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# HIV/AIDS and Agriculture in Southern Africa: What Difference Does It Make?<sup>1</sup>

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## 1 Introduction

In any examination of the future of African agriculture, the impact of HIV/AIDS on rural livelihoods has to be taken into account. If you live in Southern Africa, and have extended family, it is likely that your life has been affected by HIV/AIDS. It is probable that a relative of yours, even if not from your immediate household, will have died, and your own family will be bearing some of the implications, from housing orphans to having to meet periodically extra expenses from funerals to school fees. With HIV infection passing predominantly along transport and migration routes, AIDS has been a disease first experienced by the urban-based, educated, more mobile elite, with infection rates in rural areas being initially lower. However, migration between rural and urban areas, both long-term and temporary, has been one of the cornerstones of rural livelihoods in Southern Africa. Remittances, urban connections and trade have thus long been central to agricultural development in the region. These social and economic connections are thus intimately linked with the spread of HIV/AIDS and its impact on agriculture and livelihoods.

This article asks what difference is HIV/AIDS making to livelihoods in the region? On this question there are widely divergent views. These range from those who think rural livelihoods have been profoundly affected, as was suggested with the coining of the term 'new variant famines' (de Waal 2004), to those who believe that the alarmist scenarios are vastly overblown (Patel and Scott 2003). This article examines these views by drawing on empirical work from Southern Africa, much of it conducted under the aegis of CARE International.

For example, a recent ten-year re-study undertaken in Zambia examined the role HIV/AIDS is playing in social change.<sup>2</sup> Unsurprisingly, the ground reality is more complex than any of the extreme views offered, but it is not reassuring.

## 2 Livelihood resilience: trends and patterns

There is no doubt that in much of Southern Africa, livelihoods have become less resilient. There are a range of factors that have played a role, and trying to tease out the relative importance of these for any given context is difficult. In looking at the impact of HIV/AIDS on rural livelihoods, it is necessary to understand the complex interaction of factors in historical context.

Reviews of livelihood trends in Malawi, Zambia and Lesotho show how levels of rural poverty and social differentiation grew sharply during the 1990s, especially once the full effects of structural adjustment policies had kicked in (McEwan 2003; Tango International 2003; Turner 2005). These policies resulted in the almost complete withdrawal of state-run services for agriculture. There was a faulty assumption that the private sector would move like water into some of the most inhospitable marketing environments that exist. The result has been that geographical isolation – especially from markets – has played an increasing role in the growth of rural poverty. For a country like Malawi, almost all rural areas are "remote" since input and output transaction costs are discouragingly high, even in areas relatively close to Lilongwe city (Bryceson *et al.* 2004; see also Dorward *et al.*, this *IDS Bulletin*). In Zambia too, rural differentiation has grown in both social economic and geographical

terms, with the state withdrawing almost entirely from the provision of economic or social services in the more remote provinces (McEwan 2003; see also White *et al.*, this *IDS Bulletin*).

This growing isolation of rural areas has meant the gap between those that can access services on favourable terms – for example through membership of some form of producer or farmer association encouraging cash crop production – and those that cannot, has grown. With the increased number of crop failures in the region, input schemes focusing most commonly on the staple crop production of maize have predominated in recent years. There have been several consequences of this. One is the reduced diversity of crop production. This has particularly affected legume crops, normally an important income earner for women, and source of protein in the diet. However, with a few exceptions, the availability and production of legumes like groundnuts, cowpeas and beans have declined in the 2000s.<sup>3</sup>

This decline in crop diversity contrasts with the previous decades, when for example, in Zambia there was a wide range of seed varieties available, produced through crop breeding programmes and tested on-farm by farming system research teams. Crop varieties appropriate to a range of local conditions were produced, often through a process that included the screening and refining of local genetic material. There were medium and long-season hybrid maize varieties, short-season, open-pollinated green maize crops for the hunger season, white and red sorghums, finger and bulrush millet, ranges of cassava and sweet potato varieties, local and imported rice varieties, beans, cowpeas, red and white groundnuts, round nuts and green gram.

Ten years on, most of the funding for both the commodity and farming research programmes has long disappeared and few of these varieties are still readily found. The Mpongwe district of the Copperbelt Province in Zambia, one of the two sites of the re-study conducted in January 2005, was the location of a farming system team and EU-funded smallholder development project which systematically distributed a wide range of crop varieties in the early 1990s. Only a few now remain – a white, high-yielding, sweet potato variety and an early maturing green maize variety found around the homesteads of less well-off farmers, in particular. But this area has now become the ‘maize belt’. Seed supply, agricultural extension, the fertiliser support

programme, the milling companies undertaking most of the agricultural marketing, are all focused on one crop: maize.

This has accentuated social and economic differentiation. Those farmers able to access fertiliser and cattle or tractor-drawn ploughs are showing improved yield and output levels compared with the early 1990s. In contrast, those households without access to fertiliser and sources of draught power face a continuing struggle to produce and obtain enough food to survive, necessitating in all cases, their involvement with various kinds of piecework on neighbouring commercial farms, or alternative forms of income.

### 3 Impacts of HIV/AIDS

So how has HIV/AIDS affected this picture? CARE has recently undertaken work in Zambia, Malawi, Lesotho and Zimbabwe that has sought to tease out the impact of HIV/AIDS on rural livelihoods. This has involved looking at the interaction of factors over time and how these have affected livelihood strategies of different groups of people. This has been aimed at exploring the kinds of strategies that may offer a way out of ever more recurrent food crises.

To begin with, a methodological note is required. In surveys of rural livelihoods, the unit of analysis most commonly used is that of the household. Yet to understand a phenomenon such as HIV/AIDS, taking the household by itself may not be very useful. This is for the simple reason that households are rarely self-contained production units. More usually, a group of households can be found between which there are critical resource flows of an informal kind. There is not necessarily direct resource exchange, but rather sets of complex interrelationships within and between the participating households. In analyses undertaken seeking to understand these interrelationships, the term ‘cluster’ has been used to denote the set of participating households (Drinkwater 1993, 2003). Using this approach helps a more detailed picture of social change to be elucidated. For instance, it helps to show that the death or illness of a key agricultural producer usually affects more than just the immediate household. Similarly, the existence of orphans can place pressure across a network of households, as can the loss of a key urban remittance. Moreover, individual households may simply disappear, but the consequences of their disappearance – and the loss

### Box 1: Ten Years of Livelihood Change in Central Zambia

When the initial survey was conducted in 1993, the central conclusions reached were that the pathways of the spread of infection from the main urban centres were the major transport routes and, where carriers that use the routes regularly (traders, truck drivers, business people) interact with people from rural areas (such as women marketing crops), HIV infection will spread into the rural area. Nodal points may be identified where contact between carriers and rural dwellers is most intense and thus where rural infection rates are rising first. The Mpongwe area is such a nodal point, whereas the Teta area, in the more remote Serenje, is not. In Serenje the two parts of the district which had the highest infection rates in 1993 were the areas where traders entered in large numbers to buy crops such as beans and sweet potatoes.

The HIV/AIDS epidemic was then defined as having three stages. Stage 1 was when the first patients return from urban areas to rural families to die. Stage 2 was when there are AIDS patients in the local community, who are from the community itself, meaning the virus is now being contracted locally. And Stage 3 was defined as being when the death rate increases and the full effects of HIV/AIDS on agricultural production and livelihood security is experienced. The 1993 survey predicted that for the Mpongwe area, the third stage of the epidemic would probably be reached by the late 1990s. As morbidity and mortality due to HIV/AIDS rose, the effect would be to exacerbate the already significant vulnerability and food insecurity of large numbers of women and children. In contrast, at that time, the Teta area was still in the first stage of the epidemic.

Ten years later, Mpongwe is fully in Stage 3. While data is incomplete, deaths in children may have peaked in 2002, followed by adult deaths in 2003, but the worst has not yet been seen.<sup>4</sup> In Mpongwe, as already noted, social and economic differentiation is growing. 'Primary producer' households, with access to hybrid maize seed, fertiliser and animal or tractor draught power, are showing better yields than in 1993. In simple household production terms, they appear better off. But within the clusters they are part of, there are often deep strains and growing obligations. There is growing dependency among the satellite households who are often female-headed and looking after large numbers of dependants, including orphans. This is creating tensions between the primary producer and the households of dependant relatives and others.

Livelihood vulnerability is exacerbated by a range of economic, social and health factors. Access to key maize inputs is critical for the local agricultural economy, but access is highly differentiated following the withdrawal of government support, with some doing well, but many struggling. Socially, this is an area undergoing substantial social change too, with a matrilineal kinship system showing signs of evolving into a patrilineal one – and with marriage being often a very temporary relationship. In addition, both HIV/AIDS and livestock disease have had a severe effect. Livestock disease has wiped out herds twice in the last decade or so, leaving men reluctant to re-accumulate cattle, despite the reductions in production resulting from lack of access to draught power. HIV/AIDS has had a major, but variable, impact on household composition and so available labour and levels of dependency. For example, in one household cluster, 11 adults had died and 17 orphans were being looked after. By any standards, this is a heavy burden. By contrast, in the more remote Teta area, the epidemic now appears to have passed into Stage 2, with larger numbers of people having contracted HIV. In discussions, people themselves felt the worst was yet to come.

of assets involved – leave a legacy that has a bearing on those that remain.

An example can be drawn from a study undertaken in Zimbabwe in 1999 in a rural area near the southeastern Midlands town of Zvishavane. At this time, better-off households were supported by urban incomes. Typically, these remittances funded

items such as agricultural inputs and school fees, and were critical in the maintenance of production and consumption levels across an extended family. The remitters, though, were the people most likely to be first affected by HIV/AIDS and the impact was devastating, with rural families losing their income support and gaining orphans instead (Westley 1999).

Thus the orphans might return to their grandparents' household, while another sibling of the deceased would be responsible for trying to meet the school fees, with at the same time a decreased ability to obtain the agricultural inputs necessary to maintain reasonable production levels.

One requirement to understanding the extent to which AIDS has had an effect on rural livelihoods is therefore an analysis that looks beyond the individual household. As McEwan notes in her review of livelihood trends in Zambia, when statistics are used referring to an average 11 per cent prevalence rate in rural areas, it is hard to derive from this any real sense of quite what effect the epidemic has had (McEwan 2003).

Beyond this, the second challenge to understanding how AIDS has influenced rural livelihoods and hence agriculture lies in being able to distinguish between those households whose lives have been "touched" by AIDS and those who have suffered adverse impacts. Nearly all the households in the recent Mpongwe re-study (see Box 1) have been affected by HIV/AIDS: either a child or an adult in the cluster has died or is currently ill. But there are fewer household clusters that have clearly been adversely affected by HIV/AIDS in terms of declining food production, reduced income levels, asset loss and imbalances in producer:dependant ratios. The relative resilience to the impact of HIV/AIDS is because the effect on one household is spread across others in the cluster and thus it depends on just how many households and who in them has been affected.

So how much has HIV/AIDS affected rural livelihoods? While impact is clearly uneven and highly dependent on the social and economic ties bound up in intra- and inter-household relations, it is also clear that this impact is still spreading. In a survey of available nutrition-related data for Southern Africa, malnutrition levels in children under five years old were highest in areas considered more remote geographically and were primarily related to poverty and not primarily HIV/AIDS. However, the fastest increases in malnutrition are occurring in those areas where HIV infection rates are highest, and these are predominantly peri-urban areas and rural areas with strong urban connections (Mason 2004).

The work CARE has undertaken bears out this pattern. So far, those rural areas most affected by HIV/AIDS are those nearer urban centres and

markets. Nevertheless, even in these areas, there is no indication that the epidemic has necessarily yet reached its peak. And, moreover, there is every indication that those areas that are more remote will still attain greater levels of infection and manifestation of AIDS, since they are still open to forms of infection; it has just taken longer to occur. This can be seen in the distinctions between the Mpongwe and Teta field sites in the Zambia re-study (Box 1).

A complementary study in Malawi in 2002 showed comparable findings. In Lilongwe rural district, high numbers of households were found to be affected by chronic sickness and death, with the proportion varying between 22 and 64 per cent per village (Shah *et al.* 2002). If a cluster analysis had been used, virtually every cluster would have experienced some impact. The study looked at the impact of distance from trading centres on the rates of chronic illness and found no correlation, but did find a positive correlation between the proportion of households affected and their mobility patterns and livelihood strategies. Where more people spent time outside their village for economic activities like petty trading and vending, there were higher rates of illness. The most immediate impact of chronic illness was loss of labour, something that over 70 per cent of households so affected had experienced. This led to other problems such as delayed agricultural operations, affecting nearly half of the households that had experienced chronic illness, changes in crop mix (26 per cent), leaving land fallow (23 per cent) and changes in source of livelihood (36 per cent). The net result was decreased agricultural productivity and increased producer:dependant ratios, even if chronic illness was not the only cause (Shah *et al.* 2002).

#### 4 Conclusions

The impact of HIV/AIDS on agriculture and rural livelihoods in Southern Africa is continuing to spread. While household clusters with greater asset levels are better placed to absorb the deaths of adults and the care of orphans, there are many households where the loss of life and assets, including in caring for the sick, is devastating. This vulnerability has been increased, particularly in more remote, rural areas by the withdrawal of state support for agriculture and livelihoods following the economic reform programmes of the 1980s and 1990s. The full social and economic consequences of these combined factors remain hard to predict. Both the

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Malawi and Zambia studies highlight the frequency with which changes in marriage partners are occurring and thus the fluid and fragile identity of the household itself. As noted for Malawi, the composition and location of households was subject to frequent changes, with in particular the status of women and children in the patrilocal system becoming increasingly insecure (Shah *et al.* 2002).

While the impact of HIV/AIDS on rural livelihoods remains varied, and certainly by no means the only factor affecting the trends towards

growing levels of rural social economic differentiation and vulnerability, its impact is more insidious and complex than sometimes assumed. The effects are both social and economic and in particular, the complex processes of social fragmentation and accompanying loss of human rights and dignity that are taking place remain largely out of sight. The impact of HIV/AIDS in Southern Africa will continue to grow and the challenges to mitigate this have yet to be fully understood and absorbed.

### Notes

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