence discussed in the previous chapter reveals the complex socio-economic context of AIDS and its impacts on agriculture and food security. It highlights the need for more sophisticated analyses informed by both short- and long-term trends, including the evolution of the impact over time. This chapter discusses the contexts that are changing the nature of the AIDS epidemic: the stabilization of prevalence in many countries and areas; the availability of ARV drugs that prolong people's lives; and changing population attributes. The chapter examines these factors, including the opportunities offered by the changes for food security in rural societies.

Many of the impact studies conducted in recent years (and the analysts citing such studies) have assumed that the AIDS epidemic and its impacts would continue unabated into the foreseeable future. Worst-case scenarios spoke of the collapse of rural economies, widespread hunger and failed social safety nets, without considering the other factors affecting rural societies.

Two new factors must now be considered in assessing the future course of the epidemic: a stabilization and/or decline of HIV prevalence in a number of countries (Table 3); and the growing availability of ARV drugs and related therapies that allow people to live longer and more productive lives with HIV.

The reasons why the epidemic is stabilizing or declining are not well explained. Suggestions include the following:

- An epidemiological peak has been reached, where nearly all people at risk are infected in what is called “the saturation of susceptible hosts in risk groups” (Levin *et al*, 2001: 507).
- Deaths from AIDS-related illnesses nearly equal the number of new infections.
- The growing availability of ARV drugs is reducing the number of AIDS-related deaths.
- Changes in sexual behaviour are resulting in fewer new infections.
- Aggressive prevention programmes are having the intended outcomes.
- The methods used to determine prevalence are changing to population-based surveys rather than estimations.

Whatever the reasons for changes in the AIDS epidemic, the implications for livelihoods can be far-reaching. The following discussion of some of the implications for agriculture and rural livelihoods is preliminary – numerous factors contribute to diverse impacts and responses in local areas and even from household to household. The discussion aims to help create a fuller understanding of the epidemic in all its various manifestations. It does not suggest that AIDS will suddenly disappear as an adverse reality for individuals or societies. Even where surveys suggest that the epidemic has stabilized, new infections continue to occur, as do illnesses and deaths related to AIDS, and the lingering effects of illness and death continue to shape the lives of thousands of households and communities. The discussion seeks to recognize that new age cohorts are coming into puberty, and their sexual behaviour and well-being will influence the intensity of the AIDS epidemic. The stabilization of the epidemic in some countries or areas does not mean that it will stop flourishing or will not resurge in other areas. The virus has shown considerable ability to evolve, and may do so to resist existing or new drug therapies, thereby sustaining the epidemic. Overall, there are causes for hope that after two decades of sustained efforts to control HIV, the epidemic will no longer be pushing at an open door. However, epidemics do not end with a bang but with a whimper, so despite the evident stabilization and decline, AIDS will continue to be a major social problem in the foreseeable future.

The epidemiological context: a slowing momentum of the AIDS epidemic?

It appears from prevalence data that the AIDS epidemic is slowing or stabilizing in a number of countries: UNAIDS (2007) points out that the epidemic began to stabilize some nine years ago. Data must be viewed with caution, however, as few long-term trends are clearly discernible, and national aggregate prevalence data mask huge provincial and district differences in terms of HIV prevalence and AIDS cases.

Table 4 identifies countries with declining or stable HIV prevalence. The evidence is taken from the 2008 epidemiological reports issued by UNAIDS, the most recent available for this paper (UNAIDS, 2008). For both declining and stabilizing countries, a three-year period – and not simply a single survey – is used to indicate a short-term trend. Stability over two years is not considered long enough for making a judgement. In all the countries cited, periodic prevalence surveys have been undertaken for many years, so changes in the course of the epidemic are measured over a fairly long time frame. National prevalence figures are used with the understanding that in-country regional, socio-economic, age and gender group differences are likely to exist. In fact, local variations in prevalence, impacts and responses are very diverse and more important to a full understanding than is simply looking at national prevalence levels.

Unfortunately, trend data for rural areas are often weak or incomplete; where possible, rural trends are included in Table 4 where evidence allows. A fourth column in the table provides the percentage of HIV-infected people who are on ART treatment. Countries where the epidemic remains generally limited to specific risk groups (e.g. injecting drug users as in Pakistan or Indonesia) and countries where the epidemic has not spread significantly into the general population are not included in Table 4. The table divides countries into four categories to indicate the existing diversity in prevalence and potential impacts: countries with low prevalence of less than 2 percent; countries with moderate prevalence of between 2 and 5 percent; countries with high prevalence of 5 to 15 percent; and countries with very high prevalence of more than 15 percent.

TABLE 4 - COUNTRIES WITH STABILIZED OR DECLINING HIV PREVALENCE, 2008

Country	National adult prevalence (over at least 3 years)	In-country variations ¹	Percentage of eligible HIV-positive people receiving ART ²
Low prevalence (< 2%)			
Burkina Faso	Decline from 2.1% in 2001 to 1.6% in 2007	Decline in rural areas and significant decline in urban areas	35%
Brazil	Stable at 0.6%		80%
Cambodia	Decline from 1.5% in 2001 to 0.8% in 2007	In Phnom Penh, rate among pregnant women fell from 4.4% in 1999 to 1.8% in 2003	67%
Dominican Republic	Generally stable at c.1.1%		38%
Ghana	Decline from 2.3% in 2001 to 1.9% in 2007	Highest rates are in the east	15%
India	0.3%; gradually declining, but wide variations by locality; in southern states decline from 1.7% in 2000 to 1.1% in 2004	Highest rates in Mumbai-Karnataka corridor, the Nagpur area of Maharashtra, Nammakkal district of Tamil Nadu, coastal Andhra Pradesh, and parts of Manipur and Nagaland	7% ³
Jamaica	Stable at c. 1.6%	HIV prevalence of 9% among sex workers	43%
Myanmar	Gradual decline from 0.9% in 2001 to 0.7% in 2007		15%
Thailand	Generally stable at 1.4%	Among men who have sex with men, prevalence increased by more than one-third between 2003 and 2005	61%

Country	National adult prevalence (over at least 3 years)	In-country variations ¹	Percentage of eligible HIV-positive people receiving ART ²
Moderate prevalence (2.1–5%)			
Côte d'Ivoire	Decline from 6% in 2001 to 3.9% in 2007	Data from northern and western areas not subject to study and may obscure reality; significant decline in urban areas	28%
Ethiopia	Gradual decline of c. 2.1% in 2007	Generally stabilized, at 14–16% since mid-1990s in Addis Ababa, and at 11–13% in other urban areas	29%
Haiti	Stable at 2.2%	Urban prevalence declined from 9.4% in 1993 to 3.3% in 2004	41%
Nigeria	Generally stable at c. 3.1%	Prevalence in pregnant women exceeds 5% in almost a dozen states; considerable variation from state to state	26%
Rwanda	Decline from 4.3% in 2001 to 2.8% in 2007	1998–2003 in rural areas stabilized at 2.1–2.8%; in Kigali declined from c. 16% to 13%; decline in urban areas	71%

Country	National adult prevalence (over at least 3 years)	In-country variations ¹	Percentage of eligible HIV-positive people receiving ART ²
High prevalence (5.1–15%)			
Kenya	Slight decline from 7.6% in 2001 to 7.1% in 2007	Prevalence at some antenatal sites fell from 25% in 1998 to 8% in 2004, at others from 15% in 2001 to 4.3% in 2004; rate among women is twice that among men; significant declines in both urban and rural areas between 2000 and 2005	31%
Malawi	Generally stable at c. 12–13% in 2001–2007	Urban and semi-urban rates declined from 26–27% in 1999 to 17–20% in 2005. In 2004, the rate in southern region was 17.6%; c. 6% in central region; and c. 9% in northern region; significant decline in urban areas	35%
Tanzania (United Republic of)	Gradual decline from 7% in 2001 to 6.2% in 2007	In Mbeya and Iringa regions, HIV infection was 15–19% in several urban areas in 2004; decline in rural areas	31%
Uganda	Decline from c.10% in late 1990s, now generally stable at 5.4%	Areas of conflict have rates of more than 8%	33%

Country	National adult prevalence (over at least 3 years)	In-country variations ¹	Percentage of eligible HIV-positive people receiving ART ²
Very high prevalence (> 15.1%)			
Botswana	Decline from 26.5% in 2001 to 23.9% in 2007	HIV infection rates of 40% of pregnant women aged 25–39 years; 21% in the Goodhope district in the south to 47% in Selebi-Phikwe; significant declines in both rural and urban rates between 2001 and 2006	79%
Lesotho	Generally stable at c. 23-24%	Declines in both rural and urban areas between 2003 and 2007	26%
Swaziland	Generally stable at c. 26%	Declines in both rural and urban areas	42%
Zambia	Generally stable at c.15% since 2001	Slight increase in rural areas from 11% in 1994 to 12% in 2004; decline in urban pregnant women: 20–24-year-old rate said to have dropped from 30% in 1994 to 24% in 2004	46%
Zimbabwe	Decline from 16% in 2001 to 15.3% in 2007	Significant decline in urban areas and decline in rural areas from 2000–2004; antenatal clinic rates declined from 30% in the early 2000s to 18% in 2006	19%

¹This column generally follows UNAIDS usage: “decline” indicates non-statistically significant; “significant decline” indicates that the change is statistically significant.

² Estimated number of people receiving ART as a percentage of those needing it in 2007.

³ 2005 data; figures not available in 2008 UNAIDS report.

Tables 5 and 6 provide district-level HIV surveillance trends for Uganda and Zambia. The trend data offer a localized view of the changes in HIV prevalence in both urban and rural surveillance sites in the two countries. The decline in HIV prevalence rates is more dramatic in Uganda than in Zambia, where the trend is towards stabilization, but at high levels. One rural district in Zambia (Kalabo) experienced a near tripling of HIV prevalence between 1992 and 2002, suggesting the variation that exists within countries.

TABLE 5 - HIV PREVALENCE, SELECT ANTENATAL SITES IN UGANDA, 1992 TO 2002

District	1992	1994	1996	1998	2000	2002
Nsambya	29.5	21.8	15.4	13.4	11.8	8.5
Rubaga	29.4	16.5	15.1	14.2	10.7	8.1
Mbarara	30.2	17.3	15.0	10.9	10.0	10.8
Jinja	19.8	16.3	14.8	10.5	8.3	5.0
Kilembe	n/a	16.7	10.4	n/a	4.2	4.2
Soroti	n/a	n/a	7.7	7.7	5.0	4.6
Mutolere	n/a	n/a	2.6	2.5	2.1	1.5

Note: Nsambya, Rubaga, Mbarara and Jinja data obtained at urban antenatal sites; Kilembe, Soroti and Mutolere data from “outside major urban areas” sites, i.e., rural sites with health facilities.

Source: Uganda STI/AIDS Control Programme, 2003.

TABLE 6 - HIV PREVALENCE, SELECT ANTENATAL SITES IN ZAMBIA, 1992 TO 2002

District or locality	1992	1994	1998	2002
Chilenje, Lusaka	27.0	35.3	27.1	30.6
Ndola	n/a	27.5	27.7	22.7
Chipata	n/a	30.3	27.2	27.2
Isoka	n/a	10.6	11.6	7.7
Kalabo	5.9	10.2	11.3	14.4
Macha	7.9	9.1	7.4	7.7

Note: Chilenje and Ndola are urban sites; Chipata is a provincial capital; Isoka, Kalabo and Macha are rural districts. District-level surveillance occurred (or was reported on) less frequently in Zambia than in Uganda.

Source: UNAIDS.

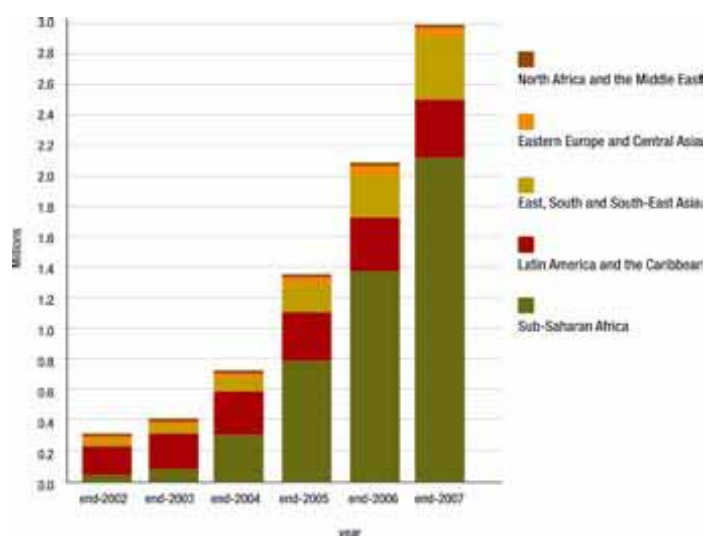
There are obvious gaps in the optimistic picture of a downward or stabilizing trend in HIV rates across Africa: there are countries where the epidemic continues to increase, such as South Africa, Namibia and Mozambique. The pace of growth in Southern African countries has moderated from that of several years ago, but neither prevention initiatives nor the availability of ART has yet halted the expansion of HIV and AIDS.

Despite the exceptions and the continued presence of HIV, there is reason to hope that the number of countries in which the epidemic is in decline will continue to increase. Countries and many NGOs are promoting prevention initiatives and expanding the availability of voluntary counselling and testing (VCT) sites where people can learn their HIV status. National governments and international organizations are allocating significant resources to making ART available for increasing numbers of people.

The treatment and care context: growing availability of ART

UNAIDS reported that at the end of 2007, nearly 3 million people were receiving ART in low- and medium-income countries. This means that ten times more people are now receiving ART than were at the end of 2002. The UNAIDS' graph shown in Figure 2 provides a regional breakdown of the increase in the number of people receiving ART.

FIGURE 2 - NUMBER OF PEOPLE RECEIVING ART IN LOW- AND MIDDLE-INCOME COUNTRIES, 2002 TO 2007



Source: UNAIDS, 2008.

About 950 000 people began receiving treatment between the end of 2006 and the end of 2007. The World Health Organization (WHO) estimated that 31 percent of the people who needed ART were receiving it at the end of 2007, compared with 7 percent at the end of 2003 and 20 percent at the end of 2005: “The year 2007 also saw an unprecedented annual increase in the number of people receiving antiretroviral therapy... However, global coverage of antiretroviral therapy is still limited, reaching 31 percent of the 9.7 million people in need at the end of 2007” (WHO/UNAIDS/UNICEF,

2008). Of the total number of people receiving ART, more than 2 million are in sub-Saharan Africa, where the percentage of people covered grew from 2 percent at the end of 2003 to 21 percent in 2006 and 30 percent by the end of 2007. Table 7 provides a regional summary of the numbers of people on and needing ART.

TABLE 7 - ESTIMATED NUMBERS OF PEOPLE RECEIVING AND NEEDING ART AND PERCENTAGE OF COVERAGE IN LOW- AND MIDDLE-INCOME COUNTRIES, BY REGION, END OF 2007

Region	Estimated number of people receiving ART	Estimated number of people needing ART	Percentage of ART coverage
Sub-Saharan Africa	2 120 000	7 000 000	30%
Latin America and the Caribbean	390 000	630 000	62%
East, South and Southeast Asia	420 000	1 700 000	25%
Europe and Central Asia	54 000	320 000	17%
North Africa and the Middle East	7 000	100 000	7%
Total	2 990 000	9 700 000	31%

Source: WHO/UNAIDS/UNICEF, 2008.

Following several years of debate, legal action and civil society activism to make ARV drugs available to people who need them, including to prevent transmission from mothers to newborn infants, South Africa currently accounts for one-fifth of those receiving treatment in sub-Saharan Africa. It was reported that in South Africa 28 percent of the people needing ART were receiving it towards the end of 2008. Treatment sites have expanded rapidly, in both the public and private sectors. The latter meets about half the current demand for ART. Men are more likely to use private sector treatment services, while 60 percent of the people using public services are women (WHO/UNAIDS, 2006: 20; International Treatment Preparedness Coalition, 2006: 33). Although extensive evidence is lacking, it appears that access to treatment is lower in rural than in urban areas. Rural access is hindered by inadequate health facilities, staff and laboratory services, and the distances that people have to travel to obtain services (International Treatment Preparedness Coalition, 2006: 34; Makwiza *et al.*, 2005).

In some countries, disparities similar to those that occur in the impacts of HIV and AIDS also occur in who has access to ART. Although the percentage of pregnant women estimated to be receiving ARV prophylaxis has increased significantly in recent years (from 10 percent in 2004) only about 33 percent received treatment in 2007 (UNAIDS, 2008: 4). However, in most African countries, women account for more than half of all people receiving ART, corresponding to the higher HIV prevalence among women (WHO/UNAIDS/UNICEF, 2008: 2). In terms of preventing HIV transmission to infants, about one-third of pregnant women in low- and middle-income countries were being covered by services in 2007 (UNAIDS, 2008: 5). Findings reveal, however, that figures vary among and within countries and correlate to the level of HIV testing. Few HIV-positive pregnant women received ART for themselves (WHO/UNAIDS/UNICEF, 2008: 5). Recent changes in the drug regimen to prevent infection of the foetus or newborn infants are improving outcomes for newborns. In Zambia, however, the new procedure is used only in urban health facilities, and has not yet been introduced to rural health centres (IRIN, 2007).

Factors affecting use of ART

Several factors influence who has access to ART. Botswana, Brazil, Cuba and Thailand, for example, have adopted policies and budgets to assure universal access. Other countries have yet to set priorities. Whether treatment is free or involves a partial payment by patients can make a major difference in access. It has been noted that: "in several African countries... when treatment is free, more women and children access it. When there is co-payment, however small, men are the majority of patients" (IRIN, 2004). A more rigorous, qualitative study in several East and Southern African countries concluded that free access to ART was the determining factor for most women (Silvester *et al.*, 2005: 12–14). A study in several districts in Malawi found that: "cost clearly emerged as the main barrier for patients to access and adhere to ART" (Makwiza *et al.*, 2005: 25). Indirect costs associated with treatment, such as transportation to a health facility and purchase of nutritious foods, make a difference in access to and use of ART. Many of the factors determining access to and use of ART may also play a role in determining adherence to treatment. Table 8 shows ART adherence one year after the commencement of treatment in selected high- and very high-prevalence countries. Although in some cases the percentage of people remaining on treatment appears rather high, this figure is relative to the percentage of people with access to ART in the first place.

TABLE 8 - ART COVERAGE AND ADHERENCE 12 MONTHS AFTER THE INITIATION OF TREATMENT, 2007

Country	Percentage of people on ART	Percentage of people on ART 12 months after initiation of treatment
Botswana	79%	85%
Ethiopia	29%	70%
Kenya	31%	87%
Lesotho	26%	74%
Malawi	35%	69%
Swaziland	42%	64%
Tanzania (United Republic of)	31%	-
Uganda	33%	88%
Zambia	46%	88%
Zimbabwe	19%	93%

Source: UNAIDS, 2008.

Increasingly, transmission from HIV-infected women to their newborn children is being prevented. This reduces the number of young children who become infected and, over time, will have a cumulative effect on non-infection rates. ART also reduces the viral load of people who are HIV-positive, thereby reducing the chances that they pass on the virus to others. Thus, the uptake of ART not only allows more people to live longer and remain productive, but is also likely (depending on sexual behaviours) to slow the spread of HIV. The effectiveness of ART in contributing to reductions in new HIV infections depends on a variety of factors, however: ready access to affordable treatment; a consistent supply of ART drugs; sufficient individual or family income to deal with the indirect costs; and reductions in the stigma associated with AIDS. If newborn children are protected from HIV, but their mothers do not have access to ART, the number of orphaned children will continue to rise steadily. If overall treatment regimes are less available and affordable in rural areas, the focus of the epidemic could shift from urban to rural areas.

Access to treatment for HIV depends on a variety of factors: cost and affordability to households; availability of drugs; access to health centres where drugs are available; trained health personnel; a steady supply of drugs; and a supportive family and community. Efforts are under way to address many of these factors in order to sustain the changing dynamics of the epidemic. Many of these challenges are quite common in rural areas of developing countries, suggesting that access to ART (and related services) in rural areas is severely limited.

In addition, a precondition for people's initial access to treatment is knowledge of their HIV serostatus. Uptake of VCT for HIV remains slow or low in most countries. In Malawi: "the uptake of counselling and testing is lower among the poor and coverage rates in the poorest 20 percent of the population are about half those found in the top 20 percent. Testing is also higher among urban settings and among the better educated people" (Banda *et al.*, 2006: 26, citing Makwiza *et al.*, 2005). WHO reports that: "Worldwide, only 12 percent of people who want to be tested are currently able to do so" (WHO, 2006b: 6) and an average of only 20 percent of people living with HIV in low- and middle-income countries know their status (WHO/UNAIDS/UNICEF, 2008: 3). The stigma and fear surrounding the disease keeps many people from learning their status, despite major campaigns through multiple sources in many countries to persuade people to use VCT services. Most VCT programmes are designed for urban settings. The different communication methods, service availability and transportation circumstances of rural areas are not compatible with such programmes. Testing for HIV is a first step in what is called "treatment literacy" – individual and collective understanding of the factors influencing effective use of ARV drugs and related care and treatment.

Another major factor is the affordability of ART for countries, insurance schemes and families. People not covered by employment-based insurance or who have low incomes would appear to be least likely to obtain ART when payment for services or drugs are required. For low-income households, even nominal payments can be a hindrance to sustained uptake of ART, as has been well documented regarding user fees for other health services (Silvester *et al.*, 2005: 5–6). Where treatment is provided free, adherence to the regimen is usually high (Weidle *et al.*, 2006). Where ART is subsidized, cost is an important consideration for governments and donor agencies. In Thailand, 80 000 people are on ART. In 2004 to 2005, a grant from the Global Fund supported about 30 percent of the cost of providing ARV drugs, at an average cost per patient of US\$40 per month. The level of Global Fund support was expected to decline to 15 percent in 2006, as the Thai government covers a larger portion of the cost of ARV drugs. The cost to the government for ART increased

from US\$6.2 million in 2002 to US\$70 million in 2006. ART has been integrated into the country's Universal Health Coverage (Siraprapasiri, 2006), an important indicator of long-term commitment.

Since the late 1990s, the prices of ARV drugs have fallen dramatically, although for many countries and individuals they remain very high in relation to income. For people for whom the initial combination of drugs does not work, so-called second-line drugs can be offered, but these cost more than ten times as much as the first-line drugs.

Funding for ART is provided primarily by families, national governments and international organizations: "In low- and lower-middle-income countries, governments and external donors together cover 25 to 50 percent of costs. The remainder is covered by out-of-pocket spending by patients and their families" (WHO/UNAIDS, 2006: 7; WHO, 2006b: 15). Serious concerns remain about the sustainability of funding to treat existing and new HIV infections over the next 20 to 50 years. A disruption in funding for drugs can affect drug supply and availability, with implications for patient efficacy and viral drug resistance, as occurred late in 2007 in Rwanda.

In terms of annual budgets, whether for households or national governments, outlays for ART are expensive, but the returns are substantial and can offset the cost of the drugs and related therapy. A recent study from Kenya found that within 12 months of starting ART, workers on tea plantations worked: "at least twice as many days in the month than they would have in the absence of ART" (Larson *et al.*, 2008).

Evidence from both Thailand and Western Cape Province in South Africa shows that a well-considered strategy for providing treatment and a well-developed health infrastructure supporting implementation of that strategy are critical for the effective uptake of ART in both urban and rural areas (Abdullah, 2004; Revenga *et al.*, 2006). In turn, health infrastructure influences ease of access and affects the indirect costs that patients usually assume to receive all aspects of treatment. These costs can include transportation to treatment centres and time away from income-generating activities. Whether a person on treatment lives within an easy commute of a health facility is important, especially in rural areas, where people tend to live further away from health facilities that offer ART. A patient's location influences access to ART and to palliative drugs (such as pain relievers or anti-diarrhoea medicines). Existing evidence about disparities in access for rural versus urban dwellers is inadequate (IRIN/PLUSNEWS, 2004). It is reported that at least some areas of rural South Africa

receive less than efficient HIV and AIDS treatment (Beresford, 2004). In Zimbabwe, access is difficult for everybody, but especially for rural dwellers (Timberg, 2005). In 2006, Zambia's Ministry of Health conceded that: "many people living with HIV and AIDS in rural areas are not able to have access to ARVs because of long distances to district hospitals" (Comtex Health Care, 2006).

Socio-economic differences also may influence access to ART, although the limited number of studies on this topic reach differing conclusions. A study of deaths in Sao Paulo, Brazil, after ART was introduced found that trends of mortality (due to AIDS-related illnesses) were more or less evenly distributed across different socio-economic groups. The authors conclude: "it seems likely that in Sao Paulo the large-scale and free provision of ART meant that access to therapies and quality of care was equitable, and patients of different socio-economic background were reached at around the same time" (Egger *et al.*, 2005: 509–510).

Stigma appears to keep some people from obtaining ART, because they fear that they will face prejudice and discrimination from community members if they are seen at a clinic or are known to be taking ARV drugs (Mweninguwe, 2006). Stigma has been a persistent reason for people not using VCT services and is now preventing them from obtaining treatment. In time, attitudes may change, especially if no-cost access to ART and consistent supplies of drugs are sustained. Changed attitudes may open the way for more people to be tested for HIV and to seek treatment.

Emerging opportunities

It has been argued that ART provides countries and public health officials with a pause in the severe impacts of HIV and AIDS and with opportunities to find new solutions and adapt tried solutions to address the epidemic and its impacts more effectively (Barnett, 2006: 342). In addition, new research, as well as established knowledge, suggests that in the coming years, new opportunities for diminishing the risk of HIV infection can contribute to a changing presence of the epidemic. For example, research in several countries has shown that male circumcision reduces men's risk of acquiring HIV during heterosexual intercourse by more than half, compared with men who are not circumcised.

A search for ways in which women can reduce their risk has focused on the development of an HIV microbicide – a gel or cream that women can use prior to intercourse that reduces the risk of transmission of HIV. Some progress has been made in identifying safe and effective candidates, but turning research into consumer products remains at least several years away (early in 2007, two microbicide trials were halted because the gel being tested was shown to increase the risk of HIV transmission or was ineffective in preventing transmission). Condoms for use by women are available in many countries, and with active marketing and education are accepted and used. Female condoms are not always accessible to rural and low-income women, however, and uptake over time has been slower than advocates had hoped (SAPA, 2006; Napierala *et al.*, 2004). As with efforts to develop an effective vaccine against HIV, the search to improve prevention in women has focused on technical solutions. The “magic bullet” for preventing HIV has not been found.

The presence of malaria parasites increases the speed at which the HIV virus affects the body's immune system. In turn, the presence of HIV increases the risk of malaria infection (Centers for Disease Control and Prevention, 2006). Greater malaria control efforts can have important implications for reducing the impacts of both HIV and malaria, especially in sub-Saharan Africa. For pregnant women, the presence of HIV increases the possibilities of anaemia and adverse effects on the foetus (Whitworth, 2006).

The interaction of HIV with other infectious diseases, notably tuberculosis (TB), has implications for healthy people and agriculture, as these diseases have a major impact on people's ability to work, agricultural productivity and rural livelihoods (FAO, 2006). Controlling any of these infectious

diseases either singly or as part of a comprehensive disease treatment programme would release labour for agriculture and other productive activities. Evidence indicates that this is possible. A study by Badri, Wilson and Wood (2002) found that ART reduced the incidence of HIV-associated TB by more than 80 percent in an area endemic with both diseases. If left untreated, or not properly treated, TB can rapidly cause the death of HIV-infected people.

Research continues on producing a viable HIV vaccine, but expectations of finding one soon are hindered by the complexity of the virus and its ability to adapt to different situations. Scientists regularly indicate that successful vaccine development is at least a decade in the future. Preventing transmission of the virus remains an elusive goal. Thus, continued focus on prevention, including by strengthening food and nutrition security as well as rural livelihood options, remains essential.

The emerging socio-economic context

The influence of the epidemic cannot be understood without appreciating other factors that shape society, including the cohesiveness and resilience of many rural societies. Rural areas and groups have been subject to significant strains in recent decades, and these continue, along with AIDS, to affect people's relationships to the land, agricultural productivity, their livelihoods and their neighbours.

The preceding discussion described how the situation is still very complex and fluid, despite encouraging signs regarding stabilization and decline of the epidemic. Given the paucity of data, it is difficult to say whether the decline is significant or not. In any case, the effects on agriculture and rural livelihoods will continue to be felt as long as the epidemic remains at a high threshold. This section analyses the emerging socio-economic context, focusing on demographic, labour and equity outcomes resulting from the evolving epidemic and its impacts.

As the AIDS epidemic moderates in spread and intensity, the various impacts that have been predicted need to be reconsidered. This does not mean the complete reversal of existing real and projected impacts, but a more nuanced set of changes, largely determined by a household's demographic make-up and socio-economic features. There may be many contradictory findings, as different societies, with different forms of epidemics, adjust to the new realities.

The moderation of the AIDS epidemic in some areas offers new opportunities and hope, not only for the millions of people who will not become infected, but also for societies as they re-examine their policies and programmes for rural and equitable development. African countries have experienced numerous crises in recent decades, including AIDS. A moderating epidemic offers space to reconsider how past policies have contributed to the spread of the epidemic, and space to rebuild societies.

It also means that many past and current approaches to mitigating the impacts of AIDS are subject to review and revision. The reasons are several, but centre around the fact that households affected by AIDS are not homogeneous, and that many low-income rural households not affected by AIDS are in similar circumstances to those that are most affected. All such households, not just those affected by AIDS, can benefit from short-term mitigation initiatives and long-term development programmes.

Demographic changes

Among the demographic changes that can be expected as results of the slowing of the epidemic and the increased availability of ART will be fewer adult deaths than were forecast several years ago. Overall death rates due to HIV- and AIDS-related illnesses will decline, although deaths will not cease, as many people – especially in rural areas – will remain without access to treatment, and prevention programmes may fail to adjust to rural realities.

The overall death rate related to HIV and AIDS will be determined, in part, by the numbers of people being tested for HIV and obtaining treatment, and by the long-term effectiveness and availability of ART. As noted previously, women tend to be tested for HIV at higher rates than men. Especially in sub-Saharan Africa, women and men are obtaining ART at similar rates.

The implications of the moderating epidemic for rural societies with high prevalence rates – notably in Africa, and conditional to rural people living with HIV having access to ART – may include:

- reductions in childbearing, as women, men or both decide not to risk passing the virus to newborns or to risk having children they cannot afford to raise;
- increased food production, as women, in particular, are able to carry on agricultural functions;
- improved child care and child nutrition, as women are able to devote more time to both;
- a decrease in the number of orphaned children, as fewer parents die and existing orphaned children enter adulthood and are no longer counted as orphans. This is likely to lessen the burden for extended family members who have cared for orphaned children.

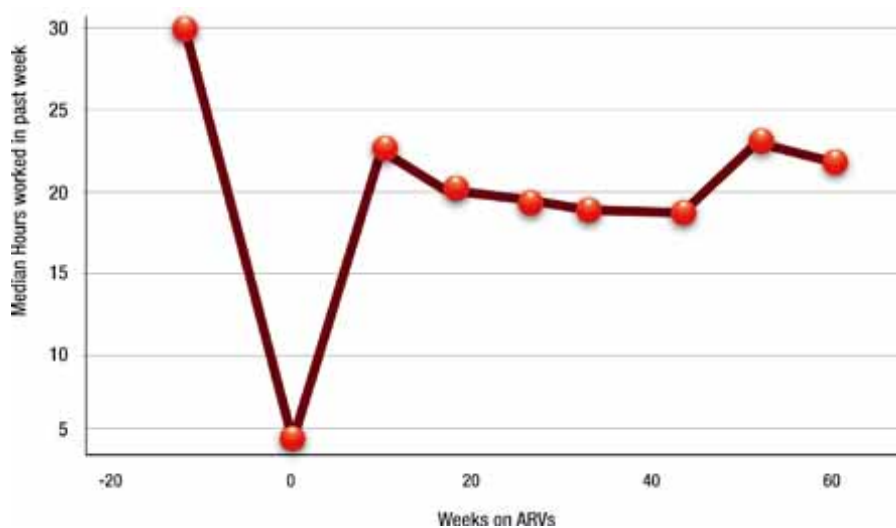
The downward trend in life expectancy, documented for Southern African countries in particular, is likely to level off and life expectancy will likely begin to rise again. In addition, improved life expectancy for adults will improve dependency ratios. This will occur in two waves: the immediate dependency ratios will improve as adults live longer, especially as parents remain or return to being economically active; and, over the longer term, more children will survive (because HIV will not be transmitted at birth and because of better care by family members who otherwise would have been sick and died) to provide support for parents, grandparents and their own families in the future. Improvements in life expectancy will to some extent reverse the demographic changes in households, which have included increases in orphaned children and child- and elderly-headed households.³

³The authors are grateful to Libor Stloukal and Sarka Kasalova Dankova for pointing out these likely demographic changes.

Labour productivity

The degree to which agricultural production, especially in Southern Africa, will be affected by AIDS is likely to differ from earlier predictions. Earlier studies suggested that the loss of household labour was producing changes in the amount and types of crops grown. More recent studies indicate that these changes are more selective.

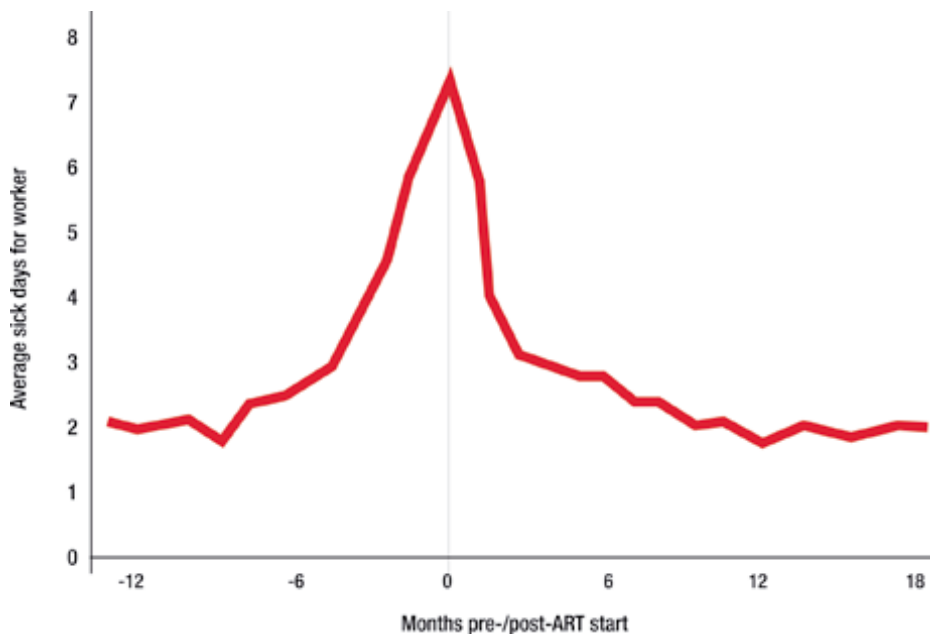
Very few studies have looked at the changes in productivity once people begin ART, and even fewer at the changes in rural productivity. One of the few to look at rural commercial agriculture comes from Kenya and found that: "...within six months after the initiation of treatment, there is a 20 percent increase in the likelihood of the patient participating in the labour force and a 35 percent increase in weekly hours worked. Since patient health would continue to decline without treatment, these labour supply responses are underestimates of the impact of treatment on the treated" (Thirumurthy, Zivin and Goldstein, 2006: 2). Figure 3 illustrates the rebound effect of ART for tea estate workers in Kenya.

FIGURE 3 - WEEKLY HOURS WORKED BEFORE AND AFTER ART, KENYA

Source: Thirumurthy, Zivin and Goldstein, 2006: 49.

Other studies have focused on labour productivity in the formal sector, usually urban companies. This paper assumes that related responses to ART will be found in most rural areas. For example, in a large food industry company in South Africa, absenteeism of HIV-infected employees who began ART declined significantly (Rosen, Long and Bachman de Silva, 2006). The large Anglo American mining company, with operations in Southern and East Africa, reported: “At the end of 2005 we had 3 034 employees on ART. More than 90 percent of them are well and able to continue with their normal work.” As in the findings from Kenya, Anglo American documented dramatic declines in employee absenteeism after the start of the ART programme (Figure 4). The company concluded: “the cost of ART is more than covered by the reduction in absenteeism, reduced health care costs (particularly hospitalization), retention of skilled employees and improved productivity” (Anglo American, 2006).

FIGURE 4 - CHANGES IN ABSENTEEISM (SHORT-TERM TRENDS), ANGLO AMERICAN COMPANIES



Source: Anglo American, 2006.

It can be suggested that as women devote less time to caring for sick relatives (e.g., women spend up to 7.5 hours per day on care for terminally ill relatives in South Africa: Booysen and Bachmann, 2002: 7–9), more time will be given to food production, income generation and leisure activities. In turn, this will allow speedier recovery of household production and financial stability, although medical costs may continue to be significant for households in which at least one person is receiving ART. An increase in food production can contribute to improved household nutrition, an important factor in a person's ability to benefit fully from ARV drugs. An indirect benefit can be improved nutrition for children, with implications for school attendance and learning.

Equity

Equity is influenced by and reflects national decisions regarding subsidies to consumers to offset the cost of ART or prioritizing specific groups for access (such as health workers). Although one goal of treatment campaigns is universal access for all people who need ARV drugs, most countries are unable to afford that level of coverage, at least for now. There is also the question of who covers the costs of the drugs, the medical and laboratory attention that goes with ART, transportation to medical facilities and provision of adequate food. Some countries provide free access to drugs and medical oversight. Others share the costs with clients. Only a handful of NGO programmes include support for transportation and/or provision of nutritious foods. It seems clear that even as the epidemic moderates, the costs for treatment – and the necessary provisions to obtain treatment – will remain a heavier burden for low-income groups than for high-income groups or groups covered by insurance or employer provision of ART.

There has been little discussion within countries about how prevailing socio-economic and gender conditions may determine access (WHO, 2006a: 12–13). In sub-Saharan Africa, where data are available, women's access to ART nearly equals or exceeds their proportion of the population that is HIV-infected (De Cock, 2006). In the region, 57 percent of the people in need of ART are women, but women make up 61 percent of those receiving treatment (WHO/UNAIDS/UNICEF, 2008: 2). In Malawi, nearly twice as many women as men started ART (Makwiza *et al.*, 2006). This may be an outcome of women's routine or voluntary testing for HIV, either during pregnancy or at stand-alone VCT facilities. Unfortunately, there are no recent, reliable studies that seek to explain in full why women have received ART in such large proportions, especially given existing stigma and the biases in society and health care systems against women. Follow-up studies that trace longer-term adherence by women and lower-income people are also lacking, especially those to determine whether or how much cost or other barriers affect ART outcomes.

A feature in the broad pattern of the epidemic is that it affects young women at higher rates than young men, lower-income people more than upper-income groups, and already disadvantaged households more than better endowed ones. These realities have long-term implications for social and gender relations. The implications vary over time, by region and by existing and new support systems. In sub-Saharan Africa, if the number of young women living with HIV or dying of AIDS-related illnesses remains high, the opportunities for creating stable relations may decrease for both

women and men. The presence of a higher proportion of men to women may increase social tensions and gender violence, as fewer younger women are available for partnering with young men. At the same time, the change may give young women greater control over relationships, if they have greater flexibility in the choices of men they wish to be with. In addition, women have been more assertive in seeking testing for HIV and have been the primary care givers for sick relatives. These factors may increase the status of women in addressing some of the social and legal inequities they face within society.

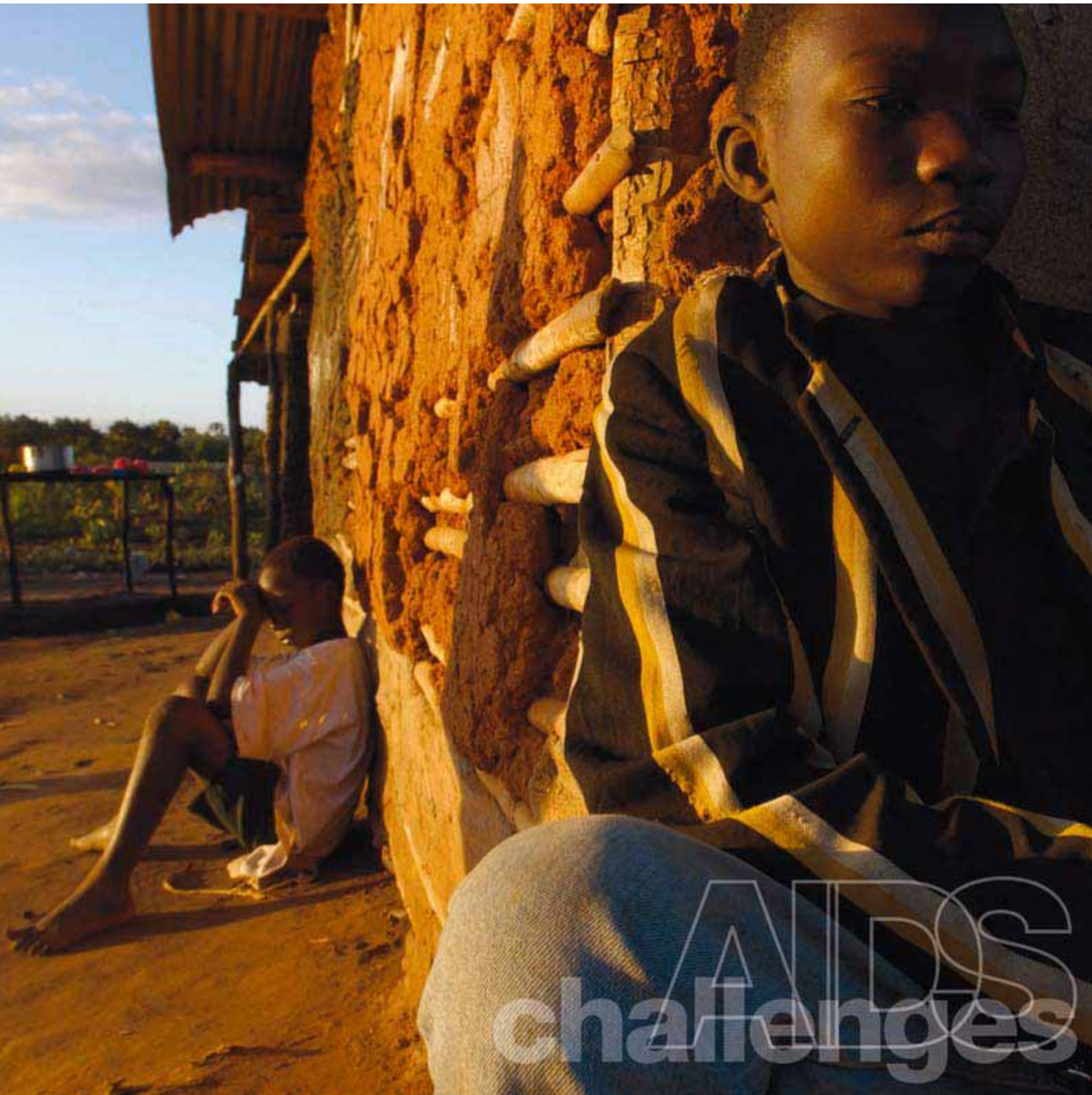
Equity is also influenced by the transfers (by sale, lease, legal or traditional means) of land, inputs, equipment and livestock as households seek to balance financial needs against job and income losses, decreases in crop sales and increases in medical costs. People and households that have gained through such transactions will be in a position to increase agricultural production – perhaps explaining why aggregate agricultural statistics have not changed significantly in the era of AIDS (Table 1).

Opportunities for children in households affected by AIDS may be compromised in comparison with those for children in non-affected households. Although findings from numerous studies show different results, there is sufficient evidence that a portion of children in affected households were withdrawn from school for varying periods or had their entry into school delayed. Some children were expected to assist with care of sick relatives; others entered the workforce to supplement household incomes. As ART roll-out intensifies and becomes more widespread, some of these negative trends may be reversed.

Some early AIDS impact studies speculated that children in affected households were likely to have worse nutritional status than children in non-affected households. At least one study suggests, indirectly, that this may not be the case. A review of demographic and health survey data for Malawi found minimal differences in nutritional status between young orphaned and non-orphaned children (Rivers, Silverstre and Mason, 2004; see also Mason et al., 2005, which discusses the difficulty of identifying AIDS as a primary causative factor in child malnutrition). However, Binswanger (2006) indicates that households fostering two or more AIDS orphans have lower nutrition outcomes for orphans and other children in the household. Further study is needed to determine the impact of ART availability on the education and livelihood opportunities available to children affected and/or infected with HIV, compared with those not affected.

There is evidence that already marginalized groups have much greater difficulty obtaining ART. In Thailand, such groups include informal or illegal migrant workers from Myanmar, injecting drug users, deep-sea fishers and prisoners (Schuettler, 2006; IRIN/PLUSNEWS, 2007). In East and Southern Africa, people in fishing communities are not only at high risk to HIV, but are least likely to have ready access to VCT and treatment. Most of the people in these communities are mobile and low-income. Health facilities are not usually readily available in or near these communities. An adequate diet for those who are able to obtain ART is difficult to maintain, as is easy access to a regular supply of drugs (Seeley and Allison, 2005).

In summary, the evidence now available on the AIDS epidemic presents a mixed picture. In some cases, household well-being has suffered greatly. Assets have been spent or lost, children withdrawn from school, and women's workloads increased. In other cases, informal and formal community groups (extended families, NGOs, local and national governments) have helped families to reduce the burden of AIDS. In some instances, new social movements have emerged to promote effective prevention, treatment and care options. All of these responses, and others, can be seen in many countries and they are expected to persist as long as the epidemic remains a significant problem.



AIDS
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4. Conclusion

This paper reflects a different way of looking at the rural context of AIDS. While not ignoring or dismissing the deaths, hardship and changes brought on by the epidemic, the paper notes that the intensity of the epidemic is changing, at least in some countries and for some groups. ARV drugs offer new hope for dramatically reducing death rates from AIDS-related causes, allowing people to live longer and to remain productive citizens. A combination of official prevention efforts and local appreciation of the seriousness of AIDS has reduced or stabilized its prevalence in many countries. The direct consequences of HIV and AIDS that had been predicted for rural labour supplies, commodity production and poverty are not likely to be as extensive as forecast.

By viewing AIDS as a changing phenomenon, it is possible to offer some new insights into what the epidemic means – and will mean in the near future – for rural societies. What stands out is that although AIDS is and will remain an important factor in shaping rural societies, it is one of several critical factors. As others have pointed out, AIDS may exacerbate the existing fault-lines – gender, socio-economic, age – that differentiate society, but it is not usually the only cause of inequalities (Collins and Rau, 2000). In examining the changing AIDS epidemic, the overriding conclusion is that the basic concerns about agriculture and rural development that have existed for more than half a century continue to be the issues requiring full attention. These concerns include land control and

use, commodity prices and markets, supportive social and economic infrastructure, and equitable access to services and decision-making.

The decline and stabilization of HIV prevalence rates in many countries provides cause for optimism, but the impact of the epidemic will continue to affect societies and economies for at least another decade, and probably longer. Prevention, care, treatment and mitigation efforts will remain priorities during that time.

The epidemic is not simply a public health challenge, but also reflects the social and economic fault-lines that have increased economic inequalities and left many rural and urban people without access to the means to improve their livelihoods. HIV prevention, treatment and mitigation will be most effective when incorporated into broad-based development initiatives designed to strengthen rural and urban sectors. Given all that is known about the impacts of HIV and AIDS, there is a vital need to rethink development approaches and reprogramme development resources to address, simultaneously, the epidemic and the widespread impoverishment of many societies.

The agriculture and rural livelihood sectors must play a significant role in reframing development and AIDS approaches. As policy changes are being framed, the agriculture sector is well placed through its presence in rural areas to advocate for and implement specific interventions related to AIDS. These include:

- advocacy and promotion of the expanded availability of ARV drugs in rural areas, as these constitute probably the most important life-saving option for people living with HIV;
- emphasis of nutritional programmes to enhance ARV uptake and the nutritional well-being of other survivors such as orphans;
- design and implementation of life skills and vocational training and job programmes for rural youth, including orphaned and other vulnerable children;
- design of better social protection programmes for the most vulnerable individuals and households (particularly women-headed households) whose livelihoods cannot be assured without some form of external assistance;
- capacity and institutional strengthening for mainstreaming HIV and AIDS into agricultural policy to address the current state of ad hoc and disparate interventions.

Rethinking the role of mitigation efforts is a necessary step to move AIDS responses into a development framework. It will also place the epidemic in its rightful context, as a development, and not simply a public health, issue. The epidemic has spread because it followed fractures in societies, which widened in the 1980s and 1990s. Inequalities in wealth allowed men to use their money to obtain sex from women. Inequalities in education and landholding opportunities divided rural from urban people even further. The increasing difficulty in making a living from agriculture pulled people off the land and contributed to massive urban unemployment. Each of these trends, and others, played a role in facilitating the spread of HIV across societies. AIDS containment has reached a cusp, as the epidemic no longer has the initiative, but success depends on how various sectors – including agriculture and food security – play their vital roles in preventing the epidemic and mitigating its impact.



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