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Policy Series 6

***HIV/AIDS AND RURAL LIVELIHOODS
IN SUB-SAHARAN AFRICA***

Joanna White and Elizabeth Robinson

(Social Sciences Department, NRI)

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PREFACE

This series is principally concerned with current policy issues of importance to developing countries but also covers those relevant to countries in transition. The focus is upon policies which affect the management of natural resources in support of sustainable livelihoods. Much of the series will be devoted to concerns affecting the livelihoods of poor people in rural areas, recognizing the linkages with non-natural resource-based livelihoods. It will also include the interests of the urban poor, where these are linked to the use of natural resources as part of livelihood strategies.

The series will take a holistic view and cover both the economic and social components affecting livelihoods, and associated factors notably with respect to health and education. The aim is to provide topical analyses which are based upon field research where appropriate, and which will inform development practitioners concerned with issues of poverty in development.

The series is timely, given the increasing focus upon poverty and poverty elimination in the agenda of the development community. It is also timely with respect to the growing body of recent work which seeks to replace earlier, simplistic structural adjustment programmes, with more flexible approaches to livelihoods, institutions and partnerships.

Policy analysis is often assumed to be the remit of social scientists alone. Whilst it is recognized that social science may play a pivotal role, interactions with other disciplines may also be critical in understanding and analysing policy issues of importance to the poor. The series therefore draws upon a wide range of social and natural scientific disciplines reflecting the resource base at the Natural Resources Institute.

EXECUTIVE SUMMARY

Human immunodeficiency virus (HIV) prevalence now stands at over 25% in some countries in sub-Saharan Africa and death rates from acquired immune deficiency syndrome (AIDS) already outweigh those from other killer diseases such as malaria. 'Prime age' adults are one of the most significant groups prone to sickness and death from HIV/AIDS, and an increasing number of children have been orphaned as a result. Unlike diseases that often hit weaker and poorer households the hardest, HIV prevalence rates are also high in economically better-off households.

HIV/AIDS has become increasingly understood as a development issue and, moreover, to have a 'bi-directional' relationship with the processes related to development. HIV/AIDS has an impact on the socio-economic dynamics of households and communities, while socio-economic change itself may have a negative or positive effect on the spread of HIV/AIDS. Furthermore, the capacity of those whose task it is to plan and instigate interventions to support communities that are affected by HIV/AIDS is itself constrained by the impact of the epidemic. These different impacts of the HIV/AIDS epidemic have critical implications for the future of all sectors involved in development.

Growing interest in the impact of HIV/AIDS on rural livelihoods has resulted in a body of research which provides a broad understanding of how the epidemic has affected rural communities and farming systems, particularly smallholder farmers in East, central and southern Africa. Much of the literature has focused on the impact of an individual sickness and death from AIDS in a household, and the coping strategies that the household adopts. A smaller body of research has established typologies of farming systems and their vulnerability to the impact of HIV/AIDS.

General research findings suggest that HIV/AIDS is creating new problems and challenges for rural development, including the dramatic increase of vulnerable groups such as grandparent-, widow- and youth-headed households. However, the dangers of generalizing from the limited base-line data have not always been recognized in the literature. Also, the methodological problem of identifying sickness and death due to HIV/AIDS as a single attributable factor affecting local livelihood systems has not been recognized.

The HIV/AIDS literature appears to overlook several key areas. Much of the household-level research has not drawn on the substantial existing literature on shocks to rural households and the corresponding coping strategies they adopt. Hence an opportunity to integrate issues related to HIV/AIDS within existing generic work may have been overlooked. Nor has the literature on HIV/AIDS comprehensively addressed the impacts of the epidemic at a wider level, for example on wage rates, employment levels and land distribution. Additional research in this area would be of value for policy makers and planners alike.

Given the systemic nature of the impacts of HIV/AIDS, a critical way to mitigate the increasing effects of the epidemic on rural communities is the 'main-streaming' of HIV/AIDS in all rural development work. The various impacts of HIV/AIDS at household, extended family and community level will need to be incorporated into any analysis of rural poverty and livelihoods undertaken amongst populations affected by the epidemic, and conventional research and project interventions and approaches may need to be adapted.

Existing frameworks of analysis may be developed to provide new methods of understanding the impact of HIV/AIDS on rural livelihoods, both in Africa and elsewhere. Now is an ideal time to revisit some of the original base-line data gathered in the late 1980s and early 1990s to gain a better understanding of the longer-term impact of HIV/AIDS, not simply as an isolated factor, but within the context of other processes that also affect behaviour and contribute to poverty. This would in addition provide an opportunity for exploring some of the issues raised by the variability of findings from existing data.

Research on poverty-coping strategies should be continued, with an emphasis on coping strategies related to livelihood diversification and the

short- and long-term impact of coping with multiple AIDS deaths within households, extended families and communities. Given the importance of inter-household dynamics, and the complex links between individual households and extended families, both within and between communities, it may also be necessary to move beyond the existing emphasis on the individual household as the unit of analysis. This approach would divert attention from the household as the key entry point for programme intervention and would therefore encourage interventions that take account of the complex linkages between different groups.

One possible method may be to carry out household- and community-level case studies that track the connections and exchanges among households and communities, including rural, urban and peri-urban groups. This might provide a way of understanding these dynamic relationships more clearly, for example, in terms of access to assets, support mechanisms and the relative influence of different factors on poverty status at different points in time. Hence existing understanding of coping strategies, social capital and rural livelihoods would be enhanced.

Some practical innovations are already being carried out to mitigate the devastating impact of HIV/AIDS on affected rural communities in East, central and southern Africa, yet there still appear to be few formalized methods of sharing this work with other regions. It is crucial that existing and future activities, including research, remain linked to cross-sectoral uptake pathways so that experiences and tested solutions can be shared.

1

INTRODUCTION

At the end of 1998 an estimated 21.5 million men and women and one million children were living with HIV in Africa. Within the continent, individual countries have been affected to differing degrees. For example, whereas currently only 2.4% of the adult population in Ghana are HIV positive, in Botswana and Zimbabwe the figure stands at over 25% (UNAIDS, 1998a). Factors affecting HIV prevalence in individual countries include cultural norms associated with sexual behaviour, government policies, the resources available to prevent the spread of HIV/AIDS, the stage of the epidemic, and the strain of HIV (in West Africa the less virulent HIV-2 predominates, in southern Africa the highly virulent HIV-1C predominates and may spread north). Hence in the long term different countries are likely to have very different experiences, which will affect the extent to which HIV/AIDS dominates other problems, and therefore the form of intervention required to tackle its impact.

The epidemic was originally understood principally to affect urban areas. However, HIV/AIDS prevalence continues to increase in the rural zones of many countries in Africa, due to migration patterns, trade, refugee movements and other rural-urban linkages. In sub-Saharan Africa, a region that is one of the main recipients of donor aid, the epidemic is now spreading in some rural areas at an alarming rate and is affecting all populations, particularly people in their most productive years, between the ages of 15 and 45 (Webb and Paquett, 1996; Baier, 1997). Furthermore, many urban dwellers affected by HIV/AIDS send their children to relatives in rural areas when times are hard, and return to their villages of origin when they become seriously ill, so that the caring and support costs of the wider family are frequently borne by rural communities (Seeley, 1993).

Poor testing and reporting of HIV, misdiagnosis of AIDS in rural areas, and the limited integration of HIV/AIDS as an issue within general socio-economic development programmes (outside the health sector) has meant that the rural epidemic and its impact have remained largely invisible to policy-makers and planners (Topouzis, 1998; du Guerny, 1998); a worrying fact given the implications the epidemic has for the future of rural livelihoods and economies.

Since the late 1980s, there has been growing awareness of the intrinsic link between the spread of HIV/AIDS and the dynamics determining sexual behaviour. This requires HIV/AIDS to be understood in relation to wider processes such as livelihood change, migration (voluntary and enforced), gender relations, and local perceptions of causality and risk. Consequently HIV/AIDS has become a matter of concern beyond the fields of bi-medicine and preventive and curative health, fields where, traditionally, the lion's share of HIV/AIDS-related donor funds has been channelled (Barnett and Whiteside, 1998).

This broader perspective has led to greater understanding of HIV/AIDS as a development issue, and furthermore, of the epidemic having a 'bi-directional' relationship with the processes related to development. That is, HIV/AIDS has an impact on the socio-economic dynamics of households and communities, while socio-economic change itself may have a negative or positive effect on the spread of HIV/AIDS. Furthermore, the capacity of those whose task it is to support the poorest communities affected by HIV/AIDS will itself be constrained by the impact of the epidemic. The functioning of government departments, NGOs, and community support organizations is already being adversely affected by increasing staff absenteeism due to HIV-related sickness and attendance at funerals, and the death of some staff. This impact has critical implications for the future of all sectors.

HIV/AIDS-related interventions can be classified into three areas: prevention, for example education to change behaviour; care, for those who have developed AIDS; and mitigation, to reduce the social and economic impact of HIV/AIDS on households and communities. This latter area is of growing concern as the 'downstream' effects of HIV/AIDS are observed amongst households, communities and wider society in the most affected countries. Enhanced knowledge of these 'downstream' effects

should allow the planning of more strategic interventions aimed at impact mitigation.

The 1990s have seen investment in research into the impact of the epidemic at a local level, which has included a number of studies on rural communities in developing countries, predominantly in sub-Saharan Africa. Given the growing interest in this field, it is now appropriate to review and synthesize these studies and other relevant information, and to identify core sources of knowledge. This publication, therefore:

- describes the main findings of key studies which have investigated the impact of HIV/AIDS on rural livelihoods in sub-Saharan Africa and summarizes the key issues arising from this literature;
- identifies gaps in current knowledge; and
- identifies the main centres of excellence and expertise in the field of HIV/AIDS and rural livelihoods.

A wider aim of this publication is to enhance understanding of the relevance of HIV/AIDS in relation to current poverty-alleviation initiatives and to generate further debate.

This work has been carried out over several weeks during March, April, August, and September 1999. During this period it was possible to gather a substantial amount of material and establish contact with many of the key players who have been working in this particular field. Some of these individuals reviewed an earlier draft of this document*. White also attended the conference *AIDS, Livelihood and Social Change* at Wageningen Agricultural University from 15-16 April 1999, which provided a forum for the exchange of current thinking in this area. However, given the short time frame of this work, it is inevitable that some sources and contacts may have been overlooked.

* The authors would like to thank Tony Barnett, Gershon Feder, Mead Over, David Seddon, Janet Seeley, Anton Simanowitz and Douglas Webb for comments on an earlier draft. Of course, any errors remain the full responsibility of the authors.

2

CHARACTERIZING THE HIV/AIDS EPIDEMIC**THE EPIDEMIOLOGICAL DATA**

Just as the percentage of individuals who are HIV-positive varies between countries, it also varies between regions within countries and between urban and rural areas (Armstrong, 1995). For example, in small towns in Uganda HIV prevalence is approximately 20%, whereas in rural Uganda, HIV prevalence is about 8% (Boerma *et al.*, 1997). The urban/rural HIV prevalence ratio within countries tends to be lower in countries with developed transport structures such as South Africa and Zimbabwe, and higher in countries such as Zambia, Tanzania and Uganda.

In addition to HIV prevalence data, the number of current and future sicknesses and deaths attributable to HIV/AIDS, both in absolute terms and relative to other causes, is a critical parameter to guide the work of those planning interventions to mitigate the impact of the epidemic. According to available data, adult deaths from infectious diseases in the developing world currently are not, on aggregate, dominated by HIV/AIDS. In 1990 approximately 8.6% of deaths from infectious diseases were attributable to HIV/AIDS. Yet by 2020, this figure is predicted to rise to 37.1%, relative to 54.7% from tuberculosis (TB) (World Bank, 1997). Given that tuberculosis is often the primary manifestation of HIV, we are facing a future where HIV may ultimately be the dominant cause of death from infectious diseases world wide, an epidemic of enormous scale.

The aggregate global figures, startling as they might be, do not reveal the severity of the epidemic in some localized areas. Sub-Saharan Africa is currently the most affected region in the world, where AIDS-related deaths already predominate. For example, in 1998 HIV/AIDS accounted for 1.8 million deaths in the region, compared with 1 million caused by malaria

(UNAIDS, 1998b). Children who are born today in Zambia or Zimbabwe are already more likely to die from AIDS than any other cause (World Bank memo, 2 June, 1999). Since mortality rates correspond to new HIV infection rates for approximately 5 years before, and the peak of the epidemic has not yet been reached in most African countries, death rates are likely to increase substantially over the next decade.

As a result of the rise in mortality from HIV/AIDS, especially among infants and young adults, life expectancy has fallen substantially in many African countries. In Botswana, where over a quarter of the adult population is HIV-positive, life expectancy has plummeted from over 60 to under 50 years. In Uganda, life expectancy has fallen to less than 40 years (UNAIDS, quoted in World Bank, 1999, p. 12).

Despite the available epidemiological data, predicting the impact of HIV/AIDS in Africa is difficult. Most rural inhabitants do not know whether they are HIV-positive and deaths from AIDS may not always be recorded as such. Existing data are incomplete and often not consistent, and very different estimates and projections are presented, which makes the task of targeting impact mitigation problematic. For example, Bangwe found that in Monze district, Zambia, 15% of households experienced a death from AIDS in 1991. This figure was expected to rise to 35% in 1996, but in fact rose to 51% (Bangwe, 1997). However, certain characteristics of the HIV/AIDS epidemic can be identified. Epidemiological data confirm that HIV/AIDS prevalence is correlated within communities and households in sub-Saharan Africa. Heterosexual intercourse accounts for 93% of HIV transmission in Africa, and so, typically, if one member of a family is HIV-positive and he/she engages in unprotected sex with his/her partner, the virus is likely to be transmitted within the family. In addition, vertical transmission from mother to child is approximately 25-35%, with four in five infants born HIV-positive dying within 5 years (Bongarts, 1996).

Sub-Saharan Africa is currently unique amongst other regions in that the same number of women as men die from HIV/AIDS (UNAIDS, 1998a). In Zimbabwe, death rates for men aged between 15 and 60 years old have doubled (Timaues, 1997). In Kagera, Tanzania, for women between the ages of 15 and 39, the probability of dying from AIDS is greater than from all other causes (Ainsworth and Semali, 1998). Adult men and women are being struck down by HIV/AIDS during their most productive years, when

they are 'prime age adults' (World Bank, 1997). This dramatically affects their lives and those of their families and dependants.

The chronic impact of HIV/AIDS on adult death rates is revealed if the proportion of individuals currently HIV-positive is compared with the death rate due to AIDS relative to other causes. For example, in rural Tanzania where just 4% of the population is HIV-positive, AIDS already accounts on average for 35% of all adult deaths. In fact, other evidence indicates that in some rural areas of Zambia and Tanzania this death rate may even be as high as 50% (Webb, personal communication). In small-town Uganda, where prevalence is about 20%, 75% of adult deaths are due to HIV (UNAIDS, 1998a). Thus HIV/AIDS is having an increasingly dominant impact on adult deaths.

HIV/AIDS is visibly affecting certain social groups more than others. A rise in the number of female-headed households has been observed as women are widowed by HIV/AIDS and may have difficulty re-marrying (Rugalema, 1998). The number of paternal, maternal, and 'double' (those who lose both their parents) orphans has also increased dramatically as a result of HIV/AIDS. In total, some estimates suggest 23% of all children in sub-Saharan Africa under 15 are missing one or both parents (UNAIDS, 1998a). The impact of the epidemic on infants and children is therefore becoming increasingly apparent.

HIV/AIDS AS A SHOCK

To analyse the socio-economic impact of HIV/AIDS on rural livelihoods it is important to provide a framework within which to assess the epidemic. HIV/AIDS can be characterized as a 'shock'. Most individuals who live in rural areas in sub-Saharan Africa do not know whether or not they are HIV-positive. Hence although the literal impact for a rural household occurs when an individual becomes infected with the HIV virus, the 'shock', in terms of both physical and psychological impact, is manifested when the individual develops AIDS. Furthermore, HIV/AIDS has long-term effects at both micro and macro levels. As Barnett and Blaikie describe, it is a 'long-wave disaster' (Barnett and Blaikie, 1993).

Unlike other sicknesses, HIV/AIDS does not target the poor. Whereas poverty may increase an individual's susceptibility to infection by HIV/AIDS and vulnerability to its physical, social, and economic impact, HIV/AIDS

itself is not *ex ante* linked with poverty. It stands out among contemporary fatal infectious human diseases in that it is spread principally through sexual contact, and therefore pervades all socio-economic classes. In fact, some studies have found a positive relationship between socio-economic status and HIV infection in parts of sub-Saharan Africa (Ainsworth and Semali, 1998).

From a wider perspective, the 'shock' instigated by the epidemic may manifest itself in sector-level changes, such as the redistribution of assets or changes in wage rates. The overall impact is therefore pervasive and systemic. As Topouzis describes, "the catalytic effects and systemic impact of the epidemic on rural development may amplify existing development problems to such an extent as to trigger structural changes" (Topouzis, 1998, p. 16).

KEY CHARACTERISTICS OF THE EPIDEMIC

From the data reviewed above, several key characteristics of the AIDS epidemic emerge:

- the scale of the epidemic is staggering, both on an aggregate level and more so at a country and regional level;
- HIV/ AIDS disproportionately kills 'prime age adults' in their prime working and parenting years;
- intra-household transmission has resulted in a devastating impact on certain households;
- the number of female-headed households and orphans, two vulnerable groups, has increased dramatically; and
- the systemic impact across sectors is considerable and likely to increase.

3

OVERVIEW AND ANALYSIS OF THE LITERATURE

GENERAL OBSERVATIONS

In-depth research on the socio-economic impact of HIV/AIDS in sub-Saharan Africa was first undertaken in the late 1980s as the presence of HIV/AIDS became increasingly visible and concerns were raised over its future impact. The research that has been undertaken to date comprises both quantitative research, often based on small samples, and detailed qualitative surveys using techniques such as rapid rural appraisal. Most of this research has explored the impact of HIV/AIDS on smallholder, semi-subsistence farming households in East, central and southern Africa. It has since been recognized that other rural populations with different production systems (nomadic pastoralists, and fishing communities for example) have been under-researched, and some work by agencies such as the United Nations Food and Agricultural Organization (FAO) is taking place to rectify this. Not surprisingly, most of the research has been undertaken in countries where the epidemic is particularly severe.

Despite existing research, baseline data concerning the socio-economic impact of HIV/AIDS at the household and community level remain limited. Some of the earliest field research comprised three country case studies undertaken by the FAO between 1988 and 1991 in Rwanda, Tanzania, and Malawi (FAO, 1988, 1989, 1991). These studies used existing data to analyse the impact of HIV/AIDS, particularly on labour, and to attempt to identify vulnerable households and farming systems. Between 1989 and 1990, Barnett and Blaikie gathered household data in seven settlements in Rakai District, Uganda, analysing the coping strategies of 129 households (Barnett and Blaikie, 1992). Bangwe used data from an ODA-supported

project that undertook a stratified random survey of 240 households in Monze District, Zambia, in 1991 (Bangwe, 1997).

More recently, in 1994, Barnett (for the FAO) undertook case study analysis of the impact of HIV/AIDS on farming systems and rural livelihoods in Uganda, Tanzania and Zambia, involving surveys of communities in each of the countries and vulnerability mapping of farming systems in Zambia. The World Bank sponsored extensive research in three sub-Saharan African countries: Côte d'Ivoire where 107 households were surveyed; Uganda, 1677 households; and Tanzania, 759 households; in addition to a survey of 300 households in Thailand (World Bank 1997; Béchu, 1998; Menon *et al.*, 1998; Over and Koda - forthcoming). In Tanzania, Ainsworth and Semali used the Kagera Health and Development Survey which covers over 800 households with 3384 individuals over 15 years old who were still alive at the end of the survey, and detailing 358 deaths (Ainsworth and Semali, 1998). The sample was 1945 households of which 1667 completed the panel. Waller undertook 32 household case studies in Zambia. Webb and Mutangadura surveyed 636 households in Kafue District, Zambia (Barnett, 1994; Waller, 1997; Mutangadura and Webb, 1998; Webb and Mutangadura, 1999).

In 1997, further research by the FAO considered the impact of HIV/AIDS on farming systems and the rural environment in Burkina Faso and Côte d'Ivoire, West Africa. Whereas the studies in East Africa focused on the vulnerability of farm-household systems, the studies in West Africa focused on the impact of migration. These case studies are summarized in a 1997 FAO report (FAO/AGSP, 1997). In addition, a study of several countries in West Africa, commissioned by the FAO, has been completed by Baier (Baier, 1997). Most recently, Rugalema has undertaken research in Tanzania (Rugalema, PhD thesis, forthcoming).

The danger of generalizing from existing research

It is worth noting from the outset that it is highly problematic to extrapolate findings from research about one particular community to another. As has already been described, in each country HIV/AIDS has its own origin, geographic patterns of dispersion, and affects particular population groups in different ways. The specific cultural, social, economic and class contexts relating to each community are likely to differ, and research carried out amongst particular communities may provide useful material which can

inform analysis of the situation elsewhere. Detailed data need to be gathered in every area where specific interventions seeking to mitigate the impact of HIV/AIDS are planned.

In most cases the research findings from the studies outlined above have not been released in their entirety, but adapted for publication in a highly abbreviated form. These findings have also been used as a basis of much of the literature, in some cases generalized beyond their original context. Hence there is a serious risk that highly specific findings based upon work amongst selected households are being extrapolated into general knowledge, largely based upon secondary sources (Barnett, personal communication). Little investment has been made in new fieldwork and it appears that little is being done to maximize the value of existing data by re-visiting study sites to monitor new changes. This means that a vital opportunity for gauging the long-term impacts of HIV/AIDS may be being missed.

By summarizing some of the findings of existing research on the impact of HIV/AIDS on rural development, this review runs the risk of both perpetuating the idea that specific findings can be generalized to different situations, and skirting over the methodological dilemma of analysing particular impacts as instigated specifically by HIV/AIDS. The reader should be aware of these problems.

THE IMPACT OF HIV/AIDS ON RURAL HOUSEHOLDS AND COMMUNITIES

This section brings together some of the key observations in the existing literature concerning the impact of HIV/AIDS at the household level.

Barnett and Blaikie's definition of three distinct categories in relation to the impact of HIV/AIDS on households is perhaps one of the most pervasive legacies of their study (Barnett and Blaikie, 1992). They define *AIDS-afflicted* households as those where a member of the household is either ill or has died from HIV/AIDS. *AIDS-affected* households are those where household members are not infected, but have been affected by HIV/AIDS, for example, through the diversion of household resources to support an AIDS-afflicted household, the death of an extended family member who was contributing resources to the household, or orphans joining the household. *Unaffected households* are those in which no

member is ill or has died from AIDS and which has not been affected by the illness or death of a member of any related household (these households are rare in the study area in which Barnett and Blaikie carried out their fieldwork). These terms are now common parlance in the field of HIV/AIDS work, and implicitly broaden the scope of analysis through their recognition of the impact of HIV/AIDS beyond individual households where a member has been afflicted.

All research to date has recognized that, as is the case with other causes of sickness and death, the most immediate impact of HIV/AIDS is on the human capital base, principally in terms of the availability and allocation of labour. At the household level the HIV-afflicted patient's labour input gradually diminishes as the patient succumbs to sickness, and the labour of other household and extended family members is often diverted to care for AIDS patients during this period, the most critical impact being when the patient becomes incapacitated before death. Recent research estimates that an HIV/AIDS-afflicted household may lose about two person-years of labour by the time of the death of the patient (Rugalema, 1999). The ultimate death of a productive member of the household constitutes the permanent loss of one source of labour (although at the same time assets will no longer be diverted to caring for the patient).

Another immediate impact of AIDS on a household is financial. Households experience a loss of financial assets in several areas: labour may be diverted from economically productive activities such as paid employment or cash-crop production to care for the sick individual, and money is needed for medication and to pay funeral costs after the inevitable death.

An important question that arises in relation to the socio-economic impact of HIV/AIDS is whether the shock to a household caused by HIV/AIDS-related illness and death is markedly different from the impact of other illnesses and deaths that may occur. Limited, and seemingly contradictory, data exist to inform this debate. For example, Menon *et al.* found that households experiencing the death of an HIV-positive adult saw a statistically significant drop in household ownership of durable goods compared to households that experienced the death of an HIV-negative adult (Menon *et al.*, 1998). However, in Kagera, Tanzania, the death of an adult from AIDS was found to depress per capita food consumption by

15% in the poorest households, a similar figure to that for non-AIDS related deaths (Over, 1998).

The available data do not always permit comparisons of AIDS-related and non-AIDS related deaths. For example, research in Côte d'Ivoire found that urban household income dropped by 52-67% in households that experienced an AIDS death (UNAIDS, 1999), but comparative data were not provided for non-AIDS related adult deaths. Similarly, survey data in East Africa suggest that households living with AIDS have been shown to have an overall reduction in assets of 40-60% (Mutangadura *et al.*, 1999.). Research in Zambia found that in an area where rates of HIV prevalence are high, households with a chronically ill patient had average annual incomes 30% to 35% lower than unaffected households (Mutangadura and Webb, 1998). In Kagera, Tanzania, for those 80 households that experienced a death (not necessary AIDS-related), membership in Rotating Savings and Credit Associations (ROSCAs) was reduced from 51% to 36% over the time period of one survey, compared with a drop from 41% to 36% for those households not experiencing a death (World Bank, 1997).

In each of the studies cited above, the impact of HIV/AIDS is measured in different ways to reach quite different conclusions, which exposes both the variability of data in this field and consequent differences in interpretation. These data may also reveal important differences in impact between communities, but this is difficult to discern given the demonstrated variety of research methods and interpretation.

Even if a single AIDS-related death has a similar impact on a household as a death from other causes, the large number of deaths due to the epidemic may cause disproportionate harm to a household or community. By focusing on the impact of the death of one adult, the above data may not provide an adequate representation of the situation caused by HIV/AIDS, where more than one family member may become sick and die over a period of time. An important factor to be considered is the delay between multiple infections within households relative to the time it takes for the household/extended family to recover from each AIDS 'shock'. Little data exist in this area.

Household coping strategies

The impact of HIV/AIDS and the coping strategies pursued by households are inextricably linked. Household resource allocation is adapted as soon as a household becomes AIDS-afflicted or AIDS-affected, and each of these adaptations has a 'down-stream effect'. Mutangadura *et al.*, (1999) provide a comprehensive review of the research that has been undertaken concerning household and community responses to HIV/AIDS in rural areas, and the policy implications of the findings of this research. While this review reveals how scant the available baseline data are, it provides a useful summary of some of the strategies pursued by households to overcome the impact of HIV/AIDS. Some general points are outlined below in Box 1.

Box 1 Coping strategies to tackle the impact of HIV/AIDS

- (i) Strategies aimed at improving food security. These include:
 - reducing household consumption;
 - substituting some food items with cheaper commodities or indigenous/wild food;
 - sending children away to live with relatives;
 - having a small family (longer term); and
 - begging.
- (ii) Strategies aimed at raising and supplementing income in order to maintain household expenditure levels. These include:
 - diversifying income;
 - migrating to seek work;
 - borrowing;
 - selling assets; and
 - drawing on savings and investments.
- (iii) Strategies aimed at alleviating the loss of labour. These include:
 - intra-household labour re-allocation;
 - withdrawing children from school;
 - labouring for extra hours;
 - hiring labour and labour-saving technologies such as draught power;
 - decreasing the area cultivated; and
 - relying on help from relatives.

Source: SAfAIDS, 1999

Household labour issues

If, as a result of a death, the dependency ratio of a household changes adversely, the household has a number of options to rebalance this ratio. Consumption can be reduced; individuals already working can work longer hours; labour roles can be transformed so that either dependents become producers earlier, or producers stay producers longer than before; and the household composition can change, either through 'exporting' dependents or 'importing' producers (Webb, personal communication).

Available information concerning changing dependency ratios as a result of HIV/AIDS is limited. Data from Kagera, Tanzania, suggest that in this region at least, HIV/AIDS has not greatly affected dependency ratios (World Bank, 1997). Although among the surveyed households 130 individuals died over the research period (from a population of 759 households), over nine times this number left the households, over seven times this number joined the households, and 200 children were born. The average size of a household that experienced a death declined from 6.0 to 5.7 and the dependency ratio increased from 1.2 to 1.4. The authors conclude that "household size and dependency ratios changed very little" (World Bank, 1997, pp. 215-216). This one example suggests a fluidity of household structures and that households may often be able to cope with shocks through some rebalancing of their dependency ratios. Similar results were found in Rakai, Uganda, where household dependency ratios increased from 1.2 to 1.5 as a result of an adult death from AIDS (Menon *et al.*, 1998).

In contrast, in Chang Mai, Thailand, household dependency ratios were found to increase significantly in households that experienced an AIDS-related death. Households in Chang Mai had, on average, 4.1 members before a death, but only 3.1 up to 2 years after the death. These households were more likely to sell land, run down savings, or borrow from a co-operative or revolving fund. In part, the households in Thailand undertook these different coping strategies because they had more assets that they could run down, compared with the households in Tanzania (World Bank, 1997). These findings reflect the different choices and coping behaviour to which different households and communities may turn, an issue which will be discussed in more detail later in this section.

Dependency ratios alone are not an accurate gauge of the full impact of deaths in a household. Households affected by HIV/AIDS deaths are increasingly headed by grandparents or younger adults, and orphans are being taken in by their relatives, or finding other means of survival when both parents die. Although these phenomena may not necessarily result in large changes in dependency ratios, the longer-term effects of these shifts in household dynamics are likely to be significant, particularly as the older generations die and young people are increasingly deprived of adult support within the family. The dependency ratio statistic also does not reveal the complexities of intra-household entitlement which may critically affect some groups, for example 'double orphans' fostered into other families.

Much of the HIV/AIDS literature discusses the specific details of how households reallocate labour and how, as a result of the loss of labour from the AIDS-afflicted individual, the balance between productive and domestic labour within a household can be transformed (Loewenson and Whiteside, 1997; Rugalema, 1999). For households dependent on agriculture, the consequent intra-household re-allocation of labour can lead to declining crop production, resulting in food insecurity and an overall decrease in financial assets. Households may then respond with a further range of coping strategies. For example, in Uganda, a typical initial response by a farming household is to change the mix of farm products, first to produce enough for subsistence and then to grow surplus to sell at the market (Armstrong, 1995).

In addition to intra-household reallocation of labour, households may cope by changing their demand for, and supply of, wage labour when affected by AIDS (of course, hiring in labour in the first place is a more likely option only for relatively richer households). Evidence from East Africa suggests that some households, no longer able to afford to pay wages, reduce and gradually eliminate the use of wage labourers on their farms, move to less intensive crops and substitute extended family labour (see, for example, Barnett and Blaikie, 1992). In contrast, in Côte d'Ivoire some households have been observed to hire in more labour when affected by AIDS to substitute for reduced household labour (FAO, 1997). Such responses clearly relate to the asset bases to which households have access.

Diversifying livelihoods

The research carried out by FAO concerning the impact of HIV/AIDS has focused principally on agricultural systems. The links between agriculture and other forms of livelihood are not explored in great detail, although, for example, changes in livestock-raising practices have emerged in response to the need for improved sources of income (FAO, 1995). Some AIDS-afflicted households have been observed to turn to livestock production as an alternative to crop production when soils became infertile and crop management practices became too demanding for the available labour. In contrast, other households sell cattle more frequently to pay medical bills and funeral expenses. A trend has also been identified whereby households raise smaller stock such as pigs and poultry, a much less labour-intensive activity, and one that is often readily available to women.

The methodological focus of much of the existing research on smallholder agricultural production may divert attention from other livelihood options that rural households pursue all year round or on a seasonal basis. For example, the FAO studies in East Africa found that in some areas, more than 40% of farming households supplemented their income with non-farm activities – often home-based, low labour activities – as a matter of course (FAO, 1995; 1998). These activities varied in scale depending on the wealth of households involved. Reardon (1997) provides a useful analysis of hired labour markets in the rural non-farm sector in sub-Saharan Africa. He highlights the importance of non-farm earnings for African farm households, which are often seasonal (this means that there is often competition between peak-season labour demand in agriculture and labour shortages in the rural non-farm labour market).

FAO notes that as a result of the impact of HIV/AIDS on household livelihoods there appears to be a growing reliance on such income-generation activities. Female-headed households in particular appear to seek small-scale income generation opportunities in direct response to the impact of HIV/AIDS.

The success of households in generating different sources of cash income clearly depends not only on external opportunities, but also on the assets available to them and the diversity of their existing livelihoods. The FAO studies found that households which did not pursue off-farm income-generating activities often did not do so because they did not have the

capital required. In contrast, households already involved in a fairly large number of income-generating activities, as well as farming, were able to buffer themselves against the impact of the HIV/AIDS (FAO, 1995). This indicates that livelihood diversification is a key factor that mitigates against the impact of such shocks.

Changes in land use and access to land

Changes in land use and/or land allocation should be anticipated amongst some land-holding households which experience sickness or death from AIDS, primarily because of the reduction in available labour and the need for funds to pay for health care or funeral expenses. If a household does not have sufficient labour to farm all its land as before it may choose to abandon some of its land or rent, lend, or sell it to other farmers.

Several coping mechanisms have been recorded in the HIV/AIDS literature. In Côte d'Ivoire, households with insufficient labour have been observed to choose between hiring labour and giving land away for crop sharing (FAO, 1997). In Gwanda, Rakai district, Uganda, the FAO found large areas of land uncultivated due to "lack of labour or financial resources to pay for workers outside the family." Households may prefer to leave farmland abandoned rather than permit neighbours or other village members to farm it if they cannot guarantee to keep the use rights to the land in the future. Barnett, for example, observed a reluctance to let land in Uganda, especially by widows (Barnett, 1993). As a consequence, within communities some households may have a surplus of land whilst others have a deficit, resulting in an inefficient aggregate use of land.

The sale of land as a coping strategy in response to a shock has long been recognized in more generic literature related to coping, although it may not be the first alternative to which households turn. Chambers, for example, in his research in Kenya, found that of the 75 sales of land documented in 1966-67, 24 were because of household sickness, 29 were to pay for funerals, and 59 were for marriage (Chambers, 1983). Again, the data related to HIV/AIDS reveals variability in behaviour. The FAO identified the sale of land at deflated prices as a household coping mechanism in response to HIV/AIDS (FAO, 1997). In contrast, in Kagera, Tanzania, of the houses surveyed, no land sales were recorded as a coping strategy to mitigate the impact of an AIDS sickness or death. In comparison, in Thailand 41% of households that experienced a death sold

land, raising the difficulty of generalizing across regions (World Bank, 1997; Armstrong, 1995).

If a household sells land it obtains a one-off supplementary income. However, this coping mechanism is only available if households have *de facto* transferable rights to the land that they are farming. Generally the specific property rights regime will determine whether households have the option to sell land and the enforceability of contracts will influence whether households are willing to rent out land or to be involved in share cropping. Women and their children may be at a particular disadvantage over access to land when the husband dies, depending on local inheritance norms and government laws. In communities where men tend to die from AIDS before their wives, loss of inheritance by widows and children may become a much larger problem (Webb, 1997; du Guerny, 1997). In the case of 'double orphans', even if they are not disinherited explicitly, some may be too young or inexperienced to manage farms that they inherit. For example, whereas in the past, in Tanzania, the clan would have managed the farms for these orphans, it was found that these indigenous institutions were breaking down due to a shortage of labour (Tibaijuka, 1997, cited by Mutangadura, 1999).

Community support networks and new community initiatives

Much of the literature emphasizes the importance of support from extended family, neighbours, or other non-formal networks to reduce the strain caused by the impact of HIV/AIDS. This support may include provision of labour, care of dependents, and financial loans or gifts (Carmichael and MacLeod, 1997; Fafchamps, 1999). It was found that in Kagera, private transfers to households that experienced a death were significant, and greater than assistance from government and NGO programmes (World Bank, 1997). While it may be difficult to measure in economic terms, this 'social capital' plays a significant role in reducing households' vulnerability to shocks. Conversely, families with little social capital on which to draw may be highly vulnerable (Mutangadura *et al.*, 1999).

Given the systemic nature of HIV/AIDS and its correlation within families and communities, social capital may become severely strained over the long term. In much of the literature related to HIV/AIDS it is argued that as the scale of the epidemic increases, the social asset base may collapse

irreversibly and traditional coping strategies may no longer be viable (*see*, for example, Moser and Holland, 1997). Although this may not be an immediate impact of the epidemic, it is an insidious process that is already having visible results in areas where HIV/AIDS has long been prevalent.

Research has revealed that amongst some communities, new initiatives have evolved in direct response to the impact of HIV/AIDS. For example, the World Bank-sponsored household study in Kagera, Tanzania, found that new savings institutions had been set up, mostly organized by women, in response to the epidemic (World Bank, 1997); Barnett and Blaikie identified new informal women's counselling groups (Barnett and Blaikie, 1992). An issue that is raised, however, is the extent to which individuals would be willing to participate in new institutions specially set up to mitigate the effects of AIDS in areas where stigma is still attached to the disease. New initiatives developed at community level to cope with the impact of HIV/AIDS are therefore likely to vary from place to place. The relative importance and resilience of existing versus new institutions in mitigating the impact of AIDS has not been explored in the literature.

Vulnerability and coping in context

Much of the HIV/AIDS literature has tended to focus on household vulnerability and the coping strategies adopted by households and communities in particular response to HIV/AIDS. Yet a considerable literature has already been developed that considers the impact of different shocks on rural households in less-developed countries, the coping mechanisms adopted, and household vulnerability.

Consumption smoothing is addressed by, among others, Case, who addresses smoothing in the face of large shocks to income; Fafchamps *et al.*, who consider the role of livestock; Grimard, who addresses the role of ethnic ties in Côte d'Ivoire; Rosenzweig who investigates inherited wealth and credit markets; Eswaran and Kotwal who consider credit as insurance against agricultural shocks; and Kimball, Deaton, Rosenzweig, among others who consider precautionary savings (Case, 1995; Fafchamps *et al.*, 1998; Grimard, 1997; Eswaran and Kotwal, 1989; Kimball, 1990; Deaton, 1990, 1992; Rosenzweig and Wolpin, 1993). Maxwell reviews conceptual and methodological issues of short-term food insecurity, and Davies addresses coping strategies in response to declining food security in the Malian Sahel (Maxwell, 1996; Davies, 1996).

Olsen addresses distress sales in India in response to idiosyncratic shocks, with an emphasis on credit (Olsen, 1994). Morduch addresses village level responses to risk and shocks (Morduch, 1991). Vulnerability is addressed by, among others, Jalan and Ravallion in China; Ravallion in Bangladesh and Indonesia; Kochar; and Moser and Holland in Zambia (Jalan and Ravallion, 1999; Ravallion, 1995; Kochar, 1995; and Moser and Holland, 1997).

Despite this wealth of existing work, the relatively recent research that examines the socio-economic impact of HIV/AIDS has rarely drawn upon these previous models, and thereby lacks a clear theoretical framework which places HIV/AIDS firmly within the context of other processes. Hence much of the HIV/AIDS-related material does not address the important issue of how or whether the impact of HIV/AIDS is different from that of other household shocks. Furthermore, much of the new research and data collected, ostensibly on the impact of HIV/AIDS, are equally applicable to situations that are not HIV/AIDS-specific, therefore many of the conclusions reached are not unique to HIV/AIDS, but are similar to conclusions reached in the more generic literature. This makes it difficult to appreciate HIV/AIDS as a single factor that contributes to poverty and vulnerability.

The dynamics of coping

Further problems raised by generalizing about the impact of HIV/AIDS and associated household coping strategies are revealed in the schematic representation first developed by Barnett and Blaikie (*see* Figure 1). Although their depiction of 'household coping mechanisms in the face of AIDS' provides a useful representation of some relevant issues, it does not represent the complexity of the changing impacts of illness and death in relation to the range of options available to farming households. For example, the impact of an illness will differ depending on its timing and severity, and the death of a family member will actually transform previous diversions of labour and cash to care for the previously sick person, and so may in fact have a positive effect on resource allocation. Also, in Figure 1, funeral expenses are presented as a drain on cash income, though one coping strategy already observed in some areas is lower spending by communities on funerals (Mutangadura *et al.*, 1999). Furthermore, the options to migrate to seek income, diversify livelihoods, or hire in labour are not referred to. Of course, the overall impact of HIV/

AIDS on a household will always be negative if one or more 'prime age' adults are affected, but in some cases coping mechanisms may be adopted which mitigate the worst effects.

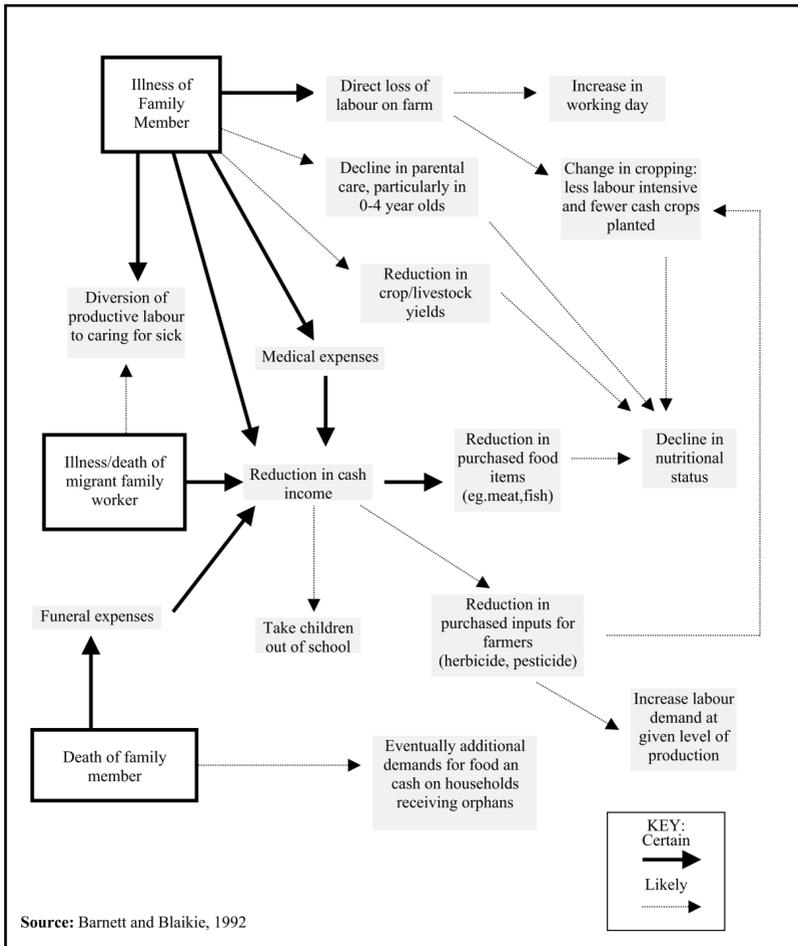


Figure 1 Household coping mechanisms in the face of AIDS

Rather than interpreting the coping strategies as stemming directly from the root cause, as is depicted in Figure 1, these strategies can perhaps be more usefully understood in relation to the resources or 'assets' available to households, and the nature of the enabling environment, which are key factors that define the coping strategies available and affect households' vulnerability or resilience to shocks.

It is important to remember that communities are not homogenous and not all households have the same access to assets. Households within the same community may have different options and perceptions of risk, and may therefore turn to a different strategy or combination of strategies to cope with the impact of shocks (Webb and Mutangadura, 1999). For example, while the sale of assets may be regular activities for some households, for others resorting to this measure may leave them highly vulnerable (Seeley, 1993).

Existing literature on HIV/AIDS focuses principally on semi-subsistence households in East and southern Africa. The implicit assumption in this literature (and indeed in Figure 1) is that households have access to land. However, this may not necessarily be the case. Landless households dependent upon wage labour are likely to be one of the groups most vulnerable to the sickness and death of a prime age adult. If the household experiences sickness and death, a source of wage labour will be lost, and if an employer is affected by HIV/AIDS, he/she may lay off wage labourers due to financial pressures. Hence landless households may be doubly vulnerable, and should not be overlooked.

In addition, the changing make-up, (or in some extreme cases the collapse) of households as a result of the loss of household members from death affects access to resources and so options in relation to coping strategies are likely to change over time. For example, as already highlighted, the literature has identified an increase in groups already known to be vulnerable to poverty, such as widow-headed households who often have greater difficulty in accessing land, and 'double orphans' who rely on their extended family and/or the wider community. While it may be difficult to represent these complex dynamics within one schematic diagram, a comprehensive analysis of these issues is fundamental to an understanding of the complex nature of the impact of HIV/AIDS.

Coping strategies that are pursued not only depend on, but have a cumulative impact on, the assets upon which a household can draw, and hence influence a household's future vulnerability. This may be particularly true with respect to social capital. In this regard, the review by Mutangadura *et al.* makes an important distinction between types of coping strategies in response to HIV/AIDS, and exposes how some strategies render households particularly insecure and vulnerable, particularly if they have irreversible long-term effects.

Box 2 Household loss management

Stages of loss management	Strategies
I <i>Reversible mechanisms and disposal of self-insurance assets</i>	<ul style="list-style-type: none">• Seeking wage labour or migrating to find paid work• Switching to producing low-maintenance subsistence crops• Liquidating savings accounts, selling jewellery, chickens, goats• Calling on extended family or community obligations• Borrowing from formal or informal sources of credit• Reducing consumption and decreasing spending (e.g. on education, health, food)
II <i>Disposal of productive assets</i>	<ul style="list-style-type: none">• Selling land, equipment, tools or animals used for farming• Borrowing at exorbitant interest rates• Further reduction in consumption, education, health• Reducing amount of land farmed and types of crops produced
III <i>Destitution</i>	<ul style="list-style-type: none">• Dependence on charity• Break-up of household• Distress migration

Source: Chen and Dunn, 1996

The framework referred to by Chen and Dunn in the generic literature for analysing household coping strategies is instructive in this context. The authors examine three stages of loss management: reversible mechanisms and disposal of self-insurance assets; disposal of productive assets; and destitution (see Box 2). Different coping strategies fall within these stages (Chen and Dunn, 1996). New work is also taking place which also analyses types of coping strategies (Devereux, 1999).

Chen and Dunn's framework effectively reveals the dynamic nature and impact of coping strategies. If one places this framework in the context of mitigating the impact of HIV/AIDS, it could be argued that any support provided to affected households should aim to prevent them from resorting to strategies that leave them most vulnerable and have 'erosive', irreversible effects. Again, the stage and timing of the shock and its relative impact are important factors to be considered. For example, certain strategies may be followed after the death of one household member, and these may become less viable on the death of a second prime age adult, in which case more damaging strategies may be pursued out of necessity.

Finally, the possibility that some households actually cope effectively should not be ignored. A focus on the shock and assumed crisis caused by HIV/AIDS may disregard the fact that some households do, in fact, cope. The World Bank, for example, notes that AIDS-affected households generally appear to be resilient. In Côte d'Ivoire, although total consumption dropped when an individual died from AIDS, basic needs consumption dropped less and almost fully recovered within 10 months (World Bank, 1997). As raised earlier, this may be more significant in the case of one adult death in a household. Exploring the factors behind effective coping, for example in relation to the options and resources available, and the strategies selected is perhaps one of the most instructive ways forward for future research.

THE WIDER IMPACT OF HIV/AIDS

Although most of the literature on the socio-economic impact of HIV/AIDS focuses on the impact of an isolated sickness and death on an individual household, a better understanding of the epidemic can only be achieved if the wider aggregate impact of HIV/AIDS at a farming system, sectoral, and macro-economic level is addressed. This section brings together some of the issues relating to the wider impact of HIV/AIDS that have been addressed in the literature.

The agricultural sector: typologies and vulnerability of farming systems

Just as households have different levels of resilience or vulnerability to HIV/AIDS, so too do different farming systems. Case study research has already been undertaken to define the sensitivity of certain agricultural systems to the impact of HIV/AIDS in both East and West Africa (FAO, 1995; 1996). This work has mainly focused on the smallholder sector and has identified some general trends in agricultural production, linked to the impact of HIV/AIDS. For example, the studies in eastern Africa reveal how crop production is affected by a reduction in land area cultivated, declining crop yields, and a decline in the range of crops grown. A shift has been identified whereby farmers move away from cultivating labour-intensive crops to those that required less labour input, are drought-resistant, and are cultivable throughout the year, such as cassava and sweet potato. A reduction in the cultivation of cash crops was also observed, with farmers

choosing to focus available labour on the production of 'secondary' subsistence crops, often to optimize household food security.

Barnett and Blaikie undertook research to map farming systems in Uganda, Tanzania, and Zambia which focused on the vulnerability of farming systems to labour loss (Barnett and Blaikie, 1992; Barnett and Blaikie, 1995). In Uganda, for example, the authors identified and categorized four levels of vulnerability to loss of labour. In an earlier study in Rwanda, Gillespie identified typologies of farming systems and used these to analyse vulnerability. Five agricultural zones were identified and ranked in terms of susceptibility to HIV/AIDS-related labour constraints (Gillespie, 1986). The findings of this study suggest that certain farming systems may have a 'robustness' which enables them to withstand the worst ravages of AIDS. Although this particular country-specific piece of work is out of date as research was carried out before the genocide in Rwanda, it may be possible to use the typologies of farming systems which have been developed to assess vulnerability to the impact of HIV/AIDS and thereby plan appropriate mitigation strategies,

The commercial sector

Although it is not possible to generalize about the commercial farm sector in sub-Saharan Africa, some research has been undertaken to examine the impact of HIV/AIDS on this sector. Indeed, since, for example, one-fifth of Zimbabwe's total population lives on commercial farms, this sector should not be ignored.

FAO has carried out some research into the agricultural estate sector in Zambia and Tanzania, which examines the social and economic impact of HIV/AIDS both on the communities working in this sector and their employees (FAO, 1995). Temporary labourers and migrant farmers attached to commercial farms were found to have different experiences from smallholders living within their home communities (and, indeed, to be more vulnerable to infection by HIV/AIDS because of the social context in which they live). Research comparing coping strategies between different groups has also found that populations attached to the commercial sector are often highly vulnerable to the socio-economic impacts of HIV/AIDS as they have less of a local community safety net upon which to depend (Mutangadura and Webb, 1999).

More recently, research has been undertaken in the Kenyan commercial agricultural sector. The data come from a relatively limited sample of farms, compiled from medically confirmed cases of AIDS, and 'suspected' AIDS deaths. The authors conclude that agro-estates are vulnerable to the impacts of HIV/AIDS because of their heavy dependency on human labour and a lack of well-defined policy to confront the epidemic (Rugalema *et al.*, 1999).

Although the ability to cope depends on the context and history of a particular commercial sector, the research findings outlined above have significant implications for the targeting of vulnerable groups. At the same time, the commercial sector offers employment opportunities for individuals such as the increasing number of AIDS orphans, who, with no access to land and in receipt of only minimal support are dependent upon an income to support themselves and provide for their own schooling. For example, surveys in Zimbabwe have found that whereas in 1996 there were an estimated 2.1 orphans per farm, by 1998 there were approximately 10 per farm (UN, 1998). Bourdillon provides a persuasive account of the value of 'earn-and-learn schools' which operate on some tea estates in Zimbabwe, and the importance of child labour itself in easing the problems faced by AIDS orphans (Bourdillon, 1999).

Impact on institutions

As described earlier, the impact of HIV/AIDS on individuals, households and communities has systemic implications. The temporary or permanent absence of staff (both HIV-positive individuals and their carers) because of HIV/AIDS not only signifies a loss in labour, but also a reduction in investment in education, training and staff development, and high levels of staff turnover that restrict efficiency and general capacity. This rapid loss of staff in all sectors has provided the impetus for some new research undertaken by FAO on the interface between rural institutions and HIV/AIDS (Topouzis, 1998).

The systemic impact of HIV/AIDS has meant that existing structures and institutions have had to adapt their approaches and policies. For example, Donahue has observed some problems for microfinance in Kenya where an increase in death rates has resulted in a corresponding increase in loan defaulting that must be covered by loan insurance. Microfinance organizations are changing both their approaches and the products they

offer to address the emerging impact of HIV/AIDS. Young people are being addressed as a potential client base; clients are encouraged to hand over businesses to relatives as soon as their health is failing, and there are plans to develop products aimed at the two highest priorities for clients, paying school fees and covering medical costs.

In the private sector, companies have also been observed to adapt existing policies and approaches in response to the impact of HIV/AIDS. For example, one company in South Africa has capped medical benefits for HIV-infected employees from US\$ 18 000 to US\$ 2600. Another company reduced funeral leave so that workers can only take paid leave for the funeral of a wife, parent, or child. The company has also reduced the amount that it contributes towards funeral expenses (Donald G. McNeil Jr., in the *New York Times*, 15 November 1998).

Monitoring of changes and rapid re-orientation of approaches are likely to be necessary factors of success for development interventions in all sectors dealing with communities affected by HIV/AIDS. A vast literature concerning microfinance and microcredit already exists and should be addressed by those particularly interested in the contribution of microfinance as an HIV/AIDS mitigation tool (see, in particular, Buckley, 1997, and Donahue, 1999).

Longer-term impact on the African rural sector

The effects of HIV/AIDS are varied, some are immediate, while others will only be realized in the future. For example, at the 1998 Harare conference the loss of indigenous methods and knowledge and specialized farming skills was highlighted – a long-term effect – as adults die before they can pass on this knowledge to their children. Similarly, the removal of children from school in response to a reduction in household labour availability will have a long-term impact on human capital. It is necessary to understand the time frame of each of the possible consequences of the epidemic, both at the individual and community level. Some of the immediate and future implications of the HIV/AIDS epidemic that were discussed at the Harare conference are summarized in Box 3.

Box 3 The impact of HIV/AIDS in the African rural sector

- Loss of labour and income affects crop and livestock production, and other productive activities
- Health problems, e.g. rising malnutrition due to loss of income/access to food
- Loss of indigenous methods/knowledge and specialized farming skills as more adults die and young people are left to manage farms
- Increase in women-and youth- headed households, with women and youths increasingly undertaking work previously undertaken by men (e.g. ploughing and other heavy-duty tasks)
- Loss of agricultural assets, e.g. loss of usufruct farming rights when land left to go to bush because of lack of labour; widows losing their land following the death of their husband; sale of land, farm equipment and other assets to meet medical and funeral costs
- Problems of extension services due to absenteeism of extension workers and lack of availability of farmers as a result of frequent attendance at funerals and AIDS-related illness. Difficulties in replacing extension workers who have died from HIV/AIDS
- Wider social impacts, including children taken out of education, marginalization of youth, increase in orphans and child-headed households

Adapted from summary of discussions at the Harare conference, Responding to HIV/AIDS: Technology Development Needs of African Smallholder Agriculture, June 1998 (SA/AIDS, 1998).

COUNTRY AND SECTOR-LEVEL IMPACT OF HIV/AIDS

A small number of studies have considered the macroeconomic impact of HIV/AIDS in sub-Saharan Africa (Over, 1992; Cuddington *et al.*, 1994; and Cuddington, 1995). As noted by Over, HIV/AIDS tends to strike individuals at the peak of their productivity and hence per capita GDP tends to be driven down over time (Over, 1992). This reduction in per capita GDP is compounded by a reduction in investment as children are removed from school and savings are depleted. Over estimated the net effects to be a one-third of a percentage point reduction in per capita GDP for the 10 countries experiencing the most advanced epidemics. Such a reduction in per capita GDP is significant for economies that may struggle to avoid negative growth rates even without the impact of HIV/AIDS. More recent data suggest that some countries will be particularly hard hit. A USAID study predicts that between 1995 and 2005, HIV/AIDS will reduce economic output in Kenya by 14.5% (cited in Hancock *et al.*, 1996).

General equilibrium effects on labour and land markets

Although considerable research has been undertaken at household level, the sector-level impact of the epidemic, for example on labour and capital markets, prices, and distribution of assets, has largely been ignored. The distributional implications of the HIV/AIDS epidemic within countries, which could considerably enhance understanding of the wider impacts of the epidemic, are largely hidden in the literature. Given that in some sub-Saharan African countries over one-quarter of the adult (and hence one-quarter of the most economically active) population is HIV positive, the macro-micro links should not be ignored if appropriate interventions are to be planned and implemented at a variety of levels. Squire, for example, highlights the redistribution of income and assets as a result of the AIDS epidemic as requiring public action (Squire, 1998).

The aggregate impact of the epidemic depends not only on the number of households that are affected by the epidemic, but also on the coping mechanisms they adopt, in particular the extent to which households rearrange labour and other assets to mitigate the effects of HIV/AIDS. Indeed, Barnett and Blaikie's classification of 'unaffected' households ignores macro-level effects of HIV/AIDS that may be transmitted through labour, land, and capital markets as AIDS-affected and -afflicted households alter their demand and supply of assets.

General equilibrium models can be used to determine the aggregate impact of shocks at the village, region, or country level. These models take into account the structure of an economy, thereby permitting a discussion of the impact of relative price changes and hence issues such as income distribution. Even though sector-level effects from the HIV/AIDS epidemic might be expected, data have not been collected in a systematic manner that can be used to determine whether these effects are significant. However, the extent to which sector-level effects are important can be discussed using anecdotal evidence from the literature.

Impact on labour markets

The impact of HIV/AIDS on the labour market will depend on how the AIDS epidemic affects the supply of and demand for wage labour. Labour markets in African countries are complex. In rural areas, demand for labour is highly seasonal. Depending on the crops under cultivation, labour

is likely to be scarce at certain times of the year, such as times of land preparation and harvesting, when it may pose a binding constraint to farmer households. Yet labour may be in surplus at other times of the year. Hence underemployment and labour constraints can exist concurrently and wage rates should not be expected to be constant throughout the year.

Migration (be it seasonal or permanent) is a coping strategy that, at the same time, diffuses shocks among different geographical areas, linking rural and urban labour markets. Migration permits individuals to move between areas of relatively scarce and abundant labour markets, which makes the allocation of labour more efficient. However, ease of migration is correlated with the spread of HIV/AIDS. Hence a mechanism that eases the shock of a reduced labour supply also increases the spread of HIV/AIDS.

When a household experiences an HIV/AIDS sickness or death, labour is reallocated and extra-household labour may be brought in to address the drop in supply. These actions may have a direct impact on the labour market. While individuals get sick and die (reduce supply), some households involved in the labour market try to cope by seeking out wage labour (increase supply), some cut down on expenses by hiring in less labour (reduce demand), and some richer households hire more labour to substitute for their own loss of labour (increase demand). Some intra-household reallocation may not affect the wider labour markets at all. Fafchamps, for example, observed that in rural Burkina Faso most of the poor households relied almost exclusively on their own household labour for farming (Fafchamps, 1993).

Armstrong predicts that in aggregate both labour costs and the shadow price of household family labour will rise as a result of the HIV/AIDS epidemic (Armstrong, 1995). Tibaijuka found in Kagera, Tanzania, that the cost of hired labour rose in real terms from 100 (indexed) in 1982-3 to 185 in 1986-87 to 323 in 1989-90. The author suspects that a high prevalence of AIDS-related sickness and death was to blame. The availability of migrant labourers was lower, resulting in increased poverty for those who relied on hiring in labour and increased inequality in the community (Tibaijuka, 1997).

Given the importance of off-farm work and migration between rural and urban areas, linkages with the formal employment sector will exist. In the formal sector, whether or not wages are expected to rise depends, in addition to the changes in supply and demand, on the extent of unemployment and underemployment in the region, and the extent to which individuals are willing and able to migrate to find work. Anecdotal evidence suggests that industry has not suffered excessively in the early stages of the AIDS epidemic, even though urban areas have been hit harder than rural areas. In urban areas (at least initially) it has been relatively easy for firms to replace unskilled workers from the pool of under-employed and unemployed, from urban and rural areas. The recruitment of unskilled labour to replace those who have died from AIDS therefore may not put upwards pressure on unskilled labour rates until this pool of labour is exhausted. However, firms are also losing middle and senior managers and, except for those firms that pay well relative to the market and so can attract skilled workers from other firms, are likely to find it harder and harder to replace these skilled workers. It is likely that the full, systemic impact of the epidemic will be felt in the future when the supply of skilled workers is much reduced and investment in human capital has also decreased.

There are implications for income distribution that have not been discussed in the HIV/AIDS literature. From the perspective of wage labourers, as the supply of wage labour decreases as a consequence of AIDS sickness and death, those who are healthy and underemployed or unemployed may benefit from increased opportunities and increasing wage rates. Those who are sick and unable to work will be worse off. From the perspective of members of farming households, those that are unable to afford hired-in labour and see a decline in income and assets, may become wage labourers themselves.

Impact on land markets and land distribution

The impact of HIV/AIDS on land use, prices, and distribution is complex and interdependent with property rights and inheritance, labour markets and the different coping strategies that AIDS-afflicted and -affected households employ. Again, most of the HIV/AIDS literature has focused on the actions of individual households rather than rigorously addressed the aggregate impact of these individual actions on land prices and distribution.

As discussed earlier, households have various options relating to agricultural practice in response to an AIDS sickness or death (or indeed any sickness or death). For example, they may farm less intensively, reduce the area of land that they farm, allocate some land for crop sharing, sell part of the land, or employ a combination of these coping mechanisms. Whether they have the option of selling land will depend on the rights of the household in question within the local land tenure system. If land is sold, the price at which it is sold will depend on the liquidity of the market, current supply and demand in the market, and the speed at which the individual needs to sell. If a household makes a distress sale of land, or indeed of any asset, another household may be able to purchase the asset at lower than market price (Olsen, 1994). Land is redistributed and some households benefit from acquiring the land relatively cheaply. If the number of people selling land increases significantly in response to the epidemic, then the price of land will be depressed for all sales, not only distress sales. The distributional implications of distress land sales in response to an AIDS sickness or death have not been fully addressed in the HIV/AIDS literature. Nor has the importance of land sales relative to other coping mechanisms been addressed in detail.

Land redistribution also occurs when the head of a household dies. In situations where cultural and legal norms prevent women from owning and inheriting land and where husbands die of AIDS before their wives, there are likely to be serious implications for land distribution.

4

CONCLUSIONS

This publication has reviewed some of the key literature concerning the socio-economic impact of HIV/AIDS on rural livelihoods in Africa. In this chapter, the implications of the findings of this review for future work are discussed, including suggestions for additional research. Current priorities identified by those involved in researching and mitigating the impacts of HIV/AIDS are reviewed at the end of this section, followed by a list of key actors in this field (*see* Appendix).

THE IMPLICATIONS OF HIV/AIDS FOR POVERTY-ALLEVIATION PROGRAMMES

Much of the literature that addresses vulnerability to and coping with the impact of HIV/AIDS has focused analysis principally at the household level. In a typical scenario, HIV/AIDS is understood to cause the sickness and ultimate death of one or more 'prime age' adults within a household, who is most likely to be a parent and responsible for certain dependents. The immediate impact of this 'shock' on the household is a reduction in labour availability and a drain on financial assets, as money is spent on medication and funeral expenses and wage labour is diverted to caring and subsistence. Coping mechanisms involving reallocation of labour, land and other assets, and inter-household exchange have been identified.

Research findings suggest that the impact of HIV/AIDS at household level is similar to that of other shocks to which poor rural households are vulnerable. Many of the coping strategies identified in the HIV/AIDS literature are similar to those to which poor households are observed to resort in times of crisis and need (Chen and Dunn, 1996; Devereux and Gladwin, 1999). Unfortunately, most of the existing work relating to HIV/AIDS has not referred to nor built upon the considerable literature which

addresses household shocks, consumption smoothing, vulnerability and poverty traps, and therefore does not have a clear theoretical framework for isolating the particular impact of HIV/AIDS in the context of the range of different factors that affect households and communities. This research principally demonstrates that HIV/AIDS exacerbates existing problems of poverty. It is therefore problematic to use existing literature to guide practical interventions to mitigate the specific impact of HIV/AIDS.

Given this similarity between the impact of HIV/AIDS and other negative shocks, and the problems inherent in attempting to target support to those specifically affected by HIV/AIDS, it is not surprising that some commentators have suggested that since HIV/AIDS exacerbates poverty, interventions aimed at reducing poverty have a role to play in mitigating the impacts of HIV/AIDS. The World Bank, for example, has written that "... the finding that poor households are more vulnerable to the impact of an AIDS death implies that general anti-poverty policies can also be AIDS mitigation policies" (World Bank, 1997, p. 232). This idea of relying on existing poverty-alleviation efforts to mitigate the particular impact of HIV/AIDS has been taken up by many development planners and practitioners, who see poverty-alleviation programmes (including microfinance) as having a vital role to play (Mutangadura and Webb, 1998; Donahue, 1998; 1999).

General anti-poverty policies may no doubt have a positive impact on AIDS-afflicted and affected households and communities. However, it is not necessarily the case that poverty mitigation programmes merely need to continue their work as before, simply with added urgency because of the devastating scale of the epidemic. Such an approach would ignore the unique, systemic nature of the impact of HIV/AIDS on poverty. Even if general anti-poverty measures can be used, it is necessary to determine whether they provide an efficient and effective approach, or whether interventions should be refocused. For example, HIV/AIDS typically results in the loss of 'prime age' adults, and manifests itself on a larger scale, intensifying the problems of existing vulnerable groups. Also, female-headed households and households experiencing multiple deaths have long been recognized as being especially vulnerable to poverty (Chambers, 1983). These two groups are growing in size as a consequence of HIV/AIDS and hence require increased attention. Some adaptations have already been initiated with success in areas severely affected by the HIV/AIDS epidemic. The Zimbabwe Institute for

Permaculture Research, for example, has promoted participatory training and research through community-based farmer field schools. This has enabled women, particularly AIDS widows, to become involved in the production of cotton, a crop that is normally grown by men. The Institute has also been promoting organic methods of crop production in order to enable households to save on labour and input costs (Page, 1999).

In recognizing that 'prime age' adults tend to be worst affected by the HIV/AIDS epidemic, some sources within the World Bank have proposed that poor households affected by prime-age adult death should be targeted for assistance. Such an approach recognizes that HIV/AIDS is not the only identifiable factor influencing poverty and that households experiencing a non-AIDS related death may equally be in need of and entitled to support (World Bank, 1997). However, this approach is problematic, given that different households will be affected in different ways by adult death, no matter what the cause, depending on their access to resources and support. Furthermore, considering the constant exchange of human capital and other resources between households that may become even more intense at times of need, household units may not be the most appropriate level for targeting assistance.

An approach that targets households affected by prime age adult death does not take account of the relative vulnerability of households that experience single or multiple deaths due to HIV/AIDS, nor how the cumulative impact of a large number of deaths on some extended families and communities will strain their ability to cope over the long term. Such down-stream impacts of HIV/AIDS have reverberations at both micro and macro levels, and need to be recognized in all areas of work. In conclusion, prime-age adult death in individual households is likely to be too simplistic an indicator, although it may provide an appropriate entry point for initiating consultation and research with households and communities (Webb and Mutangadura, 1999).

Focus on youth

As rising levels of prime-age mortality intensify existing patterns of chronic poverty and heighten the vulnerability of young people, it is increasingly recognized that this group has a crucial role to play in defining the future of societies affected by HIV/AIDS. Young people need to be offered livelihood options that meet their immediate needs. For example, FAO

recommends that extension services develop a formally structured youth programme in order to reach rural young people. Such a programme, FAO proposes, can help 'fill the void' caused by the loss of agricultural knowledge when productive-age community members die. Such an approach should facilitate the links and the transfer of knowledge between older members of the community and their younger counterparts (Baier, 1997).

Agriculture provides only some options for young people. It will also be necessary to provide rural youth with the technical inputs and support necessary for them to pursue other livelihood strategies. Otherwise, as has been observed in many parts of Africa, resource-scarce and disaffected youth will continue to turn to short-term, high-risk solutions to meet their needs – strategies that are frequently unsustainable, and often increase the likelihood of the spread of HIV/AIDS (Richards, 1999). There is therefore a need for all poverty alleviation programmes to ensure that their approaches address the needs of future generations, as defined by young people themselves.

NEW RESEARCH DIRECTIONS

Significant investment has been channelled into research which has explored the impact of HIV/AIDS, yet it is still somewhat unclear what the practical uptake of much of this existing work has been or should be in the future. The annual training workshop held at the University of East Anglia is one of the few cases of the socio-economic impact of HIV/AIDS being systematically communicated to general practitioners working in the field of poverty alleviation. Some authors refer to the lack of available information on impact and coping strategies at a micro level, which suggests that the existing material is not suiting the needs of those tasked with analysing the problem. At the same time, other authors state that enough knowledge exists about the socio-economic impact of AIDS, all that is needed is plans and programmes aimed at mitigating these effects (Rugalema, 1999).

Now that the epidemic is firmly established in some communities, it is an ideal time to revisit some of the original base-line data gathered in the late 1980s and early 1990s to gain a better understanding of the longer-term impact of the epidemic, not simply as an isolated factor, but within the context of other processes also affecting behaviour and contributing to

poverty. This would, as well, provide an opportunity for exploring some of the issues raised by the variability of findings from existing data.

Broadening the research framework

In addition, given the importance of inter-household dynamics, and the complex links between individual households and extended families, both within and between communities, it is probably necessary to move away from a research approach that focuses primarily on the individual household as the unit of analysis and planned entry point for intervention. Future research needs to build on the existing data and go further in tackling the complex dynamics behind household and community coping by exploring inter-household linkages. This will enhance the analytical framework that underpins our understanding of coping strategies, social capital and rural livelihoods. This need is revealed in Seeley's work, for example, where the relationship between households linked through polygamy (and their respective entitlement to assets) was only partially explored, but was clearly relevant to the coping strategies being undertaken (Seeley, 1993).

Many rural households and communities have kinship, economic, and social links with both urban and peri-urban populations, a reality at odds with the urban-rural dichotomy still used in many aspects of development theory and practice (see Carney, 1998 – Chapters 4 and 5 – for more on this point). The spread of HIV/AIDS and impact on those based in rural areas is therefore inevitably linked to the complex and shifting relationships that persist between these communities and their urban and peri-urban counterparts. One method of furthering understanding of these complex linkages may be to carry out household- and community-level case studies that track the connections and exchanges between households within and between communities, including rural, urban, and peri-urban groups. This approach may provide a way of understanding these dynamic relationships more clearly, for example, in terms of access to assets, support mechanisms, and the relative influence of different factors on poverty status at different points in time.

Revisiting coping strategies

Given that some sources report that certain households and communities appear to be coping with the impact of both HIV/AIDS-related illness and

death (as well as the shocks caused by non-HIV/AIDS-related illness and death and other factors), it would be instructive to analyse the ability to cope in more detail. Some of the questions to be explored are listed below.

- What are the factors that allow certain households or communities to cope more effectively? In what ways are the asset bases of those who cope more effectively more resilient? Are the coping strategies they pursue less damaging?
- What is the cumulative impact of the epidemic, for example, what are the particular problems facing households which experience multiple AIDS-related deaths?
- In terms of community coping mechanisms and the breakdown of social capital, is there a definable limit to the number of households affected by sickness and death that community coping mechanisms can support before breaking down irreversibly?

Mainstreaming

'Main-streaming' HIV/AIDS as one of various significant factors affecting rural livelihoods will enhance existing work in the field of poverty alleviation and may avoid the methodological problem of attempting to single out HIV/AIDS as a single attributable factor. Main-streaming has implications for all future research work relating to poverty and poverty alleviation. Even if during participatory research community members do not refer directly to HIV/AIDS as a factor affecting them, this does not mean that HIV/AIDS is not having an impact. In some communities, for example, HIV/AIDS may not be mentioned partly due to the fear of stigmatization (Binswanger, World Bank, 1999). Also, in some communities, people are not known to have died of 'AIDS' *per se*, but of one of many illnesses that may or may not be due to HIV-positive status. In addition, during discussions about poverty and development priorities, factors relating to the impact of HIV/AIDS may be identified as a problem, although HIV/AIDS itself may not be referred to as having a causal link. Creative methods need to be found of tackling this problem and gathering meaningful data on the relative impact of HIV/AIDS in a discreet and sensitive way (*see* Webb and Mutangadura, 1999). For example, it may be necessary to extend the time scale and scope of research activities to gain a fuller understanding of the local reality. Such an approach would also ensure that HIV/AIDS is recognized and tackled as one of many factors affecting rural livelihoods, therefore

avoiding the danger of focusing on AIDS-afflicted and -affected households at the expense of other households which may be equally or more needy. The sustainable livelihoods framework may be useful for enhancing the understanding of the impact of HIV/AIDS in context along with other factors affecting livelihoods and poverty.

Livelihood diversification

Existing research on the impact of HIV/AIDS has identified livelihood diversification as a key strategy for coping with the hardship inflicted by HIV/AIDS. People need more options for securing resources and the ability to move rapidly between different livelihood strategies (both on and off-farm) at times of crisis, to thereby lessen their vulnerability. There are important links between different livelihood strategies (both natural resource and non-natural resource-based) and household production systems, which are clearly relevant to general poverty alleviation programmes. Further exploration of the resources and opportunities that are available to facilitate livelihood diversification and the costs and benefits involved may provide important information to guide the planning of interventions which can contribute to poverty alleviation.

Sector level issues

If the AIDS epidemic causes sizeable effects at the sector-level, questions such as the distributional effects of AIDS need to be addressed. To date, the sector-wide implications of HIV/AIDS have been neglected in the literature, even though for policy makers the long-term impact of HIV/AIDS on the distribution of wealth is important. To complement the household focus, it would be instructive now to invest more resources in determining how HIV/AIDS affects labour markets, asset and land distribution, and the significance of this impact under different market conditions.

For policy makers the long-term impact of HIV/AIDS on poverty is particularly critical in terms of investment, whether in land quality, savings, or human capital. Over addressed the issue of GDP growth in 1992, examining land, capital and labour productivity. It is time to revisit this work, given the more up to date data on HIV prevalence and trends.

Furthermore, as HIV/AIDS is not just a disease which affects the poor, but has an impact across all age and income groups, approaches need to be

developed beyond those which focus on poverty-alleviation. Policy makers and planners will have to tackle the problems posed by increasingly depleted levels of trained and experienced staff in all sectors.

INTER-SECTORAL COLLABORATION AND LINKS WITH HIV-PREVENTION

Growing awareness of the 'downstream' impact of HIV/AIDS has led to increasing calls for the various sectors responsible for development interventions to co-operate more in prevention and mitigation activities. HIV/AIDS appears to exacerbate short-term survival approaches, with individuals often pursuing high-risk behaviour in order to meet immediate needs. Hence alternatives will need to be developed swiftly to prevent individuals and households resorting to measures which put them at greater risk of financial and food insecurity. Interventions that lead to livelihood diversification and the economic empowerment of certain social groups may be instrumental in minimizing the spread of HIV/AIDS. New work is under way which aims to demonstrate that HIV-awareness and prevention work is more successful if carried out in conjunction with development initiatives that empower individuals and social groups by providing them with increased autonomy over their livelihood strategies and sources of income (Pronyk, forthcoming).

However, ironically, some of the poverty coping strategies which are sought by individuals and households in order to deal with the impact of the HIV/AIDS epidemic (such as migration and commercial sex relationships) render them increasingly vulnerable and/or susceptible to contracting HIV/AIDS. Similarly, certain development interventions may affect vulnerability and susceptibility. An inter-sectoral approach to furthering livelihood options is therefore an appropriate strategy for future work. By developing practical programmes that link socio-economic change, livelihood strategies and HIV/AIDS prevention, HIV/AIDS will become increasingly understood as a systemic issue, not purely related to health, and the burden of responsibility for addressing the epidemic which is carried by the health sector will be eased. For example, providing family housing for migrant workers is one strategy that could decrease the likelihood of male migrants visiting prostitutes.

As part of this approach, development programmes will need to invest resources in making links and ensuring operational collaboration with

health sector organizations implementing HIV-awareness and prevention work. There is little evidence of this taking place to date, yet this may be the only method of ensuring that all interventions have a long-term mitigating impact. From experience at the recent Wageningen conference, the willingness for collaboration is there, but practical work is yet to be devised and initiated.

LOOKING BEYOND SUB-SAHARAN AFRICA

The focus of this review has been sub-Saharan Africa, where the ‘mature’ epidemic is already having observable impacts on rural livelihoods and poverty. The implications for other countries where the epidemic may well hit as hard are all too clear. However, although lessons can be learned from the work that has been undertaken in Africa, due to key contextual differences such as household make-up and livelihood strategies, economic, political and social context, the macro and micro impacts and coping strategies that households and communities are either willing or able to adopt need to be explored in the context of the countries and regions themselves. Hence findings of existing research cannot and should not be generalized too widely. Immediate reduction in the availability of labour can, perhaps, be the one common starting point.

CURRENT ACTIVITIES AND EXISTING PRIORITIES

This publication has questioned the usefulness of focusing specifically on HIV/AIDS as a particular factor affecting poverty which requires research and targeted intervention in its own right. However, it should be recognized that the work carried out in this field to date, following this approach, has achieved considerable success in raising awareness of the immediate and long-term effects of HIV/AIDS, and the need for practitioners and policy-makers involved in all sectors of social and economic development to begin addressing this impact as a matter of urgency.

It is also important to remember that the work of development practitioners and policy-makers aimed at tackling the downstream impact of HIV/AIDS on households and communities continues at field level. These activities are not always documented, or documentation is not widely available, which perhaps reflects a gap between those working to mitigate the impact of HIV/AIDS at grassroots level and the academics and policy makers

working in this field. Approaches for developing effective communication pathways for sharing local experiences and practical livelihood innovations that are emerging to tackle the impact of HIV/AIDS were raised as critical issues at the recent Wageningen conference.

Although important work is being carried out to mitigate the devastating impact of HIV/AIDS on rural communities in East, central and southern Africa, there still appear to be few formalized methods of sharing this work with other regions. It is crucial that existing and future activities, including research, are linked to clear uptake pathways so that experiences and tested solutions can be shared (Barnett, personal communication). An assessment of how recommendations from existing work have been disseminated, and how widely they have been taken up, might be a worthwhile exercise in order to explore this problem and to improve communication.

Several conferences have been held which have allowed those involved in the field of HIV/AIDS and agriculture (academics, policy-makers and practitioners) to meet and exchange findings, and enable new innovations to be shared. The conference in Harare in June 1998, *'Responding to HIV/AIDS: Technology Development Needs of African Smallholder Agriculture'*, was understood by many to move the thinking on AIDS and rural livelihoods forward. The keynote presentations at the gathering which was held at Wageningen Agricultural University in August 1999 highlighted the importance of a wider recognition of the systemic relationship between HIV/AIDS and development, and the need for those working in the field of rural development to ensure that multi-sectoral planning and collaboration becomes a reality.

The most comprehensive basis for the immediate development of policies and programmes relating to rural households is provided by the recommendations produced from the Harare conference in 1998 (SAfAIDS, 1998. See Box 4). These recommendations are based predominantly on the sharing of experiences in eastern, central and southern Africa. As more becomes known of the impact of HIV/AIDS in other regions new priority areas may emerge. However, without further investment in focused research, linked with practical uptakes, it is unlikely that the knowledge base in this field will move any further forward (Barnett, personal communication).

Participants at the Wageningen conference endorsed the Harare recommendations and highlighted the importance of finding practical ways of putting these recommendations into practice, given the urgent need amongst poor rural communities. This is one of the most immediate and pressing challenges facing all those working in the field of rural development.

Box 4 Recommendations from the 1998 Harare Conference, *Responding to HIV/AIDS: Technology Development Needs of African Smallholder Agriculture*

1. Ministries and other agencies responsible for rural development need to integrate HIV/AIDS into their core rural development policies and programmes. In many cases this involves developing and intensifying existing work to improve rural livelihoods, but this work must be embarked upon with increased urgency because of the impact of HIV/AIDS.
2. Existing labour and capital saving technologies need to be promoted amongst smallholder farmers in order to maintain and improve production with low-input cropping, using technologies such as inter-cropping and animal weeding, to reduce weeding time, zero or minimum tillage to minimize labour requirements, and natural pest management to reduce the need for expensive chemical inputs.
3. Affected households require agricultural inputs that take into account their needs (especially those of young people, sick adults and the elderly). These include high value food crops that are drought resistant, and lighter ploughs useable by women and young people.
4. Existing agricultural extension programmes and conventional technologies need to be reviewed in order to adapt them to emerging needs and 'the emerging clientele'. These adaptations need to allow those managing farms to acquire the skills to enable them to cope with new responsibilities, e.g. ensuring food security and other basic needs as well as looking after orphaned children
5. Appropriate technologies need to be developed to reduce the time spent on water and fuel collection, thereby reducing women and children's work load. Possibilities include labour-saving methods of food preparation, collecting water and the promotion of efficient stoves.
6. Income-generating activities need to be developed based on micro-credit, micro enterprises, and rural employment creation and poverty alleviation programmes, particularly to meet the needs of the vulnerable rural groups (widows, youth and elderly).
7. Existing community-based initiatives aimed at alleviating labour and capital constraints need to be strengthened, e.g. traditional savings and mutual assistance associations, customary ways of labour sharing.
8. The criteria for land tenure need to be redefined in order to tackle the problems women, children and poor households face in securing property rights.

Source: SAfAIDS, 1998 (adapted)

APPENDIX INDIVIDUALS AND ORGANIZATIONS WORKING IN THE FIELD OF HIV/AIDS AND RURAL LIVELIHOODS

INSTITUTES

Institute of Social Studies, The Hague, Netherlands

Rugalema, PhD student at the Institute, is in the process of completing his thesis on the impact of HIV/AIDS on rural communities in Tanzania. This is the newest piece of fieldwork research on the impact of HIV/AIDS.

Contact: Gabriella Rugalema
rugalema@iss.nl

International Service for National Agricultural Research (ISNAR), The Hague, Netherlands

ISNAR has just begun work on developing a framework to analyse under what conditions health trends have a place in the planning of agricultural research and support. This framework will be used to analyse the impact of HIV/AIDS on agricultural systems and agricultural institutions, identify areas of susceptibility, vulnerability and resilience, and assess possible strategies to mitigate the impact of the epidemic. ISNAR is currently seeking collaborators for this work.

Contact: Michael Loevinsohn +31 703496100
m.loevinsohn@gciar.org

Royal Tropical Institute (KIT), Amsterdam, Netherlands

KIT has carried out a literature review of work on the impact of HIV/AIDS on agriculture. The Institute is currently developing an AIDS and Agriculture Programme that aims to create and integrated approach at district level. Two established KIT projects in Tanzania, a health project and a 'client-oriented research in the agricultural sector' are being strategically linked to focus on the issue of AIDS and rural livelihoods.

Contacts: Robert van Poelje, Department of Agriculture and Enterprise Development, KIT.

Tel: +31 205 688285

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Maarten R.A Van Cleeff, Department of Health Care and Disease Control, KIT

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University of East Anglia (UEA), UK

UEA's School of Development Studies and Overseas Development Group holds a series of annual policy research workshops for senior professionals, *Planning for the Social and Economic Impact of HIV/AIDS in Developing Countries*. These are now in their ninth year. A 4-week workshop is held each year in Norwich, with briefer regional workshops held annually in South Asia, South-East Asia and southern Africa, facilitated by Tony Barnett and Alan Whiteside. The Overseas Development Group will also be offering a small number of 1-month fellowships over the next 2 years for people wishing to prepare research proposals and publications in this field. Contact Tony Barnett and Alan Whiteside.

Tony Barnett, Alan Whiteside and David Seddon are based at the School and are long-standing researchers and commentators on HIV/AIDS and socio-economic issues. Alan Whiteside is also director of the health economics and AIDS research division at the University of Natal (*see below*).

Contact: ODG DEV, University of East Anglia

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j.d.seddon@uea.ac.uk

University of Natal, Health Economics and HIV/AIDS Research Division, South Africa

University of Natal, Durban 4041, South Africa
Contact: Alan Whiteside whitesid@eru.und.ac.za

Wageningen Agricultural University, Netherlands

The University is currently establishing a network and extended research programme, investigating AIDS and other 'disasters', and their impact on rural livelihoods in Africa. Convened April 1999 conference: *AIDS, Livelihood and Social Change in Africa*.

Contact: Professor Paul Richards
paul.richards@tao.tct.wau.nl

Zimbabwe Permaculture Research Institute, Zimbabwe

The Institute manages practical agricultural programmes addressing the impact of HIV/AIDS on rural livelihoods, e.g. farmer field schools for AIDS widows.

Contact: Sam Page
samp@fontline.co.zw

UK NGOS

Action Aid

Action Aid trains all staff on AIDS and development, in order to incorporate analysis of HIV/AIDS and its impact into all stages of programme development and review. Supports local NGOs and grassroots initiatives dealing with HIV/AIDS mitigation. Currently planning WHO-supported action research, field-testing a community development approach to enhancing household and community coping strategies. Is seeking further funding partners for further initiatives that will emerge from this action research.

Contact: Jackie Bataringaya
C/o aaro@harare.iafrica.com

Oxfam

Oxfam is carrying out research into access to basic health and education. This is being carried out in six countries. One aspect of this research is to examine the relationship between livelihoods, health and education.

Contact: Mohga Smith, Oxfam Policy Unit.

Tel: +44 (0)165 311311

Oxfam, Save the Children Fund (UK) and Action Aid are currently seeking funding for a joint publication on integrating HIV/AIDS in development. Contacts: see under individual agencies.

SAfAIDS

SAfAIDS is a key player in activities relating to HIV/AIDS and impact on livelihoods, often in collaboration with other agencies. Recently produced a review of household and community responses to the HIV/AIDS epidemic in rural areas of sub-Saharan Africa, commissioned by UNAIDS.

Contact: Gladys Mutangadura

safaids.hre.gladys@arup.co.za

Save the Children Fund (UK)

Save the Children is carrying out DFID-funded work to assess 'best practice' in HIV/AIDS programmes.

Contact: Doug Webb

d.webb@scfuk.org.uk

DONORS

The Department for International Development (DFID); UK

DFID funded comprehensive early study on the socio-economic impact of HIV/AIDS. While most of DFID's funds relating to HIV/AIDS have been channelled through its Health and Population division, DFID social development staff are expressing increasing interest in the linkages

between HIV/AIDS and rural livelihoods, and there is a move to mainstream HIV/AIDS in all DFID social development work.

Contact: e-hanley@dfid.gov.uk (Social Development Advisor, Central Africa) DFID funds the Medical Research Council (UK) programme on AIDS which carries out integrated studies on social and behavioural factors influencing the spread of HIV/AIDS and monitoring the impact on affected households. Contact: Jimmy Whitworth (Head of Programme), MRC programme on AIDS, PO Box 49, Entebbe, Uganda.

The Food and Agriculture Organization of the United Nations (FAO)

FAO has been commissioning research on the impact of HIV/AIDS on agriculture and other socio-economic areas in rural communities since 1988. For an overview of FAO's work to date see document 'FAO and the Socio-economic impact of HIV/AIDS on Agriculture' on the FAO Web page. A paper produced for FAO by Daphne Topouzis for the June 1998 Harare conference HIV/AIDS: *Technology Development Needs for African Smallholder Agriculture* outlines a conceptual framework for a set of four new case studies to be carried out in east and southern Africa focusing on the capacity of rural institutions.

Contact: Jacques du Guerny +39 0657051 ex. 53816
jacques.duguerny@fao.org

SIDA and the *World Bank* were the two main sponsors of a 1998 conference: *Responding to HIV/AIDS: Technology Development Needs for African Smallholder Agriculture, Harare, June 8-10, 1998*. Organized collaboratively by SAfAIDS, the Institute of Social Studies (ISS) Holland, Wageningen Agricultural University (WAU) and the Zimbabwe Research Council.

The United Nations Development Programme (UNDP)

UNDP has funded some of the FAO research carried out to date.
Contact: Desmond Cohen

World Bank

The World Bank has funded extensive research on the impact of HIV/AIDS, particularly in relation to poverty. The World Bank has recently initiated a 'Rural HIV/AIDS Initiative Who's Who in Rural AIDS', aimed at supporting HIV/AIDS prevention through ongoing rural development programmes, such as agricultural extension work and strengthening co-operation between agencies involved in HIV/AIDS initiatives in rural areas. UNAIDS and FAO are participating with this initiative, and UNAIDS will be funding a workshop to take place in the autumn of 1999. A 'Who is Who' address database is to be developed to facilitate information flow amongst relevant parties.

Contact: Damber Gurung
dgurung@worldbank.org

World Health Organization (WHO)

WHO is showing increasing interest in collaborating in impact-mitigation work in relation to HIV/AIDS.

WHO Initiative on HIV/AIDS and Sexually Transmitted Infections (HFI)
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UNAIDS

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