

GENDERED VULNERABILITY TO AIDS AND ITS RESEARCH IMPLICATIONS

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For years the idea of starting a PhD had been wandering in my head. But it was not until working with John Hourihan at the Food and Agriculture Organization (FAO) that I had the courage to actually start the long journey a PhD entails. The journey began somewhere in the middle of 2004, when I took the step to contact Prof. Anke Niehof of Wageningen University about the possibility of doing an external PhD. I had just completed working for an AIDS-impact research project in northern Zambia, from which my thesis draws. In early 2005, I started my PhD at a part-time basis but soon had to interrupt the journey as I gave birth to my daughter. While my interest and dedication to finish this thesis were there, it has not always been easy to juggle between work, PhD and motherhood, especially at times when my daughter was sick. In January 2007, I became pregnant with my second child, which gave me strong willpower to complete the dissertation before giving birth. Now I am very happy this journey has come to an end and I would like to thank several people who assisted me in various ways.

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LIST OF ACRONYMS

AIDS	: Acquired Immune Deficiency Syndrome
ART	: Anti-Retroviral Treatment
ARV	: Anti-Retroviral
CBO	: Community-Based Organisation
CSO	: Central Statistics Office
DCI	: Development Cooperation Ireland
FAO	: Food and Agriculture Organization of the United Nations
FBO	: Faith-Based Organisation
FFSSA	: Forum for Food Security in Southern Africa
GDP	: Gross Domestic Product
GRZ	: Government of Zambia
HIV	: Human Immunodeficiency Virus
IDA	: International Development Association
IFAD	: International Fund for Agricultural Development
IFPRI	: International Food Policy Research Institute
ILOHAH	: Improving Livelihoods of HIV/AIDS Affected Households in Northern Province project
IMF	: International Monetary Fund
MDG	: Millennium Development Goal
NAC	: National AIDS Council
NGO	: Non-Governmental Organisation
ODI	: Overseas Development Institute
PLWHA	: People Living With HIV/AIDS
PRSP	: Poverty Reduction Strategy Programme
SADC	: Southern African Development Community
SCH	: Sociology of Consumers and Households
TB	: Tuberculosis
TNDP	: Transitional National Development Plan
UNAIDS	: The Joint United Nations Programme on HIV/AIDS
UNDP	: United Nations Development Programme
UNHCR	: United Nations High Commissioner for Refugees
UNICEF	: United Nations Children's Fund
WHO	: World Health Organization
ZDHS	: Zambia Demographic and Health Survey
ZSBS	: Zambia Sexual Behaviour Survey

1 GENERAL INTRODUCTION

“It is widely accepted that HIV/AIDS will affect many aspects of the rural economy in the hardest hit countries of Africa, although the particular pathways, impacts, and magnitudes remain unclear and continue to be debated. The challenge for analysts, agricultural policy makers, and donors is to understand with greater precision how the rural socio-economy is being affected by the disease, and consequently how agricultural and rural development policy should be modified to better achieve national agricultural sector objectives” (Jayne et al., 2004: 2).

1.1 Introduction

This thesis focuses on the gender aspects and methodological and ethical issues concerning HIV/AIDS impacts on rural livelihoods in sub-Saharan Africa. It looks at the differences in vulnerability among households affected by illness and orphans as a consequence of HIV/AIDS and that are headed by men, women and elderly. It argues that among households, vulnerability levels to HIV/AIDS impacts differ substantially as a result of various factors that enable or disable people in their responding to HIV/AIDS. Through case studies, it also looks at the resources women mobilised over time and the causal conditions that enabled or disabled them in their response. Furthermore, this thesis examines the methodological and ethical concerns and implications encountered when conducting micro-level AIDS-impact research in rural areas.

My motivation in writing this thesis stems from my desire to ‘dig a bit deeper’ and to reflect on my work carried out so far in the area of HIV/AIDS, gender and rural livelihoods. The opportunity to pursue a PhD came about during my involvement in the project ‘*Improving Livelihoods of HIV/AIDS Affected Households in Northern Province, Zambia (ILOHAH)*’, a project of the Food and Agriculture Organization (FAO) of the United Nations. Commissioned by Development Cooperation Ireland and implemented by FAO and the Government of Zambia, the project conducted a household livelihood research in the Northern Province, Zambia, in order to gain better understanding of potential pro-poor economic development initiatives for

vulnerable and HIV/AIDS-affected households. The research focused on the dynamics of assets and livelihood strategies induced by HIV/AIDS in communities and households in the Northern Province. It involved FAO, Development Cooperation Ireland, The Ministry of Agriculture and Cooperatives, the Central Statistics Office and the World Bank supported Community Response to AIDS. Data was collected between September 2003 and March 2004. As the supervisor of a national research team, I was responsible for research design, data collection, data analysis, report writing and designing a multi-sector programme aimed at improving the livelihood outcomes of HIV/AIDS-affected households in Zambia. The data from which my thesis draws upon is derived from the ILOHAH research project.

With the encouragement and support of my direct boss, John Hourihan, I approached Wageningen University and Research Centre mid-2004 to look into the possibilities of doing an external PhD. Prof Anke Niehof was very supportive and in late October 2004 we discussed the first outline of my research. Juggling between consulting for FAO, two pregnancies and motherhood, I analysed the data and wrote the thesis between January 2005 and October 2007.

The study as a whole combines a literature review on AIDS impacts in sub-Saharan Africa, an analytical discussion of methodological and ethical aspects of AIDS-impact research based on literature and my own experience, and the application of a livelihood framework to AIDS impacts in an empirical setting, namely the Northern Province, Zambia.

1.2 The AIDS challenge

1.2.1 The current status

More than 25 million people have died of AIDS since the first case was reported in 1981. In 2005, an estimated 38.6 million people worldwide were living with HIV, almost 4.1 individuals became newly infected and an estimated 2.8 million people died because of AIDS. Almost 64 percent of all people with HIV live in sub-Saharan Africa (Table 1.1). Southern Africa is the epicentre of the global epidemic: nearly one in three people infected with HIV worldwide are in southern Africa and about 43 percent of all children less than 15 years of age infected with HIV live in this sub-region. The global epidemic is concentrated among younger adults and especially young women: in sub-Saharan Africa, three young women aged between 15 and 24 years are HIV infected for every young man. For adult women, this ratio is three women to two men (UNAIDS, 2006).

The HIV prevalence rates and total adult deaths in Table 1.1 do not represent the true impacts of the pandemic as a far higher percentage of non-infected people are affected directly by the presence of the disease through the burden of ill health, caring for the chronically ill, premature death, and caring for AIDS orphans. Under the assumption that each HIV/AIDS case directly impacts the lives of four other

individuals, Barnett and Rugalema (2001) estimated that over 150 million people worldwide are being affected by HIV/AIDS. The AIDS pandemic is, however, not confined to Africa. Eastern Europe and Central Asia show the fastest increases in HIV infection: in less than a decade the number of people living with HIV increased by a twenty-fold (UNAIDS, 2006). According to UNAIDS, the number of people who lost their lives due to AIDS between 2003 and 2005 almost doubled, and the number of women aged 15 and older who were infected by HIV increased almost by one-third. The majority of people infected with HIV in this region are in Ukraine and the Russian Federation.

Table 1.1 AIDS-related statistics for selected countries in Africa¹

Country	Number of people living with HIV in 2005 (adults and children)*	Proportion of women aged 15 and over living with HIV in 2005 (%)*	Adult prevalence in 2005 (%)*	Total AIDS deaths in 2005*	Orphans due to AIDS as percent of all orphans in 2003 (%)**
Botswana	270,000	53.8	24.1	18,000	77
Kenya	1,300,000	61.7	6.1	140,000	37
Lesotho	270,000	60.0	23.2	23,000	56
Malawi	940,000	58.8	14.1	78,000	48
Mozambique	1,800,000	60.0	16.1	140,000	31
Namibia	230,000	61.9	19.6	17,000	48
South Africa	5,500,000	58.5	18.8	320,000	48
Swaziland	220,000	57.1	33.4	16,000	63
Tanzania	1,400,000	54.6	6.5	140,000	40
Uganda	1,000,000	57.8	6.7	91,000	48
Zambia	1,100,000	57.0	17.0	98,000	60
Zimbabwe	1,700,000	59.3	20.1	180,000	78

Source: * UNAIDS, 2006; ** UNAIDS/UNICEF/USAID, 2004.

¹ In 2005-2006 UNAIDS revised its prevalence figures downwards, following an international review of its methodology used to estimate HIV prevalence and because of an increasing number of population-based surveys that reported lower HIV/AIDS rates than the rates estimated by UNAIDS (UNAIDS, 2005).

The AIDS pandemic has made millions of children both orphaned and vulnerable. The most impacted region is sub-Saharan Africa, where 43 million children between 0-17 years are either single or double parent orphans. An estimated 28 percent of these children are orphans due to AIDS (12.3 million). Furthermore, it is predicted that by 2010, the number of such orphans in the region will rise to 18.4 million, representing 37 percent of orphans from all causes (UNAIDS/UNICEF/USAIDS, 2004). A large majority of orphans are living with a surviving parent or are taken care of by their extended family.

Over the last five years, several countries like Kenya and Uganda experienced a decline or stabilisation of HIV/AIDS prevalence. Across sub-Saharan Africa, HIV prevalence appears to be levelling off, despite very high prevalence levels in southern Africa (UNAIDS, 2006). Such stabilisation or decline of the epidemic occurs where the number of newly infected people equals or is lower than the number of people who died from AIDS. Reasons the pandemic is stabilising or declining could include: reaching an epidemiological peak (nearly all people at risk are infected); fewer infections following aggressive prevention programmes and changes in sexual behaviour; and the increased availability of antiretroviral drugs which reduces the number of AIDS-related deaths (Rau, 2007: 11). For the latter, access to antiretroviral therapy has increased by eight-fold since the end of 2003, and by the end of 2005 about 810 000 people in sub-Saharan Africa were receiving treatment (UNAIDS, 2006). The decline and stabilisation of the epidemic does not imply that HIV/AIDS will suddenly disappear; new infections and AIDS-related illnesses and deaths continue to take place and will impact the livelihoods of millions of households for the coming decades (Rau, 2007).

1.2.2 Key underlying causes

Not all individuals are equally at risk to HIV transmission and several factors lead to an increased chance that individuals engage themselves in unprotected sex, including poverty and unequal income distribution, food insecurity, high levels of mobility and temporary displacement from families. In general, poverty increases the exposure to HIV by ways of influencing people's perceptions towards avoiding HIV ("we will die soon anyway") and through inferior and relative expensive health care (Kadiyala and Gillespie, 2003). Poverty-linked malnutrition contributes to an earlier onset of AIDS and increases the likelihood of opportunistic infections. Furthermore, poverty drives desperate people to migration and commercial sex work in an attempt to earn money. In many poor settings, migration is a key livelihood strategy for young people, who travel in search of work within their countries and across international borders (Collins and Rau, 2000). Migration puts men and women at risk of contracting HIV, considering that when people move away from their families the chances of commercial sex, multiple partners and extra-marital affairs tend to increase. A study conducted by Shah *et al.* (2001) in Malawi showed a higher proportion of households affected by AIDS-related illness in villages whose residents travelled a lot and would spend several days a week away from the household. Chapoto and Jayne (2005) noted that in Zambia low-

income men who spend one or more months per year away from the household are more than twice as likely to die than men who do not travel overnight. Furthermore, upon return (seasonal) migrant workers might infect their spouses and thus put their (rural) wives at a very high risk to HIV. A study by Zuma *et al.* (2003) on HIV infection among women in South Africa found significant higher HIV prevalence among wives of migrants than wives of non-migrants. As a result of labour migration, demand and supply sides in the commercial sex industry have increased (Collins and Rau, 2000). Many men tend to avail themselves of alcohol and commercial sex workers when being away from their regular partners or beyond the control of the home. On the other hand, millions of people engage in transactional sex to earn a livelihood for their family or to be able to start a small business. Poverty-driven selling of sex is not restricted to commercial sex work on a regular basis, but also includes many women who out of desperation occasionally exchange sex for much-needed money or food.

Presently, women constitute 57 percent of those infected in sub-Saharan Africa and in almost every country, prevalence rates for women are higher than for men, especially among young women (UNAIDS, 2003). Women are biologically two to four times more at risk of HIV infection than men (World Bank, 1997; Gupta, 2000). Underpinning these sex-based differences in prevalence rates are profound gender-based differences in power, social attitudes and vulnerability (Commonwealth Secretariat, 2002). Cultural norms of masculinity and femininity set standards for normal behaviour of men and women that may contribute to their increased risk to HIV transmission. For example, social norms and expectations might encourage men to have multiple sexual partners, thus putting themselves and their spouses at risk of infection. Also, as a result of societal expectations men are generally more in control of deciding when, where and how sex will take place and whether male condoms will be used (KIT, 1995). Furthermore, men are more often expected to be knowledgeable about sex, making it difficult for them to access information about HIV/AIDS for fear of appearing ignorant. Young men below 25 years of age are at greater risk than older ones, especially as societal and peer pressure lead to young men starting to have sex with different partners from an early age.

Existing gender inequalities between men and women put women at greater risk to HIV transmission. For example, women have often less social and economic power in relationships, which makes it difficult to protect themselves from being infected by their partners (Gupta, 2000). In particular young women have less decision-making power regarding their sexuality when they have older male partners. Furthermore, low status, economic vulnerability and limited livelihood opportunities increase the likelihood that women and girls turn to transactional sex in order to survive for the day. External shocks worsen the situation as was seen in the Southern Africa humanitarian crisis where countries that were hit by the drought saw more women and girls resorting to survival sex in order to obtain food, money or consumable goods (UN, 2003). Sexual and gender-based violence is also a factor in women and girls' susceptibility to HIV infection. The risk to HIV

transmission increases during violent or forced-sex situations, especially for adolescent girls. Dunkle *et al.* (2004) in their research in South Africa, showed that women who are beaten by their partners or boyfriends were 48 percent more at risk of contracting HIV than those who live in non-violent households. Many of the above gender inequalities that put women and men at greater risk to HIV are deeply embedded in society and culture and require strong efforts to renegotiate gender relations and power balances, involving both men and women (Tallis, 2002; Müller, 2005a).

1.2.3 AIDS: a different shock

Like man-made disasters, natural disasters and other diseases, the HIV/AIDS epidemic adversely impacts people's livelihoods. However, unlike other causes of death, HIV/AIDS is a different livelihood shock. HIV/AIDS is unique in that the virus is mainly sexually transmitted and thus usually attacks prime-age adults, thereby reducing household labour availability and household income. HIV/AIDS is also incurable and for many people living with HIV/AIDS life-prolonging treatment is still too expensive, despite major reductions and subsidies in the prices of drugs. Furthermore, the disease is prolonged and the stigmatisation and denial associated with the disease often prevent people from seeking assistance and impedes much of the needed action (Gillespie *et al.*, 2001). AIDS has rural as well as urban dimensions; the death of adults in rural households may force surviving members to migrate to the city to seek work, whereas the death of an urban worker may lead to children being sent to rural areas to be cared for by their extended family (Bonnard, 2002).

HIV/AIDS has a five to eight year's incubation period between infection with HIV and the visibility of full-blown symptoms and affects the livelihoods of many for years to come. It has therefore also been referred to as a long-wave crisis (Haddad and Gillespie, 2001). As a long-wave event, its impacts on households and communities can be multiple and accumulative. Barnett and Whiteside (2002: 23) identify four long wave-events as part of the HIV/AIDS epidemic: i) the wave of HIV infection; ii) the wave of opportunistic infections, with tuberculosis being the most common; iii) the wave consisting of AIDS illness and death; and iv) the wave of impacts at household, community and national levels. Only a few countries, e.g. Uganda and Brazil, are now over the peak of the first wave, but most affected countries are just at the start of the fourth wave (Gillespie and Kadiyala, 2005).

1.3 HIV/AIDS, gender and rural livelihoods

According to the various AIDS-impact studies conducted in sub-Saharan Africa, AIDS affects all facets of people's livelihoods through illness and death and the subsequent care of orphaned children. AIDS impacts on households' human, social, financial, physical and natural assets (see Table 1.2) are multiple and often interrelated (Gillespie and Kadiyala, 2005). Human capital, or the skills, knowledge

and ability to labour and good health, is put under pressure by premature sickness and death of productive household members. AIDS affects the household labour force both directly, through sickness and death of productive members of the household, and indirectly through household labour needed to care for the sick. This reduction in the household labour force often results in a decrease in area cultivated, a shift from cash to low-labour subsistence crops, poor management of crops and an overall decline in agricultural production. Yamano *et al.* (2002), in a study of 1422 rural households in Kenya, found a 26 percent decrease in the total area under cultivation as a result of the death of the household head. Furthermore, research in Kenya reported a 68 percent decline in household production after AIDS-related adult deaths (Loevensohn and Gillespie, 2003).

HIV/AIDS has a particularly disproportionate impact on the lives of women and girls. The traditional domestic and nurturing roles of women make women bear the brunt of the burden in caring for people living with AIDS and orphans while also securing a livelihood for the household. The increased workload for women means that after AIDS enters the household women can no longer carry out all the agricultural activities, resulting in reduced production there where women are the major agricultural producers. For example, Rugalema (1999) reported that women spent over 60 percent less time on agricultural duties because of their spouses' illness. Furthermore, the burden of care means that often women have to reduce the time spent on non-farm activities that used to contribute to the overall household income (Gillespie and Kadiyala, 2005).

The death of adults in their prime-age also disrupts the transfer to the next generation of gender-specific agricultural knowledge and skills as well as values, norms and beliefs. As a result of premature death, children are unable to "learn by doing" under the supervision of their experienced parents (Haddad and Gillespie, 2001). For example, a study carried out in Swaziland by Hlanze (2005) showed that the premature death of a father usually affected the knowledge and skills on cotton and maize production, whereas the death of a mother had a negative impact on the household's knowledge regarding legume production. The ability to obtain and process information is also affected by HIV/AIDS as children, and especially girls, are drawn out of school to contribute to the household labour force.

The AIDS epidemic also undermines household social capital – membership of formal and informal groups, trust and norms of reciprocity – through AIDS-related stigma and discrimination, high orphaning rates, and declining incentives for collective action (Gillespie and Kadiyala, 2005). Because of high medical expenses and reduced agricultural production, households become highly dependent upon financial and food assistance from their social network, but are not able themselves to invest in reciprocal relationships. Furthermore, local rural institutions such as church groups, women's groups and cooperatives are weakened by AIDS as members die and people with HIV/AIDS and their care-givers are not able to participate because of time and energy constraints and likely because of the stigma attached to the disease.

The financial assets households possess, like money, credit, stocks and flows of income, are put under severe strain as households with people living with HIV/AIDS face significant challenges in trying to pay for medical treatment, funerals, and related transport expenses. On average, affected households spend about one-third of their monthly income on AIDS care related expenses (UNAIDS, 2004a). Further to the high expenses, households affected by AIDS are faced with reduced income from on and off-farm sources following sickness and death. For example, Nampanya-Serpell (2000) in a five-year retrospective study in Zambia of 232 urban and 101 rural AIDS-affected families found a 80-percent reduction in the monthly disposable income among two-thirds of AIDS-affected households. Consequently, these households may no longer be able to purchase important inputs such as fertiliser and improved seed, staple food or nutritious food supplements.

In order to meet the rising costs of illness and death, households may be forced to cash their savings and physical assets, rely on their social network and/or borrow informally at high interest rates. When disposing their assets, households will try to preserve their productive assets like land, draft power animals and farm implements as long as possible to safeguard the future survival of the household. Households with more financial, physical and social assets are better able to cope with the adverse effects of HIV/AIDS, whereas poor, often female-headed, households experience increasing difficulties in absorbing the shock caused by HIV/AIDS. Especially women are vulnerable to HIV/AIDS impacts due to their limited access to assets needed to absorb the shock. In the face of HIV/AIDS, these gender-based disparities in access to land and other assets are often worsened by incidences of property grabbing. Often, women do not have marriage certificates or other documentation such as written wills to protect their rights. A study conducted by FAO/AIMS in Namibia (2003) showed that 44 percent of the widows interviewed lost cattle, 28 percent small livestock and 44 percent farm tools to the in-laws after the death of the spouse.

AIDS also puts pressure on the natural assets, like land, water and biological resources, which households utilise to sustain their livelihoods. For example, labour losses as a result of sickness or death might affect the ability of households to farm, possibly resulting in fallow land returning to bush, and to maintain common property resources. Also, affected households might not be able to properly manage the soil due to labour constraints and to disinvestment in fertiliser because of competing financial needs, which in its turn might lead to a reduction in soil fertility.

Table 1.2 Summary of much-cited impacts of HIV/AIDS on rural livelihoods and household responses

Human capital	Social capital	Financial capital	Physical capital	Natural capital
❖ Illness and/or death of household member(s)	❖ Increased reliance on social network for labour, food and financial assistance	❖ Increased expenditure on medical care, transport and funerals	❖ Distress sale of livestock, household goods, equipment and agricultural tools to cover health care, funeral costs, food expenses and/or schooling fees	❖ Fallow land returning to bush
❖ In- and out-fosterage of orphaned child(ren)	❖ Reduced outgoing support and remittances	❖ Reduced income from farm and off-farm		❖ Reduced soil fertility
❖ Change in household size and composition		❖ Use of savings or investments		❖ Decreased on-farm conservation measures
❖ Increased dependency, with elderly assuming greater responsibilities	❖ Increased burden on community to support orphans and vulnerable households	❖ Reduced investment in agricultural inputs	❖ Grabbing of productive and non-productive assets from widows and orphans	❖ Increased asset stripping (sales of firewood, depletion of game, harvesting wild foods)
❖ Less time spent on farming and marketing		❖ Increased reliance on off-farm income		❖ Land grabbing from widows and orphans
❖ Decreased area cultivated	❖ Reduced participation on community-based activities and organisations	❖ Reduced access to rural credit	❖ Poor maintenance of assets (roofing, equipment, grain storage)	❖ Renting, leasing out or selling portions of land
❖ Shift from cash to subsistence crops				
❖ Temporary migration		❖ Increased reliance on informal borrowing (with high interest rates)		
❖ Care burden for women	❖ Exclusion from institutions due to stigma			
❖ Intra-household reallocation of tasks				
❖ Loss of intergenerational agricultural knowledge		❖ Pledging of future crops for credit		
❖ Increased school dropout				
❖ Increased transactional sex for food/cash				

Source: Adapted from Stokes (2002); Harvey (2004); Gillespie and Kadiyala (2005).

1.4 AIDS and the agricultural sector

It is generally acknowledged that HIV/AIDS undermines achieving the Millennium Development Goals (MDGs), especially those that aim at halving extreme poverty and hunger, promoting gender equality and providing universal primary education by 2015. It is thus crucial that all sectors examine their actual and potential roles in combating HIV/AIDS (Kadiyala and Gillespie, 2003). This section looks at the general impacts of HIV/AIDS on agriculture at different levels and the actual and potential role of the agricultural sector in the fight against AIDS as identified by existing AIDS literature.

1.4.1 AIDS impacts on the agricultural sector

Agriculture is central to the livelihoods of the majority of the people affected by HIV/AIDS around the world. In the most affected countries, an estimated 80 percent of the people living with HIV/AIDS reside in rural areas and depend on the agricultural sector for their living (FAO, 2003a). These countries differ in economic conditions and agricultural potential, but generally their agricultural sector face pressure from high poverty levels, declining use of improved farm inputs and lacking support services (Drimie and Gandure, 2005). The additional impacts of the AIDS epidemic can thus be demanding.

Micro-level impacts

Household access to food depends on own production, the availability of household income to purchase food and the availability of social support networks to meet the household's food needs. HIV/AIDS affects the household through its impacts on the household asset portfolio (human, natural, financial, social and physical capital) which is essential to produce, purchase or access food through its social network. These major impacts include reduction of the household labour force, loss of farm and non-farm income and distress sale of assets, amongst other things.

Several studies have shown that as a consequence of the reduction in household labour, rural households reduce the area under crop cultivation, shift to less labour-intensive food crops and delay agricultural operations such as weeding (e.g. Barnett and Blaikie, 1992; FAO, 1995, 2003b, 2004; Tibaijuka, 1997; Rugalema, 1999; Topouzis, 2000; Haddad and Gillespie, 2001; Larson *et al.*, 2004; Mather *et al.*, 2004; Fox *et al.*, 2004; Yamano and Jayne, 2004; Müller, 2004a). Smallholder agriculture in sub-Saharan Africa is particularly vulnerable to the negative impacts of HIV/AIDS as it relies almost exclusively on family labour, especially that of women. The impact of a reduced household labour force depends greatly on the type of farming system in which the household operates. Particularly vulnerable to the impacts of HIV/AIDS are farming systems that are characterised by a high seasonal demand for labour, specialised tasks by age and sex, a limited ability to

exchange labour for capital, and increasing returns to scale of labour (Gillespie, 1989; Gillespie and Kadiyala, 2005).

In addition to labour constraints, HIV/AIDS is progressively decapitalising affected households through a reduction of cash investment into agriculture (Jayne *et al.*, 2004). Cash constraints as a result of illness and death imply that households are less able to purchase productive assets such as oxen, ploughs, and fertilisers. Furthermore, many households are forced to cash their savings and to sell their food crops, livestock or even farm implements in order to cover medical care and funeral expenses, which has severe consequences for the household food security situation.

Furthermore, AIDS undermines governments' efforts in implementing national agricultural policies, as affected households may no longer be able to cultivate certain cash crops or participate in formal cooperatives that are promoted by the government (Jayne *et al.*, 2004). For example, a study by FAO (2003b) in Uganda shows that as a consequence of a government policy to increase the production of maize to boost cash and export crop production, unaffected households managed to substantially shift from subsistence food production such as banana, cassava and millet towards maize production. By contrast, households affected by AIDS reportedly reduced the amount of land cultivated of both cash and food crops.

The commercial sector

The epidemic does not only affect smallholder agriculture but also has adverse effects on the commercial agricultural sector as a result of increased health and funeral expenses, lower efficiency and high staff turn-over (IFAD, 2001). Fox *et al.* (2004) carried out a study on the productivity and attendance of tea-estate workers in western Kenya who died or retired between 1997 and 2002 due to AIDS-related causes. They found that HIV-positive individuals plucked four to eight kilograms less tea leaves in a day in the last 18 months before their death. Furthermore, workers living with HIV/AIDS used significantly more leave days than did other pluckers. Their findings also showed that individuals who stopped working due to AIDS-related causes earned 16 percent less two years before terminating the job and 18 percent less in the year before termination.

Agricultural estates and companies are impacted by the epidemic through rising costs and falling profits. These costs include expenses for replacing sick workers, paid sick leave and productivity losses (Gillespie and Kadiyala, 2005). Rugalema *et al.* (1999) found an increase of USD 1.15 million in medical expenditures incurred by agricultural companies in Kenya between 1989 and 1995 due to HIV/AIDS. Also, the work of Morris *et al.* (2000) projects a tenfold increase in costs due to HIV/AIDS for sugar companies in South Africa between 2000 and 2006.

The commercial agricultural sector is not only impacted by the AIDS epidemic, it also puts workers at risk of HIV because of their social and economic

environments. Rugalema *et al.* (1999) reported that housing on farm estates are often overcrowded and lack privacy and are thus not suited for families. Furthermore, the absence of recreation facilities leads to boredom and overuse of alcohol, sex and drugs. Casual and commercial sex are very common on and in the immediate surrounding of farm estates and are fuelled by the overall high poverty rates.

Rural institutions

HIV/AIDS dwindles already weak rural institutions in their capacity to deliver services as increasingly staff are absent due to AIDS-related sickness and attendance of funerals, and because funds are being diverted from operational activities to medical expenses, funeral payouts and training of new staff (FAO, 2003a). For example, in Namibia it is estimated that extension staff spent over 10 percent of their time attending funerals and in Malawi in 1998, 16 percent of the staff of the Ministry of Agriculture and Irrigation were infected with HIV and 60 percent had lost one or more close relatives to AIDS (Topouzis, 2003). Alleyne *et al.* (2001; in Gillespie and Kadiyala, 2005) reported that in Zambia, 104 out of the 155 interviewed government agricultural extension workers had lost at least one colleague because of HIV/AIDS in the three years preceding the study.

The low levels of knowledge and awareness of AIDS as well as the nature of the work makes ministry of agriculture employees susceptible to HIV transmission. Especially staff who travel extensively for their work like extension workers, professionals who frequently attend conferences and workshops (and receive daily subsistence allowances for doing so) as well as drivers are at risk of contracting the virus as they have to spend long periods away from their families (Topouzis, 2003).

AIDS disrupts the operations of ministries of agriculture and weakens their capacity to meet their mandate such as the provision of extension services (Drimie and Gandura, 2005). AIDS further impacts the organisation of agricultural ministries through the deaths of high-qualified staff for whom it is difficult to find replacements (Topouzis, 2003).

Macro-level impacts

The agricultural sector is the leading sector of the economy in many countries in sub-Saharan Africa and contributes significantly to the GDP and export earnings. Furthermore, the majority of the population of these countries live and earn their living in rural areas with agriculture as the mainstay of their livelihood. The agricultural sector is particularly important for poor people, most of whom reside in rural areas. Given the heavy reliance of the rural poor on agricultural-related livelihoods, the impacts of HIV/AIDS on the agricultural sector are of particular concern.

At the macro level, the impacts of the AIDS epidemic on the agricultural sector are (presently) not clear, especially by using a standard per capita GDP rate as a measure of AIDS impacts (Gillespie, 2006). However, a study by British parliamentarians and the Royal African Society reports that AIDS is suppressing the sub-Saharan African annual GDP growth rate to which agriculture contributes significantly by 0.8 and up to 2.6 percent for countries with a prevalence rate over 20 percent (The Economist, 2004).

Indicators that are used normally at the macro level often fail to elicit combined effects of changes at the micro level, and many of the impacts noted at the household level are econometrically invisible (Gillespie, 2006). These invisible impacts include for example the additional burden on women, the pressure put by AIDS on social networks, and the psychological impact of AIDS on orphans. This is why empirical data collection in this study is concentrated at the micro-level.

The labour debate

Much of the AIDS-impact research focuses on the loss of household labour and its effects on agricultural production. In many developing countries and especially in sub-Saharan Africa, household labour is a crucial input for agricultural production. African agriculture is highly labour-dependent at specific times of the year, and illness, care-taking or extensive funerals can result in a reduction in agricultural production through delayed planting, harvesting or crop maintenance activities (Muelder, 2004). The severity of this impact is dependent on the labour requirements of a particular farming system and the extent to which a household can reduce or substitute labour while maintaining agricultural output.

The FAO (2003a) estimates that by 2020, the AIDS epidemic will have claimed more than one-fifth of the agricultural labour force in most of southern Africa. Table 1.3 shows predictions of changes to the overall and agricultural labour force by 2020 for seven strongly affected African countries. The proportional labour losses are projected to be smaller for the agricultural sector than for the economy at large (De Waal and Tumushabe, 2003), but, according to Loevinsohn and Gillespie (2003), the expected impact of labour loss is greater for the agricultural sector as it is not as able to absorb the losses in human resources.

According to these labour force predictions, the AIDS epidemic will increasingly rob the agricultural sector of adult labour that used to contribute to agricultural production, off-farm income generation, and domestic activities (Jayne *et al.*, 2004). However, there is controversy regarding the overall labour impact of HIV/AIDS (De Waal and Tumushabe, 2003). Demographers predict a largely unchanged absolute labour force, even in countries with high prevalence rates, because population growth, in the absence of AIDS, would have resulted in much greater population sizes over the coming decades (Jayne *et al.*, 2006). Furthermore, the work of Jayne *et al.*, based on different empirical household-level studies from eastern and southern Africa, suggests that any AIDS-related

agricultural labour shortages are likely to result in labour migration out of the urban informal sector into agriculture. According to these studies, the loss of labour following an adult death is often compensated by the return of a new or former resident adult. Wiggins *et al.* (2005) posit that households impacted by AIDS will face labour constraints, but that there will not be an overall labour shortage, even in countries with very high HIV prevalence rates. In fact, they argue that the rural and agricultural labour force will increase over the next 25 years, although not as quickly as previously thought. Both the studies of Jayne *et al.* and Wiggins *et al.* indicate that while labour constraints occur at household level, this is not the case for the rural economy or agricultural sector as a whole. However, these generalisations seem to ignore key imbalances in the agricultural labour supply. For example, an area highly impacted by AIDS will contain fewer mature adults, and especially fewer women, and more adolescents who are likely to contribute less to the overall agricultural labour force (De Waal and Tumushabe, 2003). Moreover, De Waal and Tumushabe suggest that because AIDS tends to cluster at household and community levels, some rural areas will face labour shortages while others will be relatively less affected. This disparity in AIDS impacts can lead to increased exploitation of labour of the most vulnerable, such as benefiting from cheap labour provided by orphans or widows.

Table 1.3 Labour-loss predictions for the national and agricultural workforce due to AIDS

	Changes to the overall labour force by 2020 (%)	Changes to the agricultural labour force by 2020 (%)
Botswana	-31	-23
Malawi	-16	-14
Mozambique	-25	-20
Namibia	-35	-26
South Africa	-25	-20
Tanzania	-15	-13
Zimbabwe	-29	-23

Source: De Waal and Tumushabe (2003); FAO (2003a).

1.4.2 HIV/AIDS and the role of the agricultural sector

From the beginning, the HIV/AIDS epidemic has been primarily defined as a health problem. Funds mobilised to combat HIV/AIDS have therefore been almost entirely spent on biomedical issues and HIV/AIDS prevention with little attention paid to the different socio-economic context in which the people live (Collins and Rau, 2000). It is thus not surprising that other sectoral ministries, such as the Ministry of Agriculture, are reluctant to enter the AIDS arena, which is widely perceived as the mandate of the Ministry of Health.

Nevertheless, the agricultural sector has a clear role to play in preventing the spread of HIV, caring for people living with HIV/AIDS, and alleviating the socio-economic impacts of the epidemic. But, there is no magic bullet for agricultural programmes to respond to the fight against HIV/AIDS. Rather, it requires stronger efforts by the sector to address underlying structural causes and to adjust its services to the needs of the different vulnerable households. One of the most important roles of the agricultural sector towards reducing the spread and impacts of HIV/AIDS is to contribute to poverty reduction in rural areas (Wiegers, 2004; Jayne *et al.*, 2006). Poverty is the structural factor that exposes people to risk of HIV infections (Stillwaggon, 2006). As noted earlier, poverty exacerbates HIV transmission through survival sex and inferior health care. Rural poverty combined with limited formal employment opportunities in rural areas put households at risk by forcing family members to temporary migration for employment at commercial farms or in urban areas. The consequent long separation from the family increases the likelihood that migrants engage in casual and unprotected sex. Furthermore, poverty-linked malnutrition contributes to an earlier onset of AIDS and increases the likelihood of opportunistic infections. Moreover, poverty disables households to withstand the socio-economic stress caused by the disease. Poverty reduction is thus crucial to prevention and mitigation.

Indeed, the agricultural sector could be the most effective sector for preventing and mitigating the impacts of HIV/AIDS as it is central to the livelihoods of the majority of the rural poor and infected. Furthermore, agriculture is the economic heart of many poor countries, is the most likely source of significant economic growth, and growth in agriculture benefits the poor most² (DFID, 2003). The implications are two-fold: on the one hand, it means continuing and reallocating serious resources to the agricultural sector to increase the likelihood that agricultural policies can achieve their original objectives despite AIDS (Gillespie and Kadiyala, 2005). On the other hand, it means a responsibility for the agricultural sector to assist those rural households that are already affected by the epidemic in their recovering and achieving a degree of self-sufficiency (FAO, 2003a). For these households, conventional agricultural policies and programmes might be less effective, especially those that are labour-intensive, include a risk and have a longer turnover. This is because affected households face severe labour and capital constraints and are in need of quick financial support.

Another key role of the agricultural sector in the fight against AIDS is that of enhancing food and nutrition security. The AIDS epidemic has seriously impacted the ability of rural households to access sufficient and nutritious food by reducing household food production, decreasing its food purchasing power, depleting household assets and exhausting social networks (Barnett and Whiteside, 2002). Access to sufficient food is crucial in the fight against HIV/AIDS as food shortage renders people vulnerable to adopting risky survival strategies like transactional

² According to DFID (2003), research has shown that a one percent increase in agricultural yields equals the reduction of 0.6 to 1.2 percent of people living on less than 1 USD per day.

sex. Furthermore, proper nutrition for people living with HIV/AIDS helps to strengthen their immune system, suppress opportunistic infections, optimise response to medical treatment and contribute to slowing the progression of the disease (Castleman *et al.*, 2003). The role of the agricultural sector would thus be to enhance physical access to a variety of nutritionally adequate foods and to provide targeted and temporary relief support for vulnerable and affected households that can no longer provide sufficient food by their own means. Also, the sector should support nutritional management of HIV-related illnesses by helping HIV positive individuals and their households to manage symptoms and maintain food intake by making optimal use of available foods.

Moreover, the agricultural sector has a role to play in the access to and use of antiretroviral (ARV) drugs. As a result of years of legal action and civil society activism, the coverage of antiretroviral treatment (ART) to people who need them is increasing. According to the WHO (2006), more than 800,000 people (or 17 percent of the people in need) in sub-Saharan Africa received ART by the end of 2005; an increase of 15 percent compared to the end of 2003. ARVs reduce viral loads and may improve the nutritional status of people living with HIV/AIDS, but can also lead to further nutritional needs and dietary constraints. For example: some ARVs are to be taken with food, other ARVs on an empty stomach and yet others are contraindicated with certain foods; certain ARVs reduce nutrient absorption and may require specific nutrient rich foods or nutrient supplementation; and other ARVs cause side effects that affect consumption of food while some side effects can be managed by specific food responses (Castleman *et al.*, 2003). In order to ensure efficacious ART, information and technical guidance on proper drug and food management is required. However, for many rural households with AIDS patients providing information on food management is not enough as food insecurity and declining financial resources have limited their capacity to comply with the dietary requirements. For these households, antiretroviral therapy needs to be part of an integrated approach focussing on strengthening food and nutrition security and assistance with food rations and supplements.

Last but not least, the agricultural sector has an important role to play towards enhancing gender equality. Gender inequality is one of the driving factors to the epidemic. It puts women at greater risk of HIV transmission and reduces their abilities to withstand the impacts caused by the disease. Women are the backbone of food production systems in most high-impacted countries and over the last few decades, women in many parts of the world have broadened and deepened their involvement in agricultural production (Lastarria-Cornhiel, 2006). This trend has also been referred to as the feminisation of agriculture. Migration of men from rural areas to towns, civil war, sickness and death from HIV/AIDS have all resulted in a reduction of rural male populations and hence their participation in agriculture. While the significance of women's role in agricultural production has increased, their contribution is often underappreciated and not supported by policies. Additionally, in most parts of sub-Saharan Africa, men traditionally control and own most of the resources while women only gain access and use rights through

marriage. When the death of the husband severs the marriage ties, women are often denied access or use rights of resources (including land) or lose them to their in-laws through property grabbing. As a consequence, many women are left destitute and have to use their body to gain access to food or money (Jayne *et al.*, 2004). Legal (land) reforms and commitment to its implementation are thus needed by the agricultural sector that would allow women to inherent property and that formally recognises women's land tenure rights. Land tenure and inheritance rights for women will not only reduce the likelihood of adopting risky behaviour, they also allow women to sustain income and food security after their spouse's death and obtain access to credit services.

1.4.3 Status of agricultural sector responses to AIDS

Since the mid-1990s, governments in high-prevalence countries in Africa began extending AIDS-focused health interventions throughout government agencies, including workplace AIDS policies and prevention programmes in different line ministries (Gavian *et al.*, 2006). Presently, while most countries in Southern Africa have adopted national strategic frameworks for HIV/AIDS, most of them still concentrate on health and prevention and deal less with impact mitigation. As part of the national strategic frameworks for HIV/AIDS, various national line ministries are developing sector-specific strategies. The response from the agricultural sector has been slow despite the fact that more than two-thirds of the people in the most affected countries depend on agriculture for their livelihoods (FAO, 2003a). In several countries, agricultural line ministries have developed workplace policies to educate staff on the disease, provide assistance to HIV-positive staff, and have appointed HIV/AIDS focal points within their organisations. Few countries as yet have mainstreamed HIV/AIDS within the service provision of the agricultural sector by developing agricultural strategies on HIV/AIDS and/or altering agricultural policies and programmes to take HIV/AIDS into account (Table 1.4). Some exceptions are the governments of Botswana and Malawi who are implementing agriculture sector strategies that address different mitigation areas. In the absence of a comprehensive response from agricultural line ministries, civil society organisations working in rural areas have taken the forefront.

Much of the failure of the agricultural sector to respond actively to HIV/AIDS has to do with a lack of capacity, political will and commitment, as well as financial constraints. HIV/AIDS and its interactions with gender and food security at the household level are new for many agricultural staff, as is mainstreaming HIV/AIDS into agricultural programmes. While general awareness on gender and HIV/AIDS has increased, this is mainly related to health and prevention, which is not the same as having specific knowledge on the relevance of HIV/AIDS for agriculture and the potential role of the sector in the fight against HIV/AIDS. This is part of an overall mainstreaming dilemma: gender and HIV/AIDS are unlikely to be mainstreamed if decision-makers do not clearly understand the underlying linkages or lack the capacity to address these in their work.

Table 1.4 Status of HIV/AIDS mainstreaming within the service provision of Ministries of Agriculture in selected high-impacted countries in Southern Africa

Country	Status of (external) HIV/AIDS mainstreaming in the agricultural sector
Botswana	The Ministry of Agriculture adopted an HIV/AIDS strategy in 2002. Priority areas are: staff training on HIV/AIDS awareness, counselling, peer educators and the links between food security, nutrition and HIV/AIDS; behaviour change in rural communities; supporting poverty relief efforts and implementation of food security programmes particularly as they relate to the empowerment of rural women; support affected families especially those catering for orphans; enhancing income generation through capacity building; and support to farmers living with HIV/AIDS and their families to access funding for income generating projects.
Lesotho	The Ministry of Agriculture has not yet developed a HIV/AIDS mainstreaming strategy.
Malawi	The Ministry of Agriculture has developed a sector-wide HIV/AIDS strategy for 2003-2008. Its 8 strategic pillars include: (1) gender and HIV/AIDS mainstreaming; (2) income generation support to enhance economic empowerment; (3) community-based support; (4) food and nutrition security for vulnerable households; (5) human resource protection; (6) workplace support; (7) HIV/AIDS communication; and (8) HIV/AIDS action research.
Mozambique	The Ministry of Agriculture has not yet developed a HIV/AIDS mainstreaming strategy.
Namibia	The Ministry of Agriculture has not yet developed a HIV/AIDS mainstreaming strategy.
South Africa	The Ministry of Agriculture has not yet developed a HIV/AIDS mainstreaming strategy.
Swaziland	The Ministry of Agriculture has not yet developed a HIV/AIDS mainstreaming strategy.
Tanzania	The agricultural line ministries developed an agricultural sector HIV/AIDS strategy in 2006, however, no budget has been allocated to implement it. The priority areas included in the strategy are: (1) support to orphans; (2) empowering rural widows and female-headed households; (3) labour-saving technologies; (4) increasing disposable income and assets; (5) improving food and nutrition security; (6) strengthen social community support; (7) preventing of property grabbing; (8) staff capacity; and (9) action-oriented impact research.
Zambia	The Ministry of Agriculture has not yet developed a HIV/AIDS mainstreaming strategy.

Source: Adapted from Wiegers (2004); ECA (2006).

Low political support and commitment is also constraining the agricultural sector to contribute to the fight against HIV/AIDS. In general, much of the mainstreaming work within ministries of agriculture is carried out through AIDS focal points, which tend to be situated within “soft” units, like the human resources department in the case of Zambia, rather than within the technical units (Topouzis, 2003). The AIDS focal points receive little support and often no specific budget has been allocated to AIDS mainstreaming. A general lack of empirical data on the depth and extent of the impacts of HIV/AIDS on agriculture has made some politicians doubtful on the need for HIV/AIDS mainstreaming (ECA, 2006). To date, very little analysis on the impacts of AIDS on for example the structure of the agricultural sector, different cropping systems, costs of inputs and factors of production, technological changes, and supply and demand for agricultural products has been carried out by agricultural policy analysts to guide policy-makers (Jayne *et al.*, 2006). Unless more empirical data on AIDS and agriculture interactions becomes available, agricultural policy-makers will continue to be reluctant to respond proactively. However, lack of data and political commitment are not the sole reasons why the response of the agricultural sector is falling behind that of other sectors. Many agricultural ministries are facing severe financial constraints to implement most of the conventional agricultural interventions. HIV/AIDS and its related costs for funerals and staff replacement further deplete the scarce funds earmarked for agricultural service provision.

1.5 Research problem and objectives

In the last decade, several studies have described the impacts of HIV/AIDS on smallholder agriculture and rural livelihoods (Barnett and Blaikie, 1992; FAO, 1995, 2003b, 2004; Rugalema, 1999; Topouzis, 2000; Haddad and Gillespie, 2001). Much of this research examined a variety of direct and indirect effects of HIV/AIDS on people’s livelihoods in sub-Saharan Africa, using qualitative and quantitative approaches and data sources. Also, many of the impact studies use rural households that are affected by HIV/AIDS as the unit of analysis and do not disaggregate data by the manner in which they are affected: hosting orphans, AIDS-related chronic illness and AIDS death. However, the AIDS epidemic has resulted in increased appearance of households headed by women, elderly and orphans; households with orphaned children; households with chronically ill members; and households that recently suffered an adult death. These households do not constitute a homogenous group but differ in their response capacities, with certain groups of households and household members being harder hit by the epidemic than others.

Furthermore, the gender context in which HIV/AIDS-related impacts occur is of crucial importance but is often inadequately addressed. AIDS disproportionately affects the lives of women and girls due to existing gender inequalities and traditional gender roles. In most societies, women are responsible for caring for people living with HIV/AIDS and for orphans in addition to securing a livelihood for

the household. Furthermore, gender-based disparities in access to assets means that women are often less able to respond to HIV/AIDS impacts. As a result of their disadvantage in entitlements and capabilities, their limited access to assets and resources and their heavier work burdens, female-headed households are generally pictured as a marginalized group who are highly vulnerable to AIDS impacts.

Many AIDS-impact studies are rather anecdotal, yield contradicting results and provide speculative inferences for the general population. Research on AIDS impacts is complex and several methodological constraints are encountered when conducting micro-level investigations on AIDS and rural livelihood linkages. For example, the epidemic brings about a slow process of decline of smallholder agriculture, rural livelihoods and household resilience, as each season a new negative change to the farming system is produced or another asset is sold (Barnett and Whiteside, 2002). These changes to the livelihood portfolio are difficult to measure when using standard cross-sectional survey instruments. Furthermore, measuring the impacts of HIV/AIDS is challenged by the interplay of variables that influence the extent and severity of the impact such as relative wealth, whether or not periods of sickness or death coincide with peak agricultural seasons, marriage and inheritance systems and the level of institutional support for HIV/AIDS-affected households at community level (Shah *et al.*, 2002). Other factors that influence the level of impact include the identity of the sick or dead household member (e.g. breadwinner or not), whether the household has multiple cases of HIV/AIDS, and/or the simultaneous occurrences of other shocks that affect people's livelihoods. In the case of households fostering orphans, the impact depends a lot on the existing composition of the household and the net contribution of orphans to the household, which in its turn depends on their age, gender and skills (O'Donnell, 2004).

It is against this background that I have focussed my research on the gender aspects and methodological and ethical issues of AIDS impacts on rural livelihoods in sub-Saharan Africa. The research objectives are three-fold:

- 1) To provide insight into vulnerability differentiation to AIDS impact and the underlying processes that make rural households more or less vulnerable;
- 2) To provide insight into resource mobilisation among female-headed households in the context of HIV/AIDS;
- 3) To critically examine the methodological and ethical concerns and implications of conducting micro-level AIDS-impact research.

Additionally, this thesis was written to contribute to the body of empirical knowledge on HIV/AIDS, gender and rural livelihoods interactions and to assist the agricultural sector in adapting its policies and programmes to fit the changing situation on the ground by emphasising the differentiated and gender-specific aspects of AIDS impacts.

1.6 Research questions

The key questions addressed by this research are the following:

- ❖ How does HIV/AIDS lead to vulnerability differentiation among rural households and what processes make rural households more or less vulnerable to HIV/AIDS impacts?
- ❖ What resources do female heads of households mobilise over time to respond to AIDS and what factors enabled or disabled them in their response?
- ❖ What are the principal methodological and ethical considerations and pitfalls encountered in conducting micro-level investigations on AIDS, gender and rural livelihood linkages?

1.7 Research design and methodology³

The study combines a literature review on AIDS impacts in sub-Saharan Africa, an analytical review of methodological and ethical aspects of AIDS-impact research based on the literature and personal experiences, and empirical data collection in the Northern Province, Zambia. For the empirical data collection, the adopted research design sequenced the use of qualitative and quantitative methodologies to complement each other. Prior to the design of the field study, a desk review of existing literature on the interactions between HIV/AIDS, gender and rural livelihoods was undertaken to support the development of a research framework. Quantitative research was used to collect data on HIV/AIDS impacts on different aspects of people's access to food. Male and female-headed households affected by HIV/AIDS were interviewed using structured questionnaires that were modelled after ones used by the Central Statistics Office for their annual post-harvest survey. Topics included amongst others: household demographic composition, child educational and orphan status, HIV/AIDS mortality/morbidity experience, agricultural holdings and production (crops and livestock), asset ownership, sources of income and expenditure, and household food security.

Qualitative research was carried out to gather information on the general development context, to identify specific livelihood indicators for the quantitative part of the study, and to obtain information on labour constraints, gender roles, changes in household and community asset ownership, inheritance and existing response strategies. Key informant interviews with local community leaders, teachers, local health workers, extension staff and representatives of local non-governmental organisations as well as focus group discussions with separate groups comprising men, women and community leaders were conducted to collect qualitative data. In particular, the following participatory methods were adapted for data gathering:

³ Detailed information concerning the sampling strategies and research methodologies employed by the research is provided in Chapters 4 and 5.

- ❖ Social mapping (including wealth ranking) to determine the community's social assets, the capacity of the local support system in coping with orphans and different aspects relating to human capital;
- ❖ Social network mapping to identify the social support network that different households have access to in pursuit of their livelihoods;
- ❖ Seasonal calendars and gender activity clocks to discern the division and reallocation of labour by gender;
- ❖ Venn diagrams/institutional profiles to determine the presence and maturity of institutions and organisations in the study area;
- ❖ Problem analysis charts to identify the main problems, response strategies and their gender implications;
- ❖ Income and expenditure matrices to identify changes in proportional income and expenditure patterns.

Additionally, detailed case studies were undertaken to collect information on the capabilities to respond to HIV/AIDS impacts among women heads of households, the resources they mobilised over time and the factors that enabled or disabled them in their response.

1.8 Outline of the thesis

This thesis comprises seven chapters. Chapter 1 provides a general introduction to the research that is based on the existing literature.

Chapter 2 presents the conceptual and theoretical framework. The core concepts included in the framework are: household, headship, female-headed household, gender, gender-based susceptibility to AIDS, food security, and the livelihood approach, including livelihood, livelihood assets, livelihood security, vulnerability context, policies, institutions and processes, livelihood strategies and livelihood outcomes.

Chapter 3 presents background information on the Northern Province of Zambia. In particular, the chapter looks at the geographical context, the poverty situation and the policy changes and economic trends that have taken place in Zambia and their impact on rural poverty. Furthermore, the chapter describes the food and nutrition situation in the Northern Province, the main livelihood sources of households living in the province, and the AIDS situation in the province and in Zambia in general.

Chapter 4 looks at patterns of vulnerability to AIDS impacts on the basis of quantitative and qualitative data. The chapter addresses topics such as differential vulnerability, the impacts of HIV/AIDS on labour, food production, income generation and social capital characteristics of different affected households as well as their experience in relation to property grabbing.

Chapter 5 examines the differences in the capabilities to respond to AIDS among female heads of households through case studies. In particular, the chapter looks at the resources women mobilised over time and the factors that enabled or disabled them in their responding.

Chapter 6 discusses methodological and ethical concerns and implications when conducting micro-level AIDS-impact research in rural areas. Amongst others, this chapter addresses the differentiation effect of AIDS impacts, the array of research design in impact research, methodological and conceptual pitfalls encountered when conducting micro-level impact research based on the literature and personal experiences, the notions emics and etics of AIDS, and several ethical aspects of conducting AIDS-impact research.

Chapter 7 presents a synthesis of the main findings with regard to the objectives of the study and the linkages that exist between gender, vulnerability to AIDS, and research implications. Additionally, the chapter discusses policy implications and provides some recommendations.

2 CONCEPTUAL FRAMEWORK

2.1 Introduction

This chapter explores the concepts of 'household', 'kinship', 'headship', 'female-headed household', 'gender', 'household food security' and 'livelihood' as used in this thesis. It examines these concepts and their interrelationship with AIDS impacts. The chapter also brings the concepts together in a framework used by the study to investigate the interface of AIDS impacts, gender and rural livelihoods.

2.2 The household

This study uses the household as the level of analysis for researching AIDS, gender and rural livelihood interactions as it is the immediate context within which the provision of primary needs and livelihoods generation takes place (Niehof and Price, 2001). The household is also the immediate context within which care is provided to AIDS patients and where individual members combine their resources and skills to respond to the adverse effects of the disease in order to maintain production, reproduction and well-being (Niehof, 2004a).

There are numerous of different definitions of the household. Most definitions of households make reference to a physical setting, a mode of social organisation and/or a range of functions (Wilk and Netting, 1984). Pennartz and Niehof (1999: 3) define the household as a social unit, which comprises individuals of different ages and both sexes who, during a specific period of time, share their income from multiple sources to ensure both individual and collective (re)production and well-being. Following Bryceson (1995), a household is the collective identity of a group of individuals who are joined by commonly-held endowments and one or more of the following: a common budget through pooling of income, a common place to cook, and/or a common residence.

In Zambia, the Central Statistics Office for all its surveys and censuses uses the following definition of household (CSO, 2003a: 5): "A household is a group of persons who normally live and eat together. These people may or may not be related by blood, but make common provision for food or other essentials for living

and they have only one person whom they all regard as the head of the household. A household may also consist of one member”.

The concept of household is often unjustly interchanged with family. A family is comprised of individuals who are related by either blood or marriage. While it is common that most members of a household that share a common residence are related by family-ties, a household may comprise unrelated persons like friends, colleagues, dwellers, and so forth (Chant, 1997).

The household as a concept has always been problematic, especially when operationalising the concept for rural communities in sub-Saharan Africa. In many countries in sub-Saharan Africa, the household is dynamic and flexible. Their boundaries and composition are constantly changing as a result of birth, death, marriage, marital conflicts, the need to seek income, education opportunities and security. Seasonal migration and polygamy also cause the composition of households to continuously change in time. Furthermore, their boundaries are permeable as households are embedded within wider kinship networks (Guyer and Peters, 1987). While this may be valid for many parts of the world, it is especially true for Africa and in particular in areas where patrilineal kinship prevails. Nevertheless, despite the dynamic nature of the concept of household, its importance as a unit of analysis is well accepted across disciplines (Kabeer, 1994).

While the household may change its composition over time and its boundaries may be permeable and shifting, it generally refers to a group within which daily life is managed, daily needs are taken care of, and shelter and care are provided (Niehof, 2004b). The working definition of a household by Rudie (1995: 228) describes this as follows: a household is “a co-residential unit, usually family-based in some way, which takes care of resource management and primary needs of its members”. This broad-sense definition is applicable to many cases in sub-Saharan Africa. In the study presented in this thesis, I defined a household as a group of people, often family-based, who normally live together, provide things for each other and often share meals. Members also include those who are temporarily absent but who have returned at some point in the last year or are expected to resume residence in the near future. Like Ingrid Rudie’s, this definition comprises the dimensions of residence, family and resource management.

The household life course

The normal life course of a household comprises several trajectories across life stages, such as ‘young, married and no children’, ‘young, married and dependent children’, ‘middle-aged, married and independent children’, and ‘old age’ (Pennartz and Niehof, 1999). According to Pennartz and Niehof, these trajectories are interrelated and happenings in early life stages may influence future trajectories. For example, the extent to which one is able to accrue both tangible and intangible assets during the adult stage will influence the economic autonomy one has during old age. The household life course also sets behavioural expectations across the

different trajectories that are associated with particular ages, such as when to marry and conceive children, but also concerning specific roles, decision-making and power structures within a household. In a situation of high HIV/AIDS prevalence, the normal household life course is disrupted in several ways. For many HIV infected, life abruptly ends at prime-age, resulting in households headed by widowed women, elderly who look after young orphaned children, or children who have to cater for themselves. Furthermore, because of the rapid changes in household composition, the normative expectations associated with the traditional household life course are not realised. This could trigger changes in traditional and cultural norms and behaviour. Households may change fundamentally with respect to the gendered division of labour, care-giving and care-receiving roles, entitlements access, and even decision-making and power structures (Niehof, 2004a). For example, the increase in the number of women becoming infected with HIV/AIDS could lead to intra-household allocation of tasks where men adopt roles traditionally assigned to women. A study by FAO/FASAZ (2003) in Zambia reported a 25 percent increase of men becoming more involved in care-giving as a result of HIV/AIDS, a task traditionally performed by women. HIV/AIDS is also increasingly forcing women to take up roles that were formerly assigned to men. Women break away from patriarchal control because of an increase in female-headed households where the male role becomes less important. Mtshali (2002) shows how in rural KwaZulu-Natal widowed women in a patriarchal culture obtain more freedom of movement because of the absence of a husband.

Kinship

Generally, a household is embedded in a vast kinship network with members connected through birth, marriage and friendship (Pennartz and Niehof, 1999). A relationship based on kinship has two important elements: a certain degree of morality underpinning reciprocity and sharing, and the actual transactions between network members (Drinkwater *et al.*, 2006).

As in most countries in Africa, kinship networks are an important factor in Zambian society and one is expected to assist other kinship members whenever needed. In the Northern Province of Zambia, the research area of this study, the Bemba are the largest ethnic group. They are matrilineal and have a matrilineal system of residence. The legal entitlements and rights of inheritance of a Bemba man are on his mother's side. Social support is normally sought from matrilineal relatives.

Despite its matrilineal character, the Bemba kinship system also has some bilateral features (Moore and Vaughan, 1994). The kinship group to which a household refers for daily affairs, religious ceremonies, matrimonial transactions, mortuary ritual and inheritance is a bilateral group of near relatives on both sides of the family. According to Richards (1969), the bilateral group is even more important to a Bemba than the matrilineal kin group.

2.3 Female household headship

“U mwaume e mutwe wa ng’anda” [Bemba phrase meaning household headship is always assigned to men who are regarded as natural leaders and decision-makers within the household] (World Bank, 2004).

2.3.1 Headship

Headship is also a problematic concept. Household headship is important for censuses and household surveys to account for all household members and to avoid duplication of those enumerated. Despite its wide use, no standard universal definition of headship exists and surveys adopt a variety of definitions, which limits comparison of available household data (Rosenhouse, 1989). Surveys either adopt an objective or a subjective definition of headship: an objective definition requires the formulation of criteria, while a subjective definition is based on the household’s or respondents own perception of whom they consider to be the head of the household (Niehof, 1999). In practice, census agencies typically use a subjective definition of headship. For example, the Central Statistics Office in Zambia defines the headship as “the person who is considered to be the head by the other members of the household. He/She is the one who normally makes day-to-day decisions governing the running of the household” (CSO, 2003a: 5). This subjective definition of headship reflects to a certain extent the normative definition of household headship in a given cultural context (Rosenhouse, 1989). Often, the oldest person or the main asset owner, usually male, is reported as the head of the household.

Two objective criteria for defining household headship are authority and economic support or breadwinner (Varley, 1996). Household headship based on authority means the person who exercises the authority to run the household is assigned as head, whereas household headship based on the breadwinner role implies that the chief earner or supporter of the household economy is the head of the household. In both cases, the man is usually designated as the household head. The criterion of authority for defining headship is problematic because it does not indicate what sorts of decisions are used as reference, nor what is done when various or all decisions are taken jointly or are perhaps shared with other household members or individuals outside the household (Chant, 1997). Likewise, the breadwinner criterion is tricky as the chief earner may in fact not be particularly active in the household or contribute to the household economy.

The overall problem with the concept of headship is the underlying assumption it carries. The concept headship assumes a hierarchical relationship between members in a household, with the head, predominantly a man, being invested with overriding authority in important household decisions and the main economic supporter of the household (Rosenhouse, 1989: 4). These definitions and ideas

about household headship are strongly gendered and to a large extent a product of patriarchal thought and practices (Harris, 1981; Chant, 1997).

2.3.2 Female-headed households

Female headship has received much attention since the 1990s. In general, a female- or woman-headed household is a household where an adult woman and often her children reside, without the presence of a male partner (Chant, 1997). In practice, however, female headship is a broad concept and encompasses a wide variety of households such as those headed by divorced women, widowed women, abandoned women, unmarried women, married women with absent migrant husbands, married women in polygamous marriages, and married women who are the chief supporter.

While researchers do recognise the different types of female-headed households, often distinction is limited to *de facto* as opposed to *de jure* female-headed households. In a *de facto* female-headed household, a woman heads the household in absence of her spouse, e.g. in cases of polygamy and (temporary) migration. In a *de jure* female-headed household, a female person is the chief supporter and legally owns all of the household's assets, often as a result of the death of the spouse, separation, divorce, or being single. *De facto* female-headed households may be better off than *de jure* households if the husband is a migrant worker who regularly sends back remittances. On the other hand, *de facto* female-headed households may lack access to crucial resources such as land that is legally still owned by the spouse (Firebaugh, 1994; Niehof, 2004c).

2.3.3 Feminisation of poverty

Much of the focus on female headship evolved from the apparent differences between female- and male-headed households in terms of poverty, vulnerability and employment opportunities. The interest in female headship is also partly the result of growing interest in gender-disaggregated data and the difficulty in disaggregating household data by gender; consequently households headed by women have become a proxy for gender breakdowns (Chant, 1997).

Overall, female-headed households are globally seen as marginalized and poorer than male-headed households because of their limited access to assets and resources and their double burden of productive and reproductive responsibilities (Firebaugh, 1994; Chester, 1995; Chant, 1997). For example in Zambia, 58 percent of all female-headed households are amongst the very poor as compared to 43 percent male-headed households, 61 percent of female-headed households face food shortages as compared with 52 percent of male-headed ones, and 15 percent of all female-headed households have only one meal a day whereas for the male counterparts this is 9 percent (CSO, 1998, 2004).

The notion that female-headed households not only form a greater proportion of poor households but also experience greater extremes of poverty than their male counterparts has led to the widely-used concept 'feminisation of poverty' (Buvinic and Gupta, 1994; Chant, 2003). Moghadam (1997, in Chant, 2003) identifies three main reasons why female-headed households are more likely to be poorer than male-headed households: women's limited access to assets; women's lower earnings and greater work burdens; and their socio-economic mobility constraints as a result of cultural, legal and labour market barriers. Furthermore, female-headed households have relatively more dependents to support and are generally disadvantaged in terms of educational attainment.

While overall woman-headed households are often poorer than male-headed ones, the indiscriminate use of female headship as a key indicator of poverty has resulted in much debate as several studies found conflicting empirical evidence (IFPRI, 1995; Quisumbing *et al.*, 1995; Moser, 1996; O'Laughlin, 1997; Mtshali, 2002). For example, comparative research done by Moser in Guayaquil, Manila, Budapest and Lusaka on the impacts of structural adjustment in low-income neighbourhoods showed that, except for Lusaka, there was no direct relation between sex of the household head and income level (Moser, 1996). Also, a study by O'Laughlin (1997) in Botswana found that the median disposable income of female-headed households in rural areas was even slightly higher than that of male-headed households. Furthermore, comparison between regions and countries, led for example by the World Bank and the International Food Policy Research Institute, are not able to show that female headship significantly contributes to the likelihood of poverty (Chant, 2003). For example, the work of Quisumbing *et al.* (1995) on the relationship between sex of household heads and poverty incidence in ten developing countries in Africa, Asia and Central America showed no significant differences between the proportions of male- and female-headed households within the very poor strata.

A major reason why female headship cannot be automatically used as an indicator for poverty is that households headed by women are not a homogeneous group and thus not all female-headed households are equally disadvantaged (Rosenhouse, 1989). Furthermore, relatively more money for daily expenditure is available within households headed by women than in male-headed households, which has positive impacts on the nutrition, health and education of the children within these households (Bruce and Lloyd, 1992; Blumberg, 1993; Kabeer, 1996; Chant, 1997).

2.4 Gender

Gender refers to the socially constructed roles and relationships, behaviour and characteristics that societies ascribe to men and women. Whereas sex refers to the differences in physical and biological characteristics of men and women bodies (Giddens, 1993), gender refers to the socially defined and learned behaviours and

roles of men and women. Gender is a relational concept and does not refer only to women or to men but to the relationship that exist between them. Gender is a strong organising principle within the household and intersects with ethnicity, class and other variables like age and wealth (Niehof and Price, 2001).

Gender roles and behaviour for women and men may change in time and vary within and across cultures. Despite these differences, gender influences men and women's behaviour in accordance with the expectations and norms of their society. Amongst others, these social norms dictate the division of labour, with men and women as well as boys and girls having different and distinct roles and responsibilities. Across most low-income households, labour contributed by men is usually production-centred while women often have both reproductive and productive roles (Moser, 1993). The contribution of women to the production sphere is generally played down (Brydon and Chant, 1993). Within many farming systems, the gender division of labour results in men tending to grow cash crops and women cultivating predominantly food crops, while also performing customary women's tasks on the men's fields and being responsible for all reproductive and domestic tasks.

Gender norms also dictate access to, and control over, household resources and assets. More often than not society ascribes greater access to productive resources and assets to men than women. In many societies women are excluded from ownership of land and key assets and have limited control over household income. Women's limited access to assets often translates into a power differentiation between men and women in favour of men. Typically, gender differentiations are developed from an early stage at the household. Across societies, boys and girls from their early childhood onwards internalise distinct norms on the division of labour, and on roles and behaviour between men and women.

Gender needs

Because of the gendered differences in roles, task and behaviour, women and men have different specific needs, which vary across as well as within society and culture. According to Moser (1993), women in all societies have two different types of gender needs: practical gender needs and strategic gender needs. Practical gender needs are needs identified by women within their socially defined and accepted roles and may vary per culture. These needs are a response to a direct perceived necessity and usually relate to shortfalls in living conditions like health care, water provision and employment. Practical gender needs as such do not challenge established gendered labour divisions and women's often subordinate position in society. By contrast, strategic gender needs are those needs women identify as a result of their subordinate position in society and result from women's desire to challenge and change traditionally defined gender norms, roles and divisions of labour, power and control. Strategic gender needs vary according to cultural contexts and include needs such as ownership and inheritance rights,

protection from domestic violence, equal wages and opportunities, and women's reproductive rights.

2.4.1 Gender and susceptibility

Susceptibility in the context of HIV/AIDS refers to the likelihood that an individual will be infected by HIV. Various causal factors increase the likelihood that individuals engage in unprotected sex, including gender roles, norms and power asymmetries.

Cultural norms of masculinity and femininity make men and women more or less susceptible of contracting HIV. Each society defines what is masculine and what is feminine behaviour and how men and women should relate to each other. While the ideas of masculinity and femininity differ across cultures and societies, in most parts of sub-Saharan Africa they entail men's dominance over women. Typically, norms in African societies encourage men to have multiple sexual partners, thus placing themselves and their spouses at risk of infection. Men are expected by society to prove their manhood by having multiple partners, especially in situations where economic decline has resulted in male unemployment and hence men being unable to fulfil the social expectations of providing for their families (Müller, 2005a). Young men below 25 years of age are at greater risk than older ones because societal pressure makes young men start having (unprotected) sex with multiple partners from an early age. As already noted in Chapter 1, men are also often expected to be knowledgeable about sexual matters and are generally reluctant to access health services. This masculine behaviour prevents men from seeking information on issues such as HIV/AIDS and Sexually Transmitted Infections or admitting their lack of knowledge about HIV prevention for fear of appearing ignorant (Commonwealth Secretariat, 2002; UNAIDS, 2004b).

The economic power imbalances between men and women and women's dependence on men to access assets and resources put women at a greater risk of HIV exposure (Gupta, 2000). Women's economic dependence on men hinders women to enforce HIV prevention measures to protect themselves from being infected by their partners. It further reduces women's chances of abstinence and of communicating with their spouse or sexual partner about HIV/AIDS and prevention. Furthermore, women's economic vulnerability increases the risk of becoming involved in transactional sex for survival. Having one or more sexual partners has become a survival strategy for many women in order to support their children and themselves (Smith and Cohen, 2000). Sexual networking and transactional sex are a result of women's continuing subordinate status and their lack of alternative livelihood opportunities, and as such reinforce the dependency of women on men for their daily survival (Müller, 2005a).

The social and economic inequalities in gender relations have implications for sexual interactions within a relationship. Cultural norms in many African societies result in priority given to male sexual pleasure and men have greater control over

their sexuality than women do (Gupta, 2002a). Sexuality in this sense is defined by whom one has sex with, how and when sex takes place, the reasons for having sex, the circumstances under which one has sex, and the outcomes, including the use of condoms. In particular, married women often have little control over their sexuality and the sexual behaviour of their husbands, whereas unmarried women are relatively better able to negotiate safe sex (Silberschmidt, 2001; Kaler, 2004). For a married woman to raise the issue of condom use with her spouse would be interpreted as that she does not love or trust her husband or that she herself is having extra-marital affairs (Aggleton *et al.*, 1999). Young women also have little decision-making power regarding their sexuality, especially as they tend to have older male partners (Commonwealth Secretariat, 2002). Furthermore, in many societies women and girls are expected to remain uninformed about sexual matters and to behave sexually passive. These cultural norms lead to women and girls being insufficiently informed about HIV/AIDS and hinder them in determining the conditions of sexual encounters and safe sex practices on equal terms.

The mainstream discourse on sexuality and AIDS in African societies is much influenced by the work of Caldwell *et al.* (1989). In short, they identify on the basis of a comparison between sub-Saharan Africa and Eurasia a distinct and internally coherent African system of sexuality, which is highly permissive and has little religious and moral focus on sex. They argue that weak conjugal bonds allow for multiple partnership and high rates of partner change. Also, as virginity is not as desirable in sub-Saharan Africa as in Eurasia, young unmarried girls have a certain degree of sexual freedom. As a consequence of this so-called 'African sexuality', HIV can spread easily. The permissive focus of the Caldwells' theory on sexuality and AIDS in Africa has been too much taken for granted in the debate about AIDS. Critics mentioned that it is impossible to speak of a distinct and internally coherent African sexuality. They claim that in fact there are many restrictions on sexuality and sexual behaviour, which are highly variable across African societies and change over time (Stillwaggon, 2006; Van Eerdewijk, 2007). The Caldwells' thesis does not provide any insight in these diverse sexualities nor do they provide empirical evidence to verify their theory.

Furthermore, women's susceptibility of contracting HIV infection is heightened by a range of cultural practices, including dry sex, sexual cleansing and female genital mutilation. The practice of dry sex involves women inserting drying agents into their vagina and is based on the belief that increased friction during sexual intercourse is more satisfying for men. However, dry sex is likely to result in tears and abrasions in the vaginal tissue and hence facilitates the entry of the HIV virus. Practices such as female genital mutilation are also highly risky for women. Female genital mutilation may facilitate the transmission of HIV infection by the use of the same equipment for other initiates and the repeated tissue damage and bleeding during vaginal intercourse (Brady, 1999). Another custom likely to increase women's risk of acquiring HIV, is anal sex, which young women may engage in as an alternative in order to preserve their high-valued virginity (Gupta, 2000).

Social and economic disempowerment of women and girls exposes them to gender-based violence and sexual exploitation (Gupta, 2000). The terms sexual violence, gender-based violence and violence against women are often used interchangeably but refer to the physical, sexual and psychological harm that reinforce female subordination and perpetuate male power and control (UNHCR, 2003). Generally, violence against women is deeply rooted in gender beliefs and roles that are part of a society and women's inability to leave abusive relationships due to lack of assets and means of survival as well as because of the fear of abandonment and losing her children to the husband's family. Globally, the most common form of violence against women is the abuse by intimate male partners (Maman *et al.*, 2002). Violence against women increases women's susceptibility to HIV infection through forced or coercive intercourse. Also, the threat of violence in a relationship limits a woman's powers and abilities to refuse sexual advances or to negotiate condom use (Maman *et al.*, 2002; Human Rights Watch, 2003a). Threats of violence may also limit the extent to which (abused) women make use of HIV testing services and are able to discuss their status with others.

There are many ways in which existing gender norms can make both men and women susceptible to contracting HIV. These gender norms, which result in social, sexual and economic power asymmetries between men and women and high levels of violence, are deeply rooted in the socio-cultural context of a society. The AIDS epidemic does not only further expose these gender inequalities between men and women as if taking the effect of a magnifying glass, it also intensifies the unequal status of women.

Because gender is a social construct, the differences in inequalities between men and women vary between cultures. For example, in West Africa, women are said to have more control over their sexuality, have more economic power and do not break ties with their own family upon marriage. Consequently, it is easier to break off a (abusive) relationship as they are guaranteed to have continued access to resources to secure their livelihoods (Orubuloye *et al.*, 1993; Müller, 2005a). A recent analysis on HIV infections within married couples in Africa done by Macro International suggests that women are not always that innocent and have extra-marital affairs as well. The study found that among HIV discordant couples (i.e. only one partner in a marriage has HIV), women were the infected partner in a majority of cases in four of the eleven countries studied and in over a one-third of the cases in the other seven countries (The Economist, 2007). The study indicates that in contrast to the assumption that husbands are the cause of their wives' infections, women also commit adultery and can thus give HIV to men. The study, however, does not indicate to what extent the married women committed adultery by choice or by a need to secure access to cash, food or resources. Still, in many parts in sub-Saharan Africa and elsewhere biased gender norms lead to men having more power when it comes to economic decision-making, and in expressing their sexual desires and satisfying their sexual needs (Heise and Elias, 1995). This means that women's greater susceptibility to HIV transmission can only be tackled

when cultural norms and gender stereotypes that subordinate women to men are altered.

2.5 Household food security

The changing food security concept

According to FAO estimates, there were over 854 million undernourished people worldwide in 2001-2003, out of which 820 million people lived in the developing countries (FAO, 2006). The total number of undernourished people has hardly changed since the Millennium Development Goal commitments to reduce hunger by half by 2015 was set. The concept of food security has been much debated and originated in the 1970s, following major production failures caused by drought and desert encroachment in many African countries (Davies *et al.*, 1991). Initially, food security was discussed from a food supply point of view. Therefore, the prime goals of ensuring food security in the mid-1970s was through assuring the availability and to a certain extent the price stability of basic foodstuffs at international and national levels (ODI, 1997).

In 1974, the first World Food Conference was held under the auspices of the United Nations in Rome to discuss global food problems. Governments attending the World Food Conference proclaimed that *"every man, woman and child has the inalienable right to be free from hunger and malnutrition in order to develop their physical and mental faculties"* (UN, 1975: 1). Amongst others, the Conference created a ministerial-level World Food Council to annually review major food problems and food policy issues and led to follow-up World Food Conferences.

Since the first World Food Conference in 1974, three major shifts in the debate about food security took place (Maxwell, 1996). First, the discussion about food security changed from an orientation on supply problems at the macro-level to a focus on access or entitlement problems at the micro (household and individual) level. Secondly, following the famine in Sudan, a shift took place from the ideas that people try by all means to obtain food towards the use of a livelihood perspective to understand people's vulnerability to food insecurity and their coping strategies. Lastly, the focus on food security changed from using objective indicators towards people's preference for consuming certain foods in socially acceptable ways (FFSSA, 2004).

Several attempts have been made at defining food security. Maxwell and Frankenberger (1992) listed some 32 broadly defined indicators found in the literature during the period 1975 – 1991. The most recent definition of food security is the one adopted by the 1996 World Food Summit: *"Food security, at the individual, household, national, regional and global levels is achieved when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life"* (FAO, 1996). Food security in this research is defined as the access of

all people at all times to sufficient, safe and nutritious food to lead an active and healthy life (Maxwell and Frankenberger, 1992).

Food insecurity is the reverse and exists when people do not have adequate physical and economic access to food to meet people's needs for a healthy life. Food insecurity can be chronic or acute. Chronic food insecurity means people have recurrently insufficient access to food to meet their nutritional demands and is primarily a function of poverty. Chronic food insecurity is a long-term problem that is caused by deprivation of assets, income and social relations to produce, purchase or obtain sufficient food through reciprocal relations. Acute or transient food insecurity is a temporary decline or shortage in food access and occurs periodically, often as a result of being vulnerable to climatic shocks, economic collapse or violent conflict. Chronic and acute food insecurity are often interlinked and mutually reinforcing (FFSSA, 2004). To cope with food insecurity, households adopt coping strategies. Coping strategies in the context of food insecurity are short-term responses to overcome a shortage of food availability and entitlements in an abnormal year or season (Davies, 1993).

Entitlement to food

According to FAO (1997), food security comprises four crucial dimensions:

- ❖ *Food availability*: Sufficient quantities of appropriate, safe and nutritious foods from domestic production, commercial imports, stocks or donors are available to individuals;
- ❖ *Stability of supplies*: A reliable supply of food products are consistently available to individuals;
- ❖ *Access to supplies*: Individuals have adequate resources to obtain sufficient, safe and nutritious foods; and,
- ❖ *Food utilisation*: Existence of adequate knowledge and application of nutrition, child care and hygiene practices, proper food processing and storage practices, and proper health and sanitation services.

The issue of food access within the food security concept is closely linked to the work of Amartya Sen (FAO, 2003c). Sen (1981) focused on the entitlements that individuals and households have to secure their access to food. His work caused a paradigm shift in thinking about food security from a food-supply-and-availability point of view to a focus on people's access to food. The limitations of the food supply focus became clear during the famines in Africa in the mid-1970s and 1980s when adequate food availability at the national level did not automatically result into food security at the individual and household levels (Frankenberger and McCaston, 1998). For example, a survey by FAO indicated that during the Sahel famine of the mid-1970s, the most-affected countries all produced sufficient grain to feed their populations, but it had not been equally distributed (Baro and Deubel, 2006). It was realised that food insecurity can occur where sufficient food is

available but not accessible because of a decline in people's entitlement to food. Hence, an increase in national food production will not enhance people's food security status without increasing access to that food. Similarly, even if a household has access to sufficient food, individual household members may still be food insecure if the food is not divided equally.

According to Sen (1981), hunger and starvation do not need to be accompanied with a decline in food availability but reflect the circumstances of people who are not able to secure access to food. Sen explains this by focusing on people's entitlement relations. Entitlement relations are based on four distinct forms of ownership: production, trade, labour, and transfer (Baro and Deubel, 2006). Following Sen, on the basis of their initial endowments – i.e. the rights and resources actors have such as land, other assets, labour, skills and networks – a person or a household has entitlements to his own production, the sale of own produce, labour for wages and assets, social claims and the exchange of products for food in order to gain access to food. People or households are food insecure when their entitlements are insufficient to be able to access the minimum food requirements. For example, when a drought severely impacts those households whose main access to food is based on own production.

Household food and nutrition security

Household food security refers to the ability of the household to secure sufficient food from its own production and/or through purchases for meeting the dietary needs of its members (Maxwell and Frankenberger, 1992). According to IFAD (1996), food security at the household level comprises elements of stabilised access to food across seasons and transitory shortages, sustained food supply in the long term, and constant attention to food adequacy, nutrient and safety requirements and cultural preferences. Households are regarded as food secure when they have an equitable availability of stable quantities of nutritious food. For most rural households, food security depends on producing food themselves, using mainly family labour, land, and other inputs. Other sources of accessing food include purchasing food through household income, selling or bartering assets, and social claims. Households are food insecure if these mechanisms fail to result in regular access to adequate food.

Household food security does not automatically translate into nutritional security. Individual household members may be malnourished as a result of eating nutrient poor diets, even though the household itself is food secure. The relationship between food security and nutrition security is complex and entails more than food. Nutrition security refers to a combination of having access to adequate food, being well cared for and enjoying a healthy environment (Frankenberger *et al.*, 1993). Hence, a household is nutrition secure when it has sufficient food and adequate attention is being paid to the required dietary intake, care, health and sanitation.

A factor that severely affects nutrition security is HIV/AIDS. In fact, HIV/AIDS and nutrition are closely intertwined. HIV infection on the one hand affects nutrition through an increase in energy requirement, reduction in food intake and malabsorption of nutrients, as well as a loss in weight. Malnutrition, on the other hand, increases the risk of opportunistic infections, causes a quicker onset of AIDS, and enhances the transmission of HIV from mother to child. Proper nutrition for people living with HIV/AIDS thus helps to boost the immune system, manage opportunistic infections, optimise response to medical treatment slows down the progression of the disease (Castleman *et al.*, 2003). Nutritional support for infected people is therefore crucial and should encompass food security, health and care aspects.

Besides nutrition, gender is fundamental in understanding household food security. Within households, women are the caretakers of food and nutrition security. Women's reproductive role includes ensuring food and nutrition security for all household members (Niehof, 2003). Ensuring household food and nutrition security involves a range of tasks women have to complete, including cultivation of food crops, procurement of food, gathering or exchanging food, and food processing and preparation. While women are responsible for producing, gathering and preparing food, they are severely constrained by their limited access to and control over resources and assets that are essential for ensuring food security. Such resources and assets might include access to land, agricultural inputs, formal credit facilities, appropriate technologies and training and extension services (March *et al.*, 1999). Entitlements that facilitate access to assets and resources are gender-specific and hence require a gender analysis of household food security (Niehof, 2003).

Food insecurity and vulnerability

People's entitlements to food are affected by poverty and vulnerability, which are interrelated. Individuals, households or particular groups in a given population are vulnerable when they are not able to cope with adverse events that may happen to them (FFSSA, 2004). Vulnerability to food insecurity refers to a wide range of causal factors that make that people do not have sufficient food to meet their basic requirements and that affect their ability to respond to adverse situations. Vulnerability to food insecurity can take place at various levels, ranging from country or community levels as a result of war or climatic shocks to household and individual levels as result of factors like gender, ethnicity, political membership, health and intra-household discrimination. In general, vulnerability to food insecurity is a result of a decline in access to endowments like land and labour and in entitlements.

The causal factors that make households more or less vulnerable to food insecurity differ across households and range from environmental, economic and political factors to stagnating agricultural production, intra-household food distribution issues, access rights to resources and assets, and erosion of the household asset

base. Some examples of households in southern Africa that are more vulnerable to food insecurity than the population at large include (Ellis, 2003; FFSSA, 2004):

- ❖ Low-income households that are not able to accumulate savings or assets to overcome shortfalls and livelihood shocks;
- ❖ Households in areas prone to natural disasters such as drought or floodings;
- ❖ Households in areas prone to frequent conflicts, volatile markets, and policy changes;
- ❖ Households in remote areas as a result of reliance on one or two livelihood sources, lack of livelihood diversification opportunities, high transport costs, and lack of access to diverse information sources;
- ❖ Households that are discriminated against and thus cannot fall back on social entitlements;
- ❖ Households headed by elderly who have few assets or are unable to use their assets effectively, or have additional burdens such as caring for ill children and looking after orphaned grandchildren;
- ❖ Households headed by widows, divorced or separated women as they might have lost access rights to land and lack the previous partner's contribution to the household food security;
- ❖ Households affected by HIV/AIDS or other chronic illnesses as a result of labour constraints and distress sale of assets to cover medical and funeral expenses.

Food insecurity, HIV/AIDS and the 'new variant famine' hypothesis

During the 2002-2003 food crisis in southern Africa, Alex de Waal argued that HIV/AIDS has such serious adverse impacts on the food security situation that it results in what he calls a 'new variant famine'. The 'new variant famine' is not a short-term episode of acute food insecurity like conventional famines but rather is a new kind of acute food crisis in which there is limited recovery (De Waal, 2002). HIV/AIDS has made households more susceptible to external shocks and less resilient to these shocks. The 'new variant famine' hypothesis does not exclude other causes of the 2002-2003 crisis such as drought and mismanagement of food reserves, but rather sees the negative impacts of these other causal factors as compounded by HIV/AIDS. De Waal (2004) argues that climatic conditions alone cannot explain the widespread vulnerability to famine seen in southern Africa in 2002-2003.

The 'new variant famine' was introduced as the theory behind conventional famines in Africa depends on assumptions that do not necessarily apply in areas impacted by HIV/AIDS. De Waal and Whiteside (2003) indicate four new factors, which are characteristic for the HIV/AIDS epidemic:

1. Household-level labour shortages due to adult morbidity and mortality, and the related increase in numbers of dependants;

2. Loss of assets and skills due to adult mortality;
3. The burden of care for sick adults and children orphaned by AIDS;
4. The vicious interactions between malnutrition and HIV.

These factors distinguish the new from the old famine in several ways. First, HIV/AIDS has an adverse impact on the coping strategies that people traditionally use during a food crisis in the conventional famine model (cf. De Waal, 1989; Devereux, 1993; Davies, 1996). From a famine perspective, coping strategies are those activities households undertake to avert declines in food availability in abnormal seasons or years (Davies, 1996). AIDS undermines households' ability to respond to a food crisis by eroding their asset-base. Furthermore, AIDS renders many of the traditional strategies impossible or dangerous (De Waal and Whiteside, 2003). For example, reducing adult consumption is a widespread strategy in conventional famines but is dangerous for adults with AIDS who have higher than normal nutritional requirements. Also, in the 'new variant famine', conventional coping strategies that depend on labour input is less of an option as AIDS has adverse impacts on the household labour force. Furthermore, in a conventional food crisis, it may take two seasons before households descend from coping strategies that are based on altering consumption, family networks, food-for-work and gathering wild foods, to selling assets and turning towards transactional or commercial sex. According to De Waal (2002), in the 'new variant famine' this descent to transactional sex occurs more rapidly and in turn threatens to increase HIV transmission.

Second, the 'new variant famine' has a different demographic profile than the conventional famine. In drought or conventional famines death occurs more among children and the elderly, which results in a lower dependency ratio. By contrast, HIV/AIDS attacks prime-aged men and women, with more women being infected by HIV than men. In the 'new variant famine', the dependency ratio thus increases.

Third, and perhaps the most distinctive feature of the 'new variant famine' hypothesis is that of limited recovery. In the typical drought famine rural households do normally recover and the social networks that households relied on in order to cope with the food crisis can be rebuilt (De Waal and Whiteside, 2003). However, the impacts of HIV/AIDS are such that the recovery capabilities of rural households are much reduced.

So far, the 'new variant famine' remains a hypothesis that has not been tested. De Waal and Whiteside (2003), however, stress that the hypothesis provides a framework for policy-making and relief provision. The concept of 'new variant famine' has received much attention. Amongst its critics is Bolton (2003) who comments that the 'new variant famine' is exaggerated, as the Southern Africa food crisis did not result in mass starvation. Even in the most affected countries, the impacts of HIV/AIDS alone have not resulted into a large-scale famine (Harvey, 2004). According to Harvey, HIV/AIDS is one of the underlying factors that

predispose poor people to a possible famine and heightened mortality in emergencies. Hence, it is important to understand how the additional vulnerability as a result of the AIDS epidemic relates to other shocks that combined may lead to famine or humanitarian crisis, which is what the 'new variant famine' model aims at doing. The fact that the impact of HIV/AIDS in its own right has not led to high levels of mortality and malnutrition for substantial populations over a large area, as is often the case in conventional famines caused by climatic conditions or conflicts, also has to do with the nature of HIV/AIDS. While conventional famines attack all households in a given area, who depending on their initial asset-base are more or less resilient, HIV/AIDS does not affect all households within a specific area but seems to cluster within households (Barnett and Whiteside, 2002). HIV/AIDS and its impacts cluster within households due to conjugal and mother-to-child transmission and creates a so-called leopard skin effect of households who experience a food crisis living amongst households who are relatively food secure. Another critique is that the 'new variant famine' has failed to fully integrate gender into its analysis (Gibbs, n.d.), while, as discussed above, AIDS impacts are gender-specific. Furthermore, women and men tend to adopt different coping strategies during a food crisis because of their differences in access to and control over resources and assets (Wawire, 2003). As such, gender directs the outcomes of the 'new variant famine' and consequently the interaction between the AIDS epidemic and famine cannot be understood without gender analysis.

2.6 The livelihood perspective

Livelihood approaches are becoming paradigmatic in the debate about rural development and poverty as they put people at the centre and take the problems and priorities of people as a starting point for analysis and planning. A livelihood perspective to development does not replace other rural development approaches but rather builds on them (Carney, 1999). In this research a livelihood perspective was adopted to understand how AIDS in a particular context impacts the multiplicity of livelihood strategies that households pursue to ensure income and food security and what combination of assets and resources households draw on to respond to these impacts.

2.6.1 Livelihood

The concept livelihood has been widely discussed, resulting in a range of different definitions. In general, these definitions show that livelihood is about the ways and means people make a living as well as the resources people have and how they use these. Chambers (1989: 7) defines livelihood as "adequate stocks and flows of food and cash to meet basic needs". The definition of livelihood commonly used is that from Robert Chambers and Gordon Conway: "A livelihood comprises the capabilities, assets and activities required for a means of living" (Chambers and Conway, 1992: 6). These assets can be tangible, such as livestock and stores, and intangible, such as claims and access. A livelihood is considered sustainable when

it “can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base” (Carney, 1998: 2).

According to Ellis (2000: 10), a livelihood comprises the activities, the assets, and the access to these that jointly determine the living gained by an individual or household. Livelihood generation involves all activities people undertake to meet their basic needs and the term livelihood is used for the outcome of those activities (Niehof and Price, 2001). Campilan (1998: ix) quotes the definition of the World Commission on Environment and Development (WCED) for livelihood: “adequate reserves and supplies of food and cash to meet basic needs”. In line with the WCED definition, Chambers (1989: 7) refers to livelihood as “adequate stocks and flows of food and cash to meet basic needs”.

Niehof and Price (2001) express concern about the fact that the various livelihood definitions fail to distinguish between the dimensions of process, activities, outcomes and assets and resources. They comment that the flows and stocks of food and cash Chambers and WCED refer to do not appear out of nothing but are generated through a bundle of interrelated activities on the basis of resources and assets. According to Niehof and Price, the various different activities households undertake to generate a livelihood suggest the workings of a multifaceted and dynamic system, also called the livelihood system. The livelihood system comprises inputs, which they call resources and assets, and throughputs, which comprise the processing, use and management of the inputs, which together generate a desired output or livelihood.

The work of Chambers, Conway and others led to the development of the sustainable livelihood framework in the late 1990s that was adopted by the UK Department for International Development (DFID) and various other development agencies. Other livelihood frameworks have also been developed such as the household livelihood security framework developed by CARE International. The livelihood framework has been developed as an analytical device to help understand the complexity of livelihoods of the poor and the different influences on poverty in order to identify appropriate interventions.

A livelihood framework is based on the assumption that people operate in a particular vulnerability context, which is defined by for example climatic variations, short-term economic shocks and longer-term trends. Within this context, people draw on a combination of livelihood assets or capitals (human, social, financial, physical and natural) to pursue a variety of livelihood strategies that would result in a range of livelihood outcomes, which are more or less measurable, such as food security, income, health, well-being and reduced vulnerability. The livelihood strategies that people adopt and the way they reinvest in asset-building are driven by their own preferences, priorities and needs (Farrington *et al.*, 1999). However, access to assets and livelihood strategies and the way assets and livelihood activities are converted into livelihood outcomes are also much influenced by the

vulnerability context and by the prevailing institutional and organisational environment (Brons *et al.*, 2007).

2.6.2 The five capital dimensions

Central to the livelihood framework are the resources and assets on which people draw to pursue a day-to-day living as well as to cope with a situation of crisis when necessary. Resources are the direct means to satisfy livelihood needs (Niehof, 2004c). Several types of resources can be distinguished, including human resources such as skills and labour, material resources, such as land, household water supply, livestock, farm and productive equipment and income, and environmental resources, such as water and trees, but also institutions, kinship networks and formal and informal organisations (Engberg, 1990).

Assets are a range of tangible and intangible stores of value, such as jewellery, cash savings and credit schemes, or claims to assistance (Swift, 1989: 11) and can be converted into resources to pursue one's livelihood strategies or to respond to stress and shocks. Households are seen to construct their livelihood strategies by drawing on five 'capitals': human capital, social capital, financial capital, physical capital and natural capital. In order to create livelihoods, households must combine their different capital endowments (Scoones, 1998). Access to the different capitals will influence people's ability to ensure an adequate livelihood. Different households and members of it have different access profiles to capital endowments, depending on institutional arrangements, traditional and legal factors and power (De Haan, 2000). This thus calls for a disaggregated analysis of livelihoods, which looks at individuals or groups of social actors in relation to access and control over assets and resources.

A critique often expressed by social scientists has been that the livelihood perspective (and the use of the phrase 'capital') is too much economically oriented (De Haan, 2000). Livelihoods are often analysed in economic terms such as opportunity, investment, risk, and gain, and emphasis is placed on material aspects such as production and income. One of the underlying thoughts of the livelihood approach is that it seeks to achieve multiple livelihood outcomes, to be determined by people themselves, which implies that livelihood generation is not merely a matter of income or material achievements. This means that livelihood should be seen as a dynamic and holistic concept, which includes both material and non-material aspects of well-being (Niehof, 2004b). Or as Bebbington (1999: 2022) summarised, a holistic understanding of livelihood means that a "person's assets, such as land, are not merely means with which he or she makes a living: they also give meaning to that person's world. Assets are not simply resources that people use in building livelihoods: they are assets that give them the capability to be and to act. Assets should not be understood only as things that allow survival, adaptation and poverty eradication: they are also the basis of agents' power to act and to reproduce, challenge or change the rules that govern the control, use and transformation of resources". Another critique on the livelihood framework with its

focus on capital assets is the lack of attention paid to culture in much of the livelihood research. Culture is an important factor that influences households' livelihood strategies and their abilities to cope with shocks. By and large, culture determines one's behaviour, defines what deviant behaviour is, and how in the end this behaviour can break or make the structures that keep people poor (Brons *et al.*, 2007: 5). Furthermore, cultural stigmas can discriminate against groups and exclude certain groups from informal institutions.

Social capital

The concept of social capital is not new and has been studied extensively in the past under various labels (Portes, 1998). The term social capital as it is presently used was popularised by amongst others Bourdieu (1985), Coleman (1990) and Putnam (1993). Even though social capital is now widely used in literature, authors differ in their thinking about social capital and there exist a multitude of definitions of the concept.

Pierre Bourdieu (1986: 248) defined social capital as "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalised relationships of mutual acquaintance or recognition". Social capital is made up of "social obligations (connections), which is convertible, in certain conditions, into economic capital and may be institutionalised in the form of a title of nobility" (1986: 243). He sees social capital as a resource that is generated through family and group relationships and through which a range of capital assets is transmitted across generations. James Coleman (1990: 300) defines social capital as "social relationships, which come into existence when individuals attempt to make best use of their individual resources". To him, social capital is part of people's family relationships, particularly inter-generationally, which helps to increase human capital, which in turn results into economic returns. For example, Coleman explains how investments by parents into their children's education contribute to the intergenerational transfer of social norms of trust and cooperation and the producing of economic rewards (cf. Edwards, 2006). According to Robert Putnam (1995: 67), social capital comprises the "features of social organisation such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit". He sees social capital as a public rather than individual good and stresses the trust and reciprocity between people that enables collective action in terms of economic development (cf. Edwards, 2006). In line with Putman, Moser (1998: 10) defines social capital as "reciprocity within communities and households based on trust derived from social ties". According to Moser (1996), the norms, trust and reciprocity networks that facilitate mutually beneficial cooperation in a community are an important asset as they help to reduce vulnerability and increase opportunities. Following Swift (1989: 8), social capital is "made up of both networks of ascriptive and elective relationships between individuals, which may be vertical as in authority relationships, or horizontal as in voluntary organisations, and of the trust and expectations which flow within those networks". Vertical claims in this case comprise, for example,

claims on patrons, chiefs and politicians that are expected to be met in times of crisis.

After reviewing the wide range of existing definitions of social capital from different disciplines, Adler and Kwon (1999: 4) distinguish three broad categories. The first category of social capital definitions includes that of Bourdieu and has an external focus, meaning it focuses on the relations an actor maintains with other actors. Social capital is seen as a resource that facilitates actions of individuals and groups by virtue of their direct and indirect links to other actors in social networks. The second category comprises social capital definitions that have an internal focus and that see social capital as the result of the structure of relations between individuals or groups within collectivities, such as organisations and communities, and of the specific features that give these collectivities cohesiveness and its associated benefits. The social capital definitions of Coleman and Putnam fall within the category. The third category allows for both points of view.

Adler and Kwon (1999: 12) further distinguish three kinds of social capital benefits. First, social capital facilitates access to broader sources of information. This could for instance be information on employment opportunities, market prices, credit and saving possibilities, and the technologies and innovations. Second, social capital yields power and influence. Being connected to an individual who has accrued relatively more power helps to get things done. Third, social capital results in solidarity. Strong social norms and beliefs, which are often found in closed social networks, make individuals comply with the established rules and customs and hence reduce the need for formal checks. Social capital also helps individuals and households in coping with uncertainties, ill health, food deficits, financial needs and other stresses. Kinship networks, neighbours, friends and the community are important coping mechanisms for the rural households. In particular extended kinship networks are an important asset for households to make claims for support (Niehof and Price, 2001). Claims are the “demands and appeals, which can be made for material, moral or other practical support or access” (Chambers and Conway, 1992: 11). Generally, people put claims on their kinship ties for food, financial assistance or labour at a time of stress or shock.

Social networks and relations may also exert a negative influence (Adler and Kwon, 1999). In contrast to its benefits, social capital has its limits and in fact can also turn sour (Moerbeek, 2001). For example, while social networks provide benefits by facilitating access to scarce resources, it also entails having claims made upon one's resources (May, 1996). Particularly, in times of stress such as HIV/AIDS these claims can overstretch social networks. Portes (1998: 15-17) outlines several negative attributes associated with social networks. Social networks can exclude outsiders as the same strong ties that yield benefits to group members can prevent others from access. Also, an excess of claims on group members can prevent the success of the group business venture or that of the individual members. Finally, strong enforcement of local norms tends to restrict individual freedom and autonomy.

Human capital

Human capital is the sum total of ability to labour, skills, knowledge, experience, education and good health that enables a person or household to pursue different livelihood strategies. Education, both formal and workplace skills, is an important component of human capital that contributes to improving livelihood prospects and is closely associated with poverty (Ellis, 1999). High levels of poverty often correspond to low levels of education and lack of skills. HIV/AIDS also has implications on the present and future educational level of household members by disrupting the transfer of gender-specific knowledge and skills and through the need to withdraw children, and especially girls, out of school to assist in household domestic and productive activities.

Good health and nutritional status are also key components of human capital as they relate to peoples' working potential and productivity (Jafry, 2000). Illness, like HIV/AIDS affects people's ability to carry out essential activities and often has a particularly negative bearing on women. In many societies, women are traditionally assigned a nurturing role meaning they are responsible for caring for the sick as well as for the domestic and food production activities of the household.

Nutritional inadequacy also effects people's working capacity as it diminishes people's strength and energy to carry out physical work. HIV/AIDS has a negative impact on people's nutritional status and hence their productivity through an increase in resting energy expenditure, a reduction in people's food intake, nutrient malabsorption and loss, and complex metabolic alterations that result in weight loss and wasting (Piwoz and Preble, 2000).

Natural capital

Natural capital comprises the natural resources such as land, water, biological resources, forest and pasture areas on the basis of which households derive their livelihood. This natural resource base provides households with the means for production, income generation, consumption, medicines, shelter and energy supply. To preserve or enhance the natural resource base for the present and future generations is an important aspect of sustainable livelihoods. Livelihood activities are regarded as unsustainable when they damage the natural resource base by contributing to desertification, deforestation, soil erosion, salinisation and so forth (Chambers and Conway, 1992). Natural capital is especially important for rural households as production of food and income relies on it. It is important for rural women whose livelihood and domestic activities are more dependent on the natural environment than that of men. Typically, women are responsible for collecting fuelwood and wild foods from nearby forest areas and drinking water from rivers or streams as well as for producing food crops and raising small animals. Consequently, women gain more indigenous knowledge about local species and the natural environment (Sachs, 1996).

Financial capital

Financial capital includes cash, savings, loans or credit and other economic assets available to households and is a crucial input for pursuing a livelihood. Household's access to financial capital may be derived from their flows of income, the conversion of their production into cash, and formal and informal borrowing. HIV/AIDS puts a severe strain on households' financial capital through high medical bills, funeral costs and related transport expenses. Also, HIV/AIDS impacts financial capital through reduced income from on and off-farm sources as a result of sickness and death.

Physical capital

Physical capital may include houses, productive tools and equipment, food stocks and livestock as well as basic infrastructure like roads, electricity, schools, health clinics and market facilities people rely on to sustain their livelihood. Physical capital is important for rural households to facilitate livelihood diversification (Ellis, 2000). Physical capital also forms an important ingredient to people's ability to respond to livelihood shocks such as HIV/AIDS, as it enables them to sell some of their domestic and productive goods to meet the rising costs of illness and death. In doing so, households will try to preserve productive assets as long as possible in order not to undermine the future household survival (De Waal, 1989; Maxwell and Frankenberger, 1992).

Poor people will have to balance competing needs for preserving their assets, generating income and securing present and future food supplies (Maxwell and Smith, 1992). As a consequence people may decide to go hungry up to a certain extent in order to meet another objective as was found during the mid-80s famine in Sudan, where people chose to go hungry to preserve their assets and hence their future livelihoods (De Waal, 1989; Frankenberger and McCaston, 1998). According to the work of Corbett (1988) on the sequence of behavioural responses households employ in times of stress, households in several African and Asian countries prioritise asset preservation above ensuring immediate food needs until they reach a point of destitution.

2.6.3 Household livelihood strategies

Livelihood strategies include the different activities households undertake on the basis of the different assets they have access to in order to generate a livelihood. They might comprise a range of activities, including paid work and unpaid work, food and livestock production, accumulation and investments, borrowing, small enterprise development, social networking, community managing and cooperation (Engberg, 1996). The term livelihood strategy implicitly refers to long-term strategic planning of activities that is based on a careful consideration of a household's access to a diversity of assets and of the desired outcomes. Anderson *et al.* (1994: 20) define strategy as "the overall way in which individuals, and possibly collectives, consciously seek to structure, in a coherent way, action within relatively

long-term perspectives". According to Goldsmith (1996: 89), a strategy is "a plan of action, a way of conducting and following through on operations". In other words, using the term livelihood strategies tends to make the assumption that households behave as strategic managers in planning their livelihoods outcomes, by selecting from a particular and context-specific range of actions available to them (Moser, 1996; Carney 1998). However, the actual situation can be such that households do not have a range of options to choose from that permits long-term planning for the future but have to make trade-offs in order to survive in the present.

The term strategy further implies a decision-making process whereby the household, in a coherent manner, plans its actions. However, in reality the decision-making that underlies household livelihood strategies is complex. The interests, priorities and objectives of a household, the resources available and the context of a household all influence the decisions on the activities a household undertakes to satisfy its needs in the short- and long-term. Furthermore, decisions on livelihood strategies depend on what development, poverty and livelihood mean to people, the constraints under which households make their decisions and the power relations at play (Bebbington, 1999). Generally, livelihood choices taken within a household are aimed at consensus, and livelihood strategies are seen as a collective action. Individual members, however, can adopt their own strategies and take their own decisions, which might or might not benefit the household as a whole (Niehof and Price, 2001). Power, gender and age are crucial factors that influence decision-making processes in the household. While men and women, as well as boys and girls are engaged in a household's livelihood strategies, decisions on these strategies are taken along the lines of each gender's domain of responsibilities and the resources he or she has control over (Niehof and Price, 2001). Women and men have distinct decision-making authority: women usually make decisions related to their reproductive and food production roles, while men tend to make long-term decisions.

The livelihood approach distinguishes three broad clusters of livelihood strategies, which tend to cover the range of options open to rural people (Scoones, 1998):

1. Agricultural intensification, i.e. an increase of output from a given amount of land through more labour or capital investments, vs. agricultural extensification, i.e. an increase in land under cultivation;
2. Livelihood diversification, meaning households adopt a range of on-, non- and/or off-farm activities;
3. Migration, i.e. households members move away, temporarily or permanently, in search of a livelihood elsewhere.

Households gain their livelihood either from agricultural intensification or extensification, diversification of a range of activities, migration, or most commonly pursue a combination of these three strategy domains, also called a 'livelihood portfolio'. Some livelihood portfolios can be highly concentrated on one or a limited

range of activities, while other portfolios may be very diverse. Ellis (2000) points to the importance of constructing a diverse portfolio of activities as diversification improves the standard of living, reduces vulnerability and enhances a household's ability to cope with adversity. Hence, the more diverse the livelihood portfolio the better off is the rural household (Ellis, 1999). The degree to which a household diversifies its livelihood portfolio depends to a large extent on the resource endowments available as well as the amount of risk involved with alternative options (Scoones, 1998; Niehof, 2004c).

2.6.4 Policies, institutions and processes

Central to the livelihood perspective is the analysis of formal and informal organisational and institutional factors that influence livelihood outcomes (Scoones, 1998). These are also called the policies, institutions and processes dimension of a livelihood approach. The policies, institutions and processes (previously called the transforming structures and processes) dimension of livelihood approaches constitutes the social and institutional context in which livelihoods are constructed. The policies, institutions and processes dimension comprises a range of issues that influence people's lives, including formal and informal organisations at various levels and the services they provide, institutions, the policy environment, social relations, participation, power, authority, and processes such as decentralisation (Ellis, 2000; Goldman *et al.*, 2000). They influence the household's access to assets and resources, shape the context of vulnerability and set opportunities for pursuing various livelihood strategies (Pain and Lautze, 2002).

Policies are usually formulated and implemented at different government levels and influence household decision-making and their access to and control over livelihood assets. For example, policies designed specifically to influence natural resource use and to protect the environment may limit poor people's access to resources they traditionally depend on for their livelihoods. The 'processes' part of this dimension is a linking factor and comprises the processes of change in policies and institutions. For example, processes could include a shift towards political and fiscal decentralisation, meant to improve the performance of agencies that have the capacity to positively influence livelihood prospects and choices (Ellis 2000).

The 'institutions' part of the policies, institutions and processes dimension refers to both the concepts of 'institutions' and 'organisations', which may lead to confusion. Generally, the term institution refers to the rules and processes that govern relationships within and between different organisations and between organisations and the public (North, 1990; Ostrom, 1990). Institutions influence access to assets as well as the composition of portfolios of livelihood strategies. Understanding institutional processes is thus an important aspect of a livelihood perspective as it allows the identification of restrictions and opportunities to secure a livelihood. Institutions can be both formal and informal. Formal institutions refer to the role of the state, for instance in formulating and enforcing laws, regulating markets or extracting taxes (Pain and Lautze, 2002). Informal institutions include customary

practices related to marriage, gender, inheritance and ownership, access to and control over assets and resources. Informal institutions such as customary laws about land access and inheritance are not always visible as they may not be well-defined or have written statutes. Yet, they have clear value for many people in a given society and affect their livelihoods. Formal and informal institutions are dynamic and are subject to a process of continual negotiation and change according to context and power.

Institutions are to be distinguished from organisations, which refers to a structure of recognised and accepted roles or positions that may operate on a formal or informal basis (Uphoff, 1986). Organisations are also often referred to as the hardware that formulates and implements policy and legislation, delivers services, and performs all other functions that affect people's livelihoods positively or negatively. Organisations include different levels of government as well as non-governmental organisations, community-based organisations and the private sector. In particular, non-governmental and community-based organisations play an important role in facilitating capabilities and choices for individuals and households (Farrington *et al.*, 1999).

2.6.5 Vulnerability context

People's livelihoods are formed by the assets they have access to and the external environment they live in, which influences the local context and constitutes the external side of vulnerability. This as opposed to the internal side of vulnerability, which refers to the characteristics of individuals, households or groups that enable or disable them to cope with and recover from stress and shocks (Brons *et al.*, 2007). The external environment comprises a range of policies, institutions and processes and a vulnerability context. The vulnerability context includes trends, shocks and seasonality, which affect people's livelihoods but over which they have limited control (DFID, 1999).

Trends are long-term changes that may affect people's livelihoods positively or negatively. Examples of trends include changes in population growth (or composition), economic conditions such as globalisation, patterns of governance and environmental conditions such as global warming. Seasonal changes, such as in prices, production and employment opportunities can reduce or increase the availability of certain resources people rely on for their livelihoods at different times of the year. Shocks are violent and come unexpectedly and may all of a sudden reduce a households' assets-base and/or limit the possibilities to convert these assets into livelihood outcomes. Shocks include natural disasters, wars or civil unrest, and episodes of human, crop or animal diseases. De Haan (2000) distinguishes three sources of shocks: 1) environmental shocks, such as the 2000 El Niño floods in Mozambique or an earthquake; 2) economic shocks, including price fluctuations and monetary instability; and 3) political shocks, such as the violent conflicts in Rwanda, Liberia and the Democratic Republic of Congo. When

facing a shock, households temporarily adopt strategies to preserve their livelihoods that are called 'coping strategies' (Davies, 1996).

The vulnerability context differs from the policy, institutions and processes dimension of the external environment in that it comprises trends, shocks and seasonality that are normally regarded as exogenous, while the policy, institutions and processes dimension consists of social and political aspects that are endogenous to the norms and rules of a society. In other words, the vulnerability context causes effects on livelihoods over which people have little or no control, while policies, institutions and processes are the result of politics, decision-making and negotiation processes, in which local communities can actually or potentially engage and have a say (Ellis, 2000). Increasingly, HIV/AIDS is treated as a part of the vulnerability context, especially in regions or countries with high HIV prevalence rates (Blaikie *et al.*, 1994; Barnett *et al.*, 2000; Seeley, 2001; Stokes, 2004). However, HIV/AIDS is not an exogenous factor that is completely beyond the control of, and unrelated to, household livelihood systems. HIV/AIDS is endogenous to household livelihood systems that are formed and influenced by human beings at different levels (Loevinsohn and Gillespie, 2003). While it is true that many, especially women and children, have little or no control over their susceptibility to HIV infection, the underlying gender roles, cultural norms and power asymmetries that determine this risk are endogenous to a society. Altering these norms and rules is possible but might take generations. In reality, AIDS is neither entirely endogenous nor exogenous. While behavioural factors that lead to an increased HIV risk can to a certain extent be treated as endogenous, many other factors that enable the transmission of HIV, such as poverty, inadequate investment in health care, and parasitic and infectious diseases (Stillwaggon, 2006) cannot.

2.6.6 Livelihood outcomes

Livelihood outcomes are the achievements or outputs of livelihood strategies by drawing on a range of assets (Farrington *et al.*, 1999). These in turn are influenced by the vulnerability context and the policies, institutions and processes people face. Generally, people pursue a range of livelihood outcomes such as food security, income security, good health, well-being, high status, reduced vulnerability, and so forth. The actual interpretation of these livelihood outcomes is subjective and varies among people and households. Livelihood outcomes are not the end of a one-way track but rather part of a dynamic process, whereby livelihood outputs can strengthen or weaken the resource-base of a livelihood system (Niehof, 2004b). Or as Niehof (2004c: 325) puts it, "livelihood generation proceeds in a cyclical mode, which may take the form of either an upward or a downward spiral".

The quality of livelihoods can be characterised by their degree of sustainability or, at the other extreme end of the continuum, vulnerability (Niehof and Price, 2001). Chambers and Conway (1992) define sustainability as the ability of a livelihood to cope with and recover from stresses and shocks, while maintaining or enhancing

capabilities and assets and providing livelihood opportunities for the next generation. The sustainability of a livelihood depends on the extent of stable assets and resources households have access to and control over and how these assets are utilised, maintained and enhanced so as to preserve them. The ability to cope with and recover from stresses and shocks is central to the definition of sustainable livelihoods (Scoones, 1998). Security is another important dimension of livelihood sustainability (Chambers and Conway, 1992). Livelihoods are considered to be secure when households have secure ownership of, and access to, assets, resources and income generating activities, including reserves to offset risks, ease shocks, and meet contingencies (Chambers, 1989). Chambers and Conway (1992) distinguish sustainability into environmental and social sustainability. Environmental sustainability refers to whether livelihood activities are able to maintain and enhance the natural resource base at different levels or whether it leads to environmental degradation. Social sustainability focuses on the human side and is concerned with whether people or households are able not only to gain but also to maintain an adequate and decent livelihood.

Vulnerability as opposed to sustainability refers to households who are unable to cope with shocks or adapt to longer-term trends (Scoones, 1989). According to Chambers (1989), vulnerability refers to defenceless, insecurity and exposure to shocks and stress. Livelihoods are considered to be vulnerable when they have neither enough assets nor the capabilities to create or access them to provide for basic needs, let alone to create a surplus to cope with a crisis (Niehof, 2004c). Typically, these households are burdened with responsibilities such as having to care for sick members or living in a hazardous environment. In order to reduce their vulnerability, households require the means to make investments, to build up stores and to establish claims that make them less insecure (Chambers, 1989).

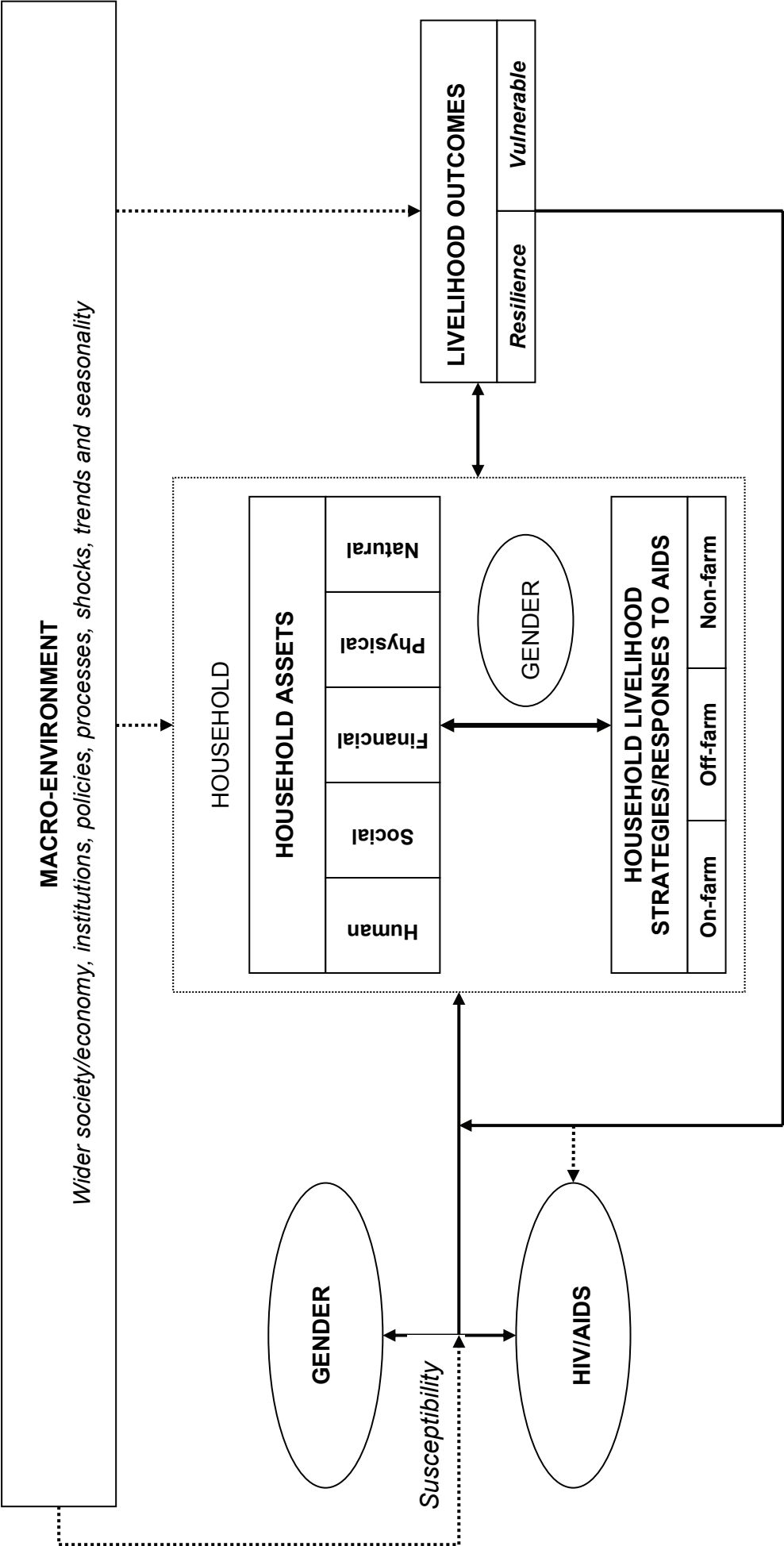
2.7 Conceptual framework

Based on the various concepts described above, a framework is presented that guided the research and analysis. Figure 2.1 shows the framework developed to understand the interface of AIDS, gender and rural livelihoods. The framework is based on the livelihood framework of Farrington *et al.* (1999). The research adopted a livelihood approach to study the impacts of HIV/AIDS and its interaction with gender as it helps to understand the complexity of livelihoods of the poor and the different influences that shape people's life. Furthermore, HIV/AIDS and livelihoods are interlinked: on the one hand, livelihoods may in different ways expose individuals less or more to HIV risk; on the other hand, livelihoods might enable or limit households in their response to HIV/AIDS.

At the centre of the framework is the household, which is regarded as the locus of livelihood generation and where decision-making takes place (Niehof, 2004c). It is the main unit of analysis of this research. The household has access to a combination of resources and assets (human, social, financial, physical and

natural), which they draw on to pursue a variety of livelihood strategies that would result in a range of livelihood outcomes. These outcomes include such things as food security, income, health, well-being and reduced vulnerability. These livelihood outcomes, in turn, influence people's susceptibility to HIV infection and their ability to respond to AIDS. The framework helps to understand how HIV/AIDS and gender interact, their direct and indirect impact on the household asset-base, and the capabilities of households to convert these into livelihood outcomes. It provides insight into the different responses of households towards AIDS impacts and whether households were able to avoid some of adverse impacts on their livelihoods (resilience) or were not able to do so (vulnerable). The framework also helps to understand how the macro-environment influences people's livelihoods, make rural households vulnerable to HIV/AIDS impacts, and put them at greater risk to HIV exposure. Different factors such as the vulnerability context and the prevailing policy and institutional environment have an impact on the household asset-base and their choice of livelihood strategy and influence what resources different households are able to mobilise to respond to AIDS impacts. The benefit of a livelihood framework is thus that it helps to understand various other factors that influence livelihoods and that might or might not interact with HIV/AIDS.

Figure 2.1 Conceptual framework: nexus to AIDS, gender and rural livelihoods



3 INTRODUCTION TO THE STUDY AREA

This chapter provides a description of the study area, the Northern Province of Zambia. Particular attention will be paid to the poverty situation, macro-environment, food and livelihood security and HIV/AIDS.

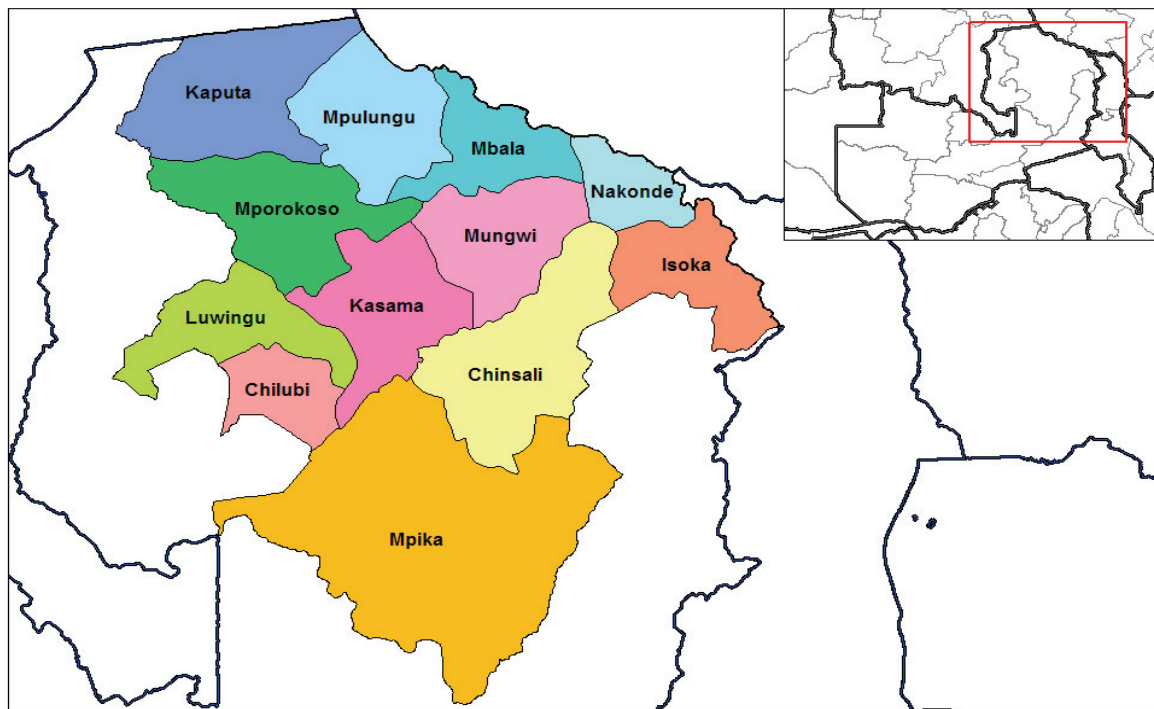
3.1 Introduction

Zambia is a land-locked country situated in Southern Africa. It shares borders with Tanzania and the Democratic Republic of the Congo in the north; Mozambique and Malawi to the east; Zimbabwe and Botswana to the south; Namibia in the south-west and Angola in the west. It enjoys vast land resources of 75 million hectares and lies on a fairly high plateau averaging about 1,300 metres above sea level. Zambia has a population of 9.9 million (CSO, 2003a), with 65 percent living in rural areas. The economy is largely based on mining of copper, agriculture and, increasingly, tourism. Zambia has vast mineral resources in the Copperbelt and North Western Provinces, where mineral deposits of copper, cobalt, zinc, lead, coal, gold and silver is found.

Administratively, the country is divided into nine provinces, namely Central, Copperbelt, Eastern, Luapula, Lusaka, Northern, North-Western, Southern and Western provinces. These provinces are further divided into a total of 73 districts. Lusaka is the capital city of Zambia and seat of the government. The Northern Province, the area under study, is the largest administrative region in Zambia, covering an area of 148 000 square kilometres, or about 20 percent of the country's territory. It is divided into 12 districts (Fig 3.1): Kasama, Mpika, Mbala, Isoka, Nakonde, Chinsali, Mungwi, Mpulungu, Mporokoso, Luwingu, Chilubi and Kaputa. According to the 2000 population census (CSO, 2003a), the Northern Province has a population of 1,407,088 people with an average density of 9.5 people per square kilometre. The annual population growth rate is 4.3 percent, which is the highest of all the nine provinces. An estimated 50.5 percent of the province's total population is female and 49.5 percent male. The provincial capital, Kasama, has the highest population of the province and is home to 12.8 percent of the population.

The provincial road network is in a poor state. While the province has a total area of 148,000 square kilometres, it has only about 900 kilometres of tarmac, of which a large portion is in dire need of rehabilitation. Four of the province's 12 districts are not connected by tarred roads. The rest are gravel roads, which have deteriorated as a result of heavy rainfall and become impassable during the rainy period. Two major all-weather tarred roads cross the province: the Great North Road and the Mpika-Mbala/Mpulungu Road. The Great North Road is the main trunk route for imports and exports to and from Tanzania and other East African countries, while the Mpika-Mbala/Mpulungu Road serves to transport goods for export and import through the port of Mpulungu on Lake Tanganyika. Furthermore, the Tanzania–Zambia Railway line passes through three districts in the province – Mpika, Kasama and Nakonde.

Figure 3.1 The Northern Province, Zambia (study area)



Several rivers and streams criss-cross the province, which during times of very heavy rains tend to burst their banks, especially the Chambeshi and Luangwa rivers. The province is also endowed with three large natural lakes; Lake Mweru-wa-Ntipa in Kaputa District, Lake Bangweulu in the south-west and Lake Tanganyika in the north, which forms part of Zambia's border with Congo and Tanzania. The province has abundant land, water, wildlife and forests. There are four major fisheries in the province: Lake Tanganyika, Lake Mweru-wa-ntipa, Lake Bangweulu, and the Chambeshi River, which together contribute to about 30 percent of Zambia's fish production. The forest areas in the province provide a resource for income-generation through the collection and sale of caterpillars,

mushrooms, wild fruits, orchids and honey. The forest is also an important resource for slash-and-burn cultivation (*chitemene*) and provides material for charcoal burning, fuelwood and timber.

3.2 Poverty situation

Zambia, once one of the prosperous economies in sub-Saharan Africa, now is one of the least developed countries. It ranked 165th out of 177 countries on the UN Human Development Index of 2006 (UNDP, 2007). In 2004, 68 percent of the population lived below the poverty line of one USD a day. Furthermore, poverty was higher in rural areas with 78 percent of the population living in poverty, compared to the 53 percent found in urban areas. Across urban and rural areas, over 60 percent of female-headed households are extremely poor compared to 51 percent of male-headed households (PRSP, 2002). Income inequality is particularly high in Zambia with five percent of the population receiving almost 50 percent of the national income. Furthermore, the middle class has shrunk considerably in the last decade as many professional Zambians leave the country in search of better employment opportunities elsewhere.

Poverty is multi-dimensional and is caused by multiple and complex factors. The decline of the Zambian economy over the past three decades after the collapse of the mining sector has been the greatest contributor to rising poverty levels (Robinson, 2003). In absence of diversification, the decline of the mining sector, central to the Zambian economy, has contributed to reduced employment opportunities and rising unemployment levels. Other key factors leading to high levels of poverty as indicated by the Poverty Reduction Strategy Paper for Zambia include (PRSP, 2002):

- ❖ Slow economic growth while the population has increased three-fold since independence;
- ❖ Inadequate targeting of poor and vulnerable households as evidenced by inappropriate budgetary trends that have biased resources against pro-poor interventions;
- ❖ Weak integration of poor, particularly small-scale farmers, into the market;
- ❖ Absence of well-conceived livelihood approaches that address rural and urban poverty;
- ❖ Poor people's weak access to assets, such as land and housing, due to unfavourable land ownership laws and unsupportive land tenure systems;
- ❖ Weak economic and political governance.

In addition to this, the impact of HIV/AIDS has worsened the situation of many already impoverished households by undermining their capacity to accumulate or make adequate use of their assets to pursue viable livelihood strategies.

The Living Conditions Monitoring Surveys conducted from 1991 to 2004 show that although poverty levels are high in Zambia, the incidence of poverty has reduced slightly over the years. Between 1991 and 2004, the incidence of poverty declined from 70 to 68 percent (CSO, 2004a). Also, the levels of extreme poverty fell from 58 percent in 1991 to 53 percent in 2004 (Table 2.1). Especially in rural areas, the incidence of poverty and extreme poverty declined, respectively, from 88 and 81 percent in 1991 to 78 and 53 percent in 2004. In contrast, trends show urban poverty on the rise from 49 percent in 1991 to 53 percent in 2004. This is due to higher levels of unemployment and falling of real wages that followed the economic downturn in the mid-1970s and the structural adjustment efforts of the 1980s and 1990s (UNDP, 2007). While macro-level data on poverty incidence has indicated an overall reduction in the proportion of the rural Zambian population below the poverty line, this conceals increasing disparities (Drinkwater *et al.*, 2006), especially among and within rural provinces. The Northern Province has one of the highest provincial poverty levels in Zambia in terms of the incidence of extreme poverty, although this has reduced marginally over the last ten years (Table 2.1). Poverty levels also vary within the province. According to CSO (1998), Chilubi is the poorest district owing to its remoteness. It is also considered to be one of the poorest districts in Zambia and the proportion of households in Chilubi that live in extreme poverty is estimated to be 82 percent (CSO, 1998).

Table 3.1 Extreme poverty trends (1991-2004)

	1991 (%)	1993 (%)	1996 (%)	1998 (%)	2004 (%)
All Zambia	58	61	53	58	53
Rural	81	84	68	71	53
Urban	32	24	27	36	34
<i>Province</i>					
Central	56	71	59	63	63
Copperbelt	44	28	33	47	38
Eastern	76	81	70	66	57
Luapula	73	79	64	69	64
Lusaka	19	24	22	35	29
Northern	76	72	69	66	60
North Western	65	76	65	64	61
Southern	69	76	59	59	54
Western	76	84	74	78	73

Source: CSO (2004).

Underlying the high poverty incidence in the Northern Province are the general economic decline in the country, weak market linkages and the presence of HIV/AIDS. The structural adjustment policies, particularly the removal of

agricultural subsidies, were singled out by most farmers participating in focus group discussions as one of the main causes of poverty, as it resulted in difficulties to secure agricultural inputs and to market the produce. Other factors cited by farmers in the study area include lack of employment opportunities, lack of credit facilities, and absence of a regulated market resulting in high reliance on unfair bartering. Following the demise of the Northern Cooperative Union and the high transaction costs, which prevents the private sector to fully step in, the province has generally limited produce markets. In addition, the price of maize, the main cash crop, has fluctuated considerably at both the district and provincial levels as a result of inconsistent policies, large increases in the price of fertiliser (which increased by three-fold during 1998 to 2003), competition from neighbouring countries Tanzania and Malawi, and long distances to more viable markets (FAO, 2004).

3.3 The external environment: policies, shocks and economic trends

The 1970s: The collapse of the mining sector

Northern Rhodesia was a territory initially governed by the British South Africa Company until takeover by the United Kingdom in 1924. During the 1920s and 1930s, advances in the mining industry spurred development. In 1964, Northern Rhodesia became independent and changed its name into Zambia. Kenneth Kaunda became the country's first president and was re-elected in 1968. Following growing opposition to his leadership, Kaunda outlawed all parties in 1972, except his United National Independence Party and consequently was re-elected again in 1973.

At the time of independence, Zambia's rich mineral resources were well developed and the country's economy dependent largely on copper and cobalt mining. During the first decade of its existence, the world market conditions were overall favourable for Zambia. However, the country's economic fortunes came to an end when it was first hit by the sharp increase in oil prices in 1973, followed by a sharp drop in copper prices in 1975. The decline in copper prices and the consequent reduction in export earnings was the catalyst for Zambia's poor economic performance that followed (UNDP, 2007; McEwan, 2003).

Underlying the economic decline that started in the mid-1970s, is the poor economic management during the first decade of independence. Kaunda's government regulated commodity and food prices, and food consumption was heavily subsidised. This led to chronic budget deficits as a result of high public spending. In the agricultural sector, which is the main livelihood source for households in the Northern Province, agricultural inputs such as maize seed and fertiliser were heavily subsidised and uniformly priced throughout the country. The government delivered agricultural inputs to the farmers via National Marketing Board depots located in all of the districts and the farmers delivered their crop output to these depots for the government to collect and sell. In line with the government policy of food self-sufficiency, input subsidies, coupled with input

delivery and subsidised and guaranteed produce marketing, stimulated widespread maize cultivation throughout the country. It further enhanced a shift away from the production of other food crops like cassava, sorghum and millet, which are better drought-resistant and are the traditional crops in certain parts of Zambia, such as in the Northern Province.

Overall, the government's marketing and subsidy policy tended to result in inefficiency and lack of entrepreneurship on the part of the farmers (Simatele, 2006). Furthermore, the government's interference was a high cost to the national economy (Bangwe *et al.*, 1996). Nevertheless, even after the economic decline had set in during mid-1970, the government continued to provide subsidies for reasons of political expedience.

The 1980s: Half-hearted attempts at economic reforms

For some years, the Zambian government remained hopeful of a recovery of copper prices, however, by the early 1980s, it became evident that the drop in copper prices was not a short-term event. By that time, the economy that was over-dependent on copper exports was in serious distress.

In order to recover from the economic downfall, Zambia started to borrow both domestically and internationally. Its borrowing options narrowed and with no recovery in either copper revenues or agriculture, the balance of payments and fiscal deficits became enormous. In 1983, Zambia received its first conditional loan from the International Monetary Fund (IMF) (Simatele, 2006). With support of the World Bank and the IMF, market-based incentives were initiated to reduce the account deficit and external payment debts, decontrol domestic prices, and reduce subsidies on all crops and commodities, except for maize and fertiliser. As maize constituted an important element in the consumption basket of most Zambians, subsidies on maize were to be removed gradually over the years.

The economic reforms in the 1980s were marked by a lack of consensus and many regarded the World Bank and IMF-supported initiatives as externally imposed. Consequently, economic reform attempts were half-hearted and marked by U-turns that led to hostile relations between populist politicians on the one hand and reform-minded politicians, the IMF and the World Bank on the other (Bangwe *et al.*, 1996). For example, in 1987, the reform programme was suspended for almost two years as a result of serious food riots in the Copperbelt after the announcement of the removal of subsidy on maize, the local staple food (UNDP, 2007). The government re-introduced maize subsidies in 1987, and by 1989, when the government restarted its reform programme, maize subsidies accounted for almost 40 percent of the domestic deficit (Simatele, 2006).

The 1990s: Chiluba's rule and the structural adjustment programme

When Zambia entered the 1990s, its economy, which had remained undiversified and continued to depend on mineral resources and copper in particular, had declined further. In 1990, opposition parties were legalised again and in the 1991 presidential elections, Chiluba, leader of the Movement for Multiparty Democracy, defeated Kaunda.

Under Chiluba's rule, a more radical reform agenda was initiated. In late 1991, Zambia embarked on its structural adjustment programme with the aim to restructure and stabilise the economy in order to restore economic growth. Measures taken included, amongst others, liberalisation of trade, prices, interest and foreign exchange rates, removal of subsidies in the agriculture input and output markets, privatisation, cutting of public expenditure, public sector reforms and opening up the local economy to foreign competition. The government also adopted sector reforms through a sector-wide approach in agriculture, health, education, environment and roads, as well as a cash budget to curb inflation. For the latter, a small ad hoc group was in charge of decision-making about priority spending on a monthly basis. These priorities were influenced by political patronage and general public services were favoured above economically and socially important ministries (McEwan, 2003). The cash budget led to line ministries, such as agriculture, not able to plan their activities in advance, and resulted in inefficient and ineffective implementation. Furthermore, Zambia privatised the state mining corporation in 1999.

The abolishment of marketing boards by Zambia under the structural adjustment programme adversely affects the transportation of agricultural inputs to farmers and crop produce to the consumption centres (Simatele, 2006). This is especially the case for small-scale farmers who live in remote parts of the country far away from urban areas, like most farmers in the Northern Province. A study by Keller-Hertzog and Munachonga (1995) in the Northern Province showed that farmers had not been prepared by the government for a move away from centrally controlled buying and selling of crop produce through for example educational programs on marketing. Furthermore, the private sector that was supposed to take over the marketing functions did so only in the most accessible areas of the country. In the Northern Province, the transaction costs are too high for the private sector to step in as a result of the province's remoteness and bad road conditions. Under this scenario, small-scale farmers have limited access to input and output markets and are increasingly relying on barter for marketing their produce. In addition, the liberalisation of financial markets and removal of controls on credit and pricing as part of the reforms means farmers now have to compete for credit with other potential credit-seekers. As a consequence, many small- and medium-scale farmers have no access to the credit needed for input supply as they do not have adequate collateral (Simatele, 2006). The withdrawal of agricultural credit to small-scale farmers has especially hit women farmers (Keller-Hertzog and Munachonga, 1995). One of the expected results of liberalised prices and removed subsidies was a shift in the type of crops produced according to comparative

advantage. This means that those areas not suitable for maize production would experience reduced production levels (Chuzu, 1993). In reality, cropping patterns reflected proximity to major transport routes and urban consumption centres (McEwan, 2003). In areas near consumption centres, such as the Copperbelt and Lusaka Province, the area under maize increased. In areas far away from consumption centres, like the Northern Province, maize production has decreased because of a decline in inputs and productivity and led to a shift towards more traditional low-input and drought-resistant crops like cassava, millet and sorghum.

Despite the policy and institutional reforms implemented by Zambia under the structural adjustment programme in the 1990s, the economy declined even further. By the end of the 1990's, the Zambian economy was characterised by high rises in inflation and interest rates, rapid depreciation of the local currency, a stagnated Gross Domestic Product (GDP) growth, a reduced contribution of the agriculture sector to the GDP and high levels of poverty incidence (Simatele, 2006; UNDP, 2007).

The new millennium: better prospects?

In December 2001, Levy Mwanawasa became Zambia's new President in a widely disputed election result. President Mwanawasa also won his second term in government in the parliamentary and presidential elections held in September 2006. In 2002, Zambia was hit by two crises. First, the Anglo-American Corporation withdrew from Konkola Copper Mines, which produces about 70 percent of Zambia's copper, and the world copper prices declined. Second, the 2002-2003 drought left over two million people food insecure.

Under Mwanawasa's rule, Zambia finalised and adopted a full Poverty Reduction Strategy Paper (PRSP) in early 2002, covering the period 2002 to 2004. The PRSP guided development programmes during that period and emphasised the importance of broad-based and sustainable growth in order to prevent the inequality often associated with economic growth. It aimed at promoting growth and diversification in production and exports, improving the delivery of social services, and at fighting HIV/AIDS, while addressing gender inequality and protecting the environment. Enhanced agriculture development was the backbone of the Plan. The failure by the agriculture sector in the previous years to provide sustainable livelihoods for rural households was regarded by the government as one of the major factors that had contributed to rural poverty. Agriculture in Zambia has the potential for growth and the government sees the achievement of high and sustained growth in agriculture as a critical step in reducing poverty (PRSP, 2002). In this regard, particular efforts were directed towards stimulating agricultural commercialisation, the promotion of cooperatives to increase access to inputs and produce markets, and the establishment of support systems for vulnerable households. As part of the support systems for vulnerable households, the food security pack was introduced in the 2001-2002 agricultural season. The food security pack is an attempt by the government to tackle poverty through improved

crop productivity and household food security by providing vulnerable but potentially viable farmers with a pack comprising seed and fertiliser. The programme is implemented under the umbrella of the Programme Against Malnutrition in all Zambian agricultural districts.

Gender was one of the cross-cutting issues emphasised by the Zambian PRSP. The PRSP recognised that gender issues play a very important role in developing a sustainable strategy for poverty reduction. The PRSP thus proposed measures to remove barriers to women's and men's economic participation, design special economic schemes, and reduce women's workload through provision of appropriate technologies. Emphasis was placed on strategies that ensure equitable access to production resources such as enforcement of laws relating to property rights, inheritance laws and credit policies. Equally important were the Plan's strategies to ensure equal access to land by guaranteeing the right of all women to buy, sell, own, inherit and administer property. The government recognised the importance of the informal sector for income-generating opportunities, particularly for women. Hence, the Plan incorporated strategies for availing financial services to women and for strengthening men and women's micro-enterprises. While efforts were made towards improving gender equality and empowering women, results under the PRSP were limited (IMF and IDA, 2005). By the end of the PRSP, few of the selected positions in decision-making were assigned to women, a land policy had been drafted which proposed 30 percent of the land to be demarcated and allocated for women and other vulnerable groups, limited grants were provided to support women in micro-enterprises, and the setting up of a National Gender and Development Information System had commenced. However, since the actual funding for gender enhancement under the PRSP was only 11 percent of the total budget allocations, the impact was expected to be minimal.

Likewise, HIV/AIDS was considered as a priority area for social investment. Most of the proposed interventions related to HIV/AIDS were still primarily preventive and health-related and included such issues as reducing new HIV infections by promoting safe sex practices and condom distribution; increasing access to voluntary testing, home-based care programs and anti-retroviral treatment; and preventing mother-to-child transmission. Children were mostly missing from the PRSP nor did the PRSP show a strong commitment to the situation of children who had been orphaned or were vulnerable because of AIDS (UNICEF, 2005).

The time period for the first PRSP was extended by one year to overlap with the Transitional National Development Plan (TNDP), covering the years 2003 to 2005. The TNDP encompasses all the areas discussed in the PRSP, but also includes areas such as the judiciary, law and order, and defence and security. Implementation of both the PRSP and TNDP programmes had been slow due to budgetary constraints of the government. The next PRSP/TNDP or also called the Fifth National Development Plan covers a five-year period and outlines the development plans for Zambia from 2006 onwards. Under the thematic area of 'broad based wealth and job creation through citizenry participation and

technological advancement', the Plan aims to target both wealth creation and poverty reduction. Agricultural development remains the key priority for growth and poverty reduction and, amongst others, the Plan's goal is to raise government's allocations to the agricultural budget from five percent in 2006 to at least eight percent by 2010.

The Zambian economy improved considerably during the period of the implementation of the PRSP and TNDP (2002 to 2005) and the economy is enjoying sustained growth of around five percent per year since 2003 (IMF and IDA, 2005; GRZ, 2006). The economic growth in the last years is spurred by a high rise in copper prices, an increase in foreign direct investment and a growth in the mining, manufacturing, tourism and construction sectors. Furthermore, reduced debt servicing requirements helped the Zambian economy. Zambia attained the Heavily Indebted Poor Country completion point in 2005, resulting in a reduced external debt stock from USD 7.2 billion to USD 3.5 billion (GRZ, 2005). The debt write-off under the G8 Gleneagles Initiative and the Multilateral Debt Relief Initiative has reduced the debt stock even further to less than USD 600 million (UNDP, 2007). The money that has been released from paying back loans could be used by the Zambian government for expenditure related to health, education and other priority sectors.

However, despite the level of economic growth during the structural reform period, poverty still persists. While the GDP growth has averaged almost five percent in the subsequent years, it is less than the seven percent required to make a significant impact on poverty reduction (IMF and IDA, 2005). Furthermore, agriculture, the sector upon which the majority of poor people depend for their livelihood security, did not perform particularly well during the structural reform years. The agricultural sector's growth averaged only 2.6 percent, with wide variations due to weather patterns, inadequate infrastructure and generally poor market access (GRZ, 2006). The growth that did take place was driven by cash crops like cotton and tobacco. These crops are concentrated in specific areas of the country and are normally not grown by small-scale farmers. In spite of the persistent high poverty levels, the economic development of recent years has induced new hope that macroeconomic stability and sustainable growth are possible for Zambia (UNDP, 2007).

3.4 Food and livelihood security

In Zambia, over sixty percent of the population depends on agriculture for their livelihood (GRZ, 2006). Zambia has considerable water reserves from rainfall and groundwater sources and agricultural land is abundant: only 14 percent of the land suitable for arable use is cultivated (Robinson, 2003). Zambia has a dual land tenure system where most of the land falls under the customary land tenure system that is controlled and allocated by traditional authorities and only six percent is leased with title deeds for a renewable period of 99 years. About 95 percent of

farmers are small-scale and own less than five hectares of land (FAO, 2005). They use basic production technologies, rely on family labour, and are mostly subsistence producers of staple foods. The medium-scale farmers produce surplus maize and other cash crops for the local market, whereas the small proportion of large-scale farmers produce for both the domestic and international markets.

The economic mainstay of the Northern Province is rainfed agriculture. The province has an average annual rainfall of more than 1000 mm and an annual growing season of about 120 to 150 days. The main growing season goes from October/November to April/May and winter cropping takes place from July to November/December, before the arrival of first rains. There are only a very few farmers in the province who grow crops on a commercial basis. The majority are small-scale farmers who depend on a combination of agriculture and fisheries for their livelihood. Most of the food produced is sold locally at low prices or because of the province's weak market linkages bartered with traders.

The province has two distinct livelihood zones: one where livelihoods are based on crops, fishing and trading; and another where crop production, game meat, wages, charcoal and/or mining form the basis of households' livelihoods (Zambia VAC, 2003). In both zones, four crops dominate, namely maize, cassava, finger millet and beans. Other crops often cultivated include groundnuts, sweet potatoes, Irish potatoes and a variety of local vegetables. Rice production is common in the wetland areas. All cultivation is done by hand hoe as tsetse infestation precludes the raising of cattle.

Cultivation of crops is done both on permanent land and under a traditional slash-and-burn shifting cultivation, locally known as *chitemene*. Until the late 1980s, when agricultural inputs were subsidised by the government, maize and rice were the main cereal and staple crops grown in the province. The production and productivity of these crops have since been declining as a result of reduced inputs by farming households and the low fertility status of soils in the province. Soils in the Northern Province are generally acidic with low inherent fertility, which makes it difficult to grow cereal crops like maize and rice continuously without chemical fertiliser application. A stop in subsidising agricultural inputs under the structural adjustment programme has encouraged farmers in the province to revert to cultivation of low-input staples like cassava and finger millet under the traditional *chitemene* system. *Chitemene* had been practised for a long time in the province. The system involves cutting down tree branches in a circular area of forest, chopping the branches, heaping them across the field and burning them to provide potash for crops. Normally, in the first year finger millet is planted, followed by beans and cassava in the second and third years, respectively. After three to four years of crop cultivation, the fields are left fallow and a new field should be opened up. A household's access to *chitemene* depends on its allocations of forest area by the local leadership that is usually based on family size and the household's ability to work the land. As a consequence of deforestation in some areas in the province, households are venturing further into the forest to open up new fields. Because of

the contribution of *chitemene* to the deforestation, policy-makers have made deliberate moves to discourage its practice, but for many farmers *chitemene* remains essential to their food security, especially in the absence of affordable agricultural inputs (FAO, 2004).

Households in the province complement their income sourced from on-farm activities with off-farm income-generating activities. The main sources of off-farm income are fishing, beer brewing, charcoal burning, poaching, petty trade, working for others in exchange for food, and selling forest products and handicrafts like baskets and reed mats. Especially beer brewing is an important source of income and a means to access labour because it requires few inputs and is not labour-intensive. Charcoal burning is another important source of income but is labour-demanding and depends on male labour as well as access to a bicycle to transport the charcoal to the roadside or nearby markets. Selling forest products like mushrooms, caterpillars and wild fruits is done mostly by female-headed households, while children are often involved in selling the products at roadside markets.

3.5 Zambia and gender issues

“Kwapa tacila kubeya” [Bemba phrase literary saying the armpit (i.e. a woman) cannot be higher than the shoulder (i.e. a man), meaning decision-making and leadership are regarded as preserves of men] (World Bank, 2004).

In Zambia, generally men dominate over women as, for example, is reflected in levels of education, poverty status, access to and control over resources, labour allocation, decision-making and the law. Gender disaggregation of the incidence of poverty shows households headed by women to be poorer than male-headed households. According to the Zambia Living Conditions Monitoring Survey (CSO, 2004a), 58 percent of female-headed households are below the poverty line, compared to 43 percent of male-headed households. Factors that contribute to women bearing a higher burden of poverty in Zambia include, amongst others: unequal education and training opportunities for women; high illiteracy rates among women; limited access to productive resources for women; and unequal power relations within the household and marriage relationship, as a result of which women are denied equal access to household assets (World Bank, 2004).

In education, females at all ages and in all provinces of Zambia have lower literacy levels than males: 77 percent of the males are literate as compared to 58 percent of the females (CSO, 2003b). In order to promote gender equality in schools, the Zambian Government introduced a policy to enrol 50 percent of girls and boys at grade-one and freed basic education. As a result, the net enrolment rates for primary education have improved from 71 percent in 2000 to almost 96 percent in 2005, with near parity for girls and boys at primary school level, especially at

grades one to three (GRZ, 2006). Nevertheless, the introduction of free basic education has not prevented the school drop out of many girls before they completed primary school, mainly as a result of poverty, pregnancy, early marriage, and the impact of HIV/AIDS on their families. At present, boys have a higher primary completion rate (95%) than girls (75%) (GRZ, 2006). The gender gap in education increases at secondary education level. According to the 2000 census results (CSO, 2003b), 33 percent of boys of secondary school age in Zambia were enrolled in secondary school in comparison to 28 percent of girls in the same age cohort.

Like elsewhere, Zambian men and women have distinct roles in both the household and the market economy. While women dominate in agriculture and micro-size enterprises, as well as in domestic tasks, men are more involved in the mining sector and small to medium enterprises. Also, women tend to make longer working-days as they are responsible for both productive and reproductive activities. On average, Zambian women work 12 to 13 hours a day while men work 6 to 7 hours daily (World Bank, 2004). This gender disparity in time allocation has been worsened by the additional burdens placed on women in caring for people with HIV/AIDS and orphans. While women in Zambia play a major role in agriculture and household livelihood security, their contribution is inhibited by their marginalized access to, and limited ownership of, productive resources such as land. Furthermore, women have less access to the fertilisers and seeds given by government support programmes at subsidised rates to cooperative societies, since fewer women are members of these cooperative societies or are able to pay the down payment required to acquire agricultural inputs (GRZ, 2006). Also, agricultural marketing policies have not supported women in marketing their crops, which is why so-called women's crops are restricted to small local markets that have low returns (World Bank, 2004).

In both patrilineal and matrilineal societies in Zambia men are regarded as household heads and are expected to be leaders and decision-makers at home and beyond. According to data from the Zambia Demographic Health Survey (CSO, 2003c), male spouses have a final saying in specific decisions, such as large household purchases (63%), wife's health care (58%), visits to relatives (57%), and reproduction (50%). Several factors determine male's dominance in household decision-making, including age of the husband, age disparity between husband and wife, cultural norms, education levels and a woman's financial position.

The Zambian legal framework is biased against women as freedoms and rights provided for under statutory laws are undermined by customary laws and cultural factors (World Bank, 2004). Officially, statutory law takes precedence over customary law. However, in practice the majority of Zambians use the local courts, where the application of unwritten customary laws are subject to the personal interpretation of local court justices. Most customary laws are discriminatory towards women. For example, under customary law, a husband and wife do not

own property jointly nor inherit property from each other, but household property is regarded as belonging to the husband.

3.6 HIV/AIDS

“Ubuchende bwa mwaume tabonaula ing’anda” [Bemba phrase meaning a man’s promiscuous behaviour cannot break up a marriage] (World Bank, 2004).

3.6.1 The present situation

Presently, an estimated 17 percent of the Zambian adult population is infected with HIV. By the end of 2005, a total of 1.1 million adults and children were living with HIV and 98,000 individuals died because of AIDS (UNAIDS, 2006). Infection rates are substantially higher among women (18%) than men (13%). Also, there is wide geographic variation in national HIV infection levels. HIV prevalence tends to be clustered in urban areas and along major transport routes and is lower among the rural population. At present, infection rates are more than twice as high in urban areas (23 percent) than in rural areas (11 percent). In the Northern Province, HIV infection rates are relatively low compared to national statistics and presently stand at an estimated eight percent (UNDP, 2007). In 2003, the provincial prevalence rate was estimated at 13 percent. Most Zambians infected with HIV do not have access to antiretroviral treatment. As of June 2005, only 14 to 18 percent of the 153,000 individuals estimated to be in need of antiretroviral therapy were receiving treatment (CSO, 2002). National HIV infection rates appear to be stabilising at around 16 percent and there are signs of fewer new infections in the 15 - 19 year old age group. According to the epidemiological projections for Zambia, the national prevalence rate is to decline to about 11.9 percent in 2010, with variations ranging from 17.1 percent in Lusaka, 15 percent in the Copperbelt, and 6.7 percent in the Northern Province (CSO, 2002). Despite these good signs, stability is taking place at a still very high prevalence level.

Zambia has one of the highest proportions of AIDS orphans in the world with an estimated 600,000 children orphaned in 2000 by the AIDS epidemic and a projection of 974,000 AIDS orphans by 2014 (UNAIDS/UNICEF/USAID, 2004). In 2003, 60 percent of all orphans were orphaned because of AIDS. Most of Zambian orphans are fostered by the extended family, approximately six percent are living on the streets and less than one percent live in orphanages (GRZ, 2002). Within the extended family, it is often the grandparents with few sources of income who are left to care for young orphans, thus putting an extra burden on these households. In absence of a national well-developed social security system, families that care for orphans and AIDS patients mostly rely on kinship relationships as their only safety net when in need of assistance. However, the high number of people infected and children orphaned by AIDS that are in need of

support and care are overstretching the caring capacity of Zambia's traditional extended family system (UNDP, 2007).

3.6.2 *Zambian driving factors to HIV/AIDS*

Gender inequality, sexual violence, stigma, low condom use, poverty-linked survival sex and alcohol abuse, and high mobility levels are all to a great extent fuelling the spread of HIV in Zambia. Zambians have a high level of awareness of HIV/AIDS among both men (98.6%) and women (99.3%) (CSO, 2002). Nevertheless, condom use remains low. The Zambia Sexual Behaviour Survey (ZSBS) of 2005 showed that condom use among married couples is very low at 5.5 percent and has declined from 7.9 percent in 2003 (CSO, 2006). Condom use is higher among non-regular sexual partners (48 percent in urban areas and 26 percent in rural areas), but is still low given the risk of infection. Also worrying is that condom use among rural women with non-regular sexual partners declined from 26 percent in 2003 to 16 percent in 2005, and that only 53 percent of men who reportedly had sex with a sex worker used a condom. Furthermore, despite high HIV/AIDS awareness, only a small proportion of the population go for voluntary counselling and testing. The ZSBS of 2005 reported that only 15 percent of the respondents had gone for voluntary counselling and testing (CSO, 2006). High levels of stigma and discrimination in Zambian society prevent many to go for testing. According to the 2005 ZSBS, 36 percent of the respondents were of the opinion that people should keep their HIV status secret and 27 percent felt HIV positive people should be ashamed of themselves.

As said, infection rates in Zambia are substantially higher among women than men. This reflects unequal power relations between men and women, lack of economic empowerment and livelihood opportunities among women, and cultural norms, which encourage male infidelity and discourage women to negotiate safe sex. In general, women have little power to negotiate safe sex, even when at risk of HIV infection. Their ability to do so tends to be related to their level of education. According to the 2000 ZSBS, 48 percent of women with secondary education use condoms with non-cohabiting partners as compared to 23 percent of women with primary education and only 8 percent of uneducated women (CSO, 2002). Furthermore, adolescent girls are particularly susceptible to HIV risk as they are more likely to have sexual interactions with older men already exposed to HIV. Early marriages and pressures placed on girls by family members in times of stress to engage in prostitution or occasional sex in return of support are other risk factors that cause high prevalence rates among adolescent girls (UNDP, 2007).

Another factor fuelling the spread of HIV is the increased occurrence of sexual violence. According to the 2005 ZSBS, over 15 percent of sexually active (15 - 49 years) females reported forced sex, ranging from almost 18 percent among urban women to 14 percent among rural women. Forced sex is especially common in the 20-24 age cohort, where 18.5 percent of the females reported forced sex. The perpetrators commonly reported are husband or partner (67.5%), boyfriend (25%)

and male relative (5.8%). Girls that are particularly at risk of sexual violence include orphaned girls and girls from poor families who are fostered out to better-off relatives (World Bank, 2004). These girls are taken under custody by relatives and stand a greater chance of being sexually abused. Reporting such violence to the authorities is especially difficult for these abused girls, as they fear losing the support of the host family (Human Rights Watch, 2002).

Also, high poverty levels contribute to the spread of HIV/AIDS in Zambia as they increase the likelihood of survival sex to secure access to food and income, as well as commercial sex. Poverty and unemployment also may lead to high levels of alcohol consumption, especially among the young, which tends to impair one's judgment and can lead young people to engage in sex with a sex worker (UNDP, 2007). Poverty-linked migration and mobility further play a role in the spread of HIV. Zambia has a long history of men migrating for short or longer periods of time to work in large agricultural estates or in the mines in the Copperbelt. Mobile groups in Zambia include, amongst others, truck drivers, fishermen/women and fish traders, sex workers, migrant and seasonal workers, (cross-border) traders, miners, military personnel, and to a large extent senior government officials travelling to attend national and international workshops and conferences. In the Northern Province, which is crossed by the Great North Road and the TAZARA railway, both going to and from the United Republic of Tanzania, sexual interactions take place between truck drivers and young girls or adult women selling goods and food stuff at truck stops. Young girls and women offer sex in return for small sums of money in order to supplement their income or pay for their education. Orubuloye *et al.* (1993), in a study among 285 long-distance truck drivers and 467 itinerant female hawkers in Nigeria, show that occupational demands leads to the forming of networks of multiple sex partners that may spread AIDS. Among the interviewed truck drivers, the majority were married and had on average 12 regular or semi-permanent sex partners besides their wife (about one woman at each of their regular overnight stops). This system of semi-permanent partners along the route provides the truck-drivers with inexpensive accommodation and meals as well as company. In addition, the truck drivers had sexual intercourse at truck stops with barmaids, sex workers, female hawkers or other women. Despite their knowledge of AIDS, condom use was reportedly low. Orubuloye *et al.* show that those who did use condoms failed to do so with their semi-permanent partners for the same reasons they did not use condoms with their wives: it would indicate a lack of trust in the relationship. Often, these semi-permanent partners had several boyfriends as the financial contribution of the truck driver to her household would only occur on average once every two weeks and was not enough to sustain her and her family until the next visit.

3.7 HIV/AIDS and the Zambian policy framework

AIDS first appeared in the world in 1981, however, it was only in 1987 that the World Health Organization (WHO), the UN agency responsible for global health,

responded to the fact that millions of individuals had been infected with HIV on all continents by setting up a Global Programme on AIDS. In 1996, it was decided to disband the Programme and to replace it with the Joint United Nations Programme on AIDS (UNAIDS), which was to coordinate AIDS-targeted programming by the United Nations system and the World Bank. Until the new millennium, few funding were released by donors for the global struggle against AIDS. In 2002, the first new major funding came with the initiation of the Global Fund to Fight AIDS, Malaria, and Tuberculosis, followed by the President's Emergency Plan for AIDS Relief of the United States, which had 15 billion dollars available for 15 countries over a five-years period. Also, the World Bank increased AIDS funding by setting up the Multi-Country HIV/AIDS Programme. In 2005, the World Health Organization and UNAIDS launched the 'Three by Five' initiative, which was set to reach three million persons in need of antiretroviral therapy by the end of 2005. Much of all these funding have been in the arena of treatment and prevention and do not adequately address the structural causes of HIV/AIDS transmission and impact. However, realisation among governments and donors that HIV/AIDS is a long-wave crisis that requires a long-term development approach in addressing the underlying structural determinants has increased. This was reflected, for example, in the 2001 General Assembly Special Session on HIV/AIDS Declaration of Commitment, which emphasised the need to reduce vulnerability and to put gender equality and women empowerment central in the fight against HIV/AIDS. Also, in 2004, UNAIDS launched the Global Coalition on Women and AIDS to call for greater attention to HIV/AIDS-related violations of women's and girl's rights.

Political commitment towards fighting HIV/AIDS also increased in sub-Saharan Africa with more leaders taking responsibility for implementing national AIDS responses (UNAIDS, 2004a). The African Union committed itself to fighting the epidemic on a pan-African scale as is reflected in the Abuja Declaration and Framework Plan of Action on HIV/AIDS, TB and other Related Infectious Diseases and the Maputo Declaration on Malaria, HIV/AIDS, TB and other Related Infectious Diseases. At sub-Regional level, SADC countries have, for example, developed the SADC HIV/AIDS Strategic Framework and Programme for Action for 2003 to 2007, and have established regional and national HIV/AIDS task forces to guide the work and implementation of the strategy (SADC, 2000).

At national level, many countries in sub-Saharan Africa have adopted a National Strategic Framework for HIV/AIDS and established government-led national AIDS coordination mechanisms. Many of the national strategies of countries hit by the epidemic receive support from the Global Fund. The Government of Zambia established a National AIDS Prevention and Control Programme in 1986, and in 2000 the National AIDS Council (NAC) was created. NAC is a multi-sectoral body responsible for developing the National Strategic Intervention Plan for HIV/AIDS and for coordinating prevention, treatment and care initiatives of different stakeholders in Zambia. Until 2006, the structure of NAC was criticised for its inability to sufficiently target the household and take into account the changes induced by HIV/AIDS at the household level (UNDP, 2007). As a result, revisions

were made to the institutional framework of its National HIV/AIDS Strategic Framework 2006-2010, by creating six new working groups around the following themes: intensifying prevention of HIV; expanding treatment, care and support for people affected by HIV/AIDS; mitigating the socio-economic impact of HIV/AIDS; strengthening the decentralised response and mainstreaming HIV/AIDS; improving the monitoring of multi-sectoral response; and integrating advocacy and coordination of the multi-sectoral response. Furthermore, with the support of donors, provincial, district and community AIDS task forces have been set up.

In addition, with the support of non-governmental and faith-based organisations, Zambia has implemented various prevention and mitigation initiatives, such as home-based care support, counselling, addressing stigma and discrimination, paralegal training, mobilising sexual workers, support to orphans and vulnerable children, health education, and so forth. Despite the good intentions, most of these initiatives are short-term, implemented at a small scale and have not taken into account the diverse range of needs and issues affecting households (UNDP, 2007).

While it is clear that HIV/AIDS has a greater economic impact on poor, often female-headed households, few financial resources have been (re)directed by the Zambian government towards the poor in society. The government social safety net system for vulnerable households is limited and declined over the last years (PRSP, 2002). Also, the government public welfare assistance schemes are mainly limited to urban areas and food security packages for vulnerable households often end up in relatively better-off households (FAO/FASAZ, 2003). Furthermore, the recently developed National Social Welfare Policy is not geared to assist the elderly and large numbers of orphans who increasingly drop out of school and have little access to health services (UNDP, 2007).

4 PATTERNS OF VULNERABILITY TO AIDS IMPACTS IN ZAMBIAN HOUSEHOLDS⁴

4.1 Introduction

'HIV/AIDS is devastating Zambian society. Tens of thousands of people have already died and many more are infected [...] one of the tragic consequences is a rapid rise in the numbers of orphans, as well as households headed by children and elderly grandparents⁵.'

HIV/AIDS is currently the leading cause of death in sub-Saharan Africa; 25 million people are infected, of which 57 percent are women (UNAIDS, 2004a). In the Southern African Development Community mainland region alone, 13 million adults are living with HIV/AIDS, 22,000 people a week are dying from AIDS, and 5 million children are orphaned because of the epidemic (UN, 2003). In Zambia, it is estimated that 16 percent of the population aged between fifteen and forty-nine years is HIV-positive, and that 630,000 children have been orphaned because of AIDS (UNAIDS, 2004a).

Yet even these numbers belie the true impact of the epidemic because a far higher percentage of non-infected people are affected directly by the presence of the disease. The burden of sickness, nursing the chronically ill, premature death, and caring for AIDS orphans is manifested in the reduction of human, financial and physical capital and the disruption of social support mechanisms for large numbers of families. The AIDS pandemic has increased and deepened poverty at household and community levels and undermined the rural household's ability to produce sufficient and nutritious foods (Stokes, 2003; Yamano and Jayne, 2004). Various studies have described the negative effects of HIV/AIDS on rural households in

⁴ A modified version of this chapter has been published in *Development and Change* as: Wiegers, E., J. Curry, G. Garbero and J. Hourihan (2006). 'Patterns of Vulnerability to AIDS Impacts in Zambian Households', *Development and Change* 37(5): 1073-1092.

⁵ Quote from James Morris, UN Secretary General's Special Envoy for the Humanitarian Crisis in Southern Africa, during the Special Envoy's mission to Zambia (13/09/2002).

sub-Saharan Africa:⁶ much of the research focuses on households that are affected by a prime-aged adult death as the unit of analysis. Less research has been conducted on how HIV/AIDS impact differs by the hosting of orphans and the morbidity and mortality profile of households (SADC FANR VAC, 2003). The epidemic has increased the numbers and proportions of various household categories such as those headed by women, the elderly and orphans; households with orphaned children; households with chronically ill members; and households that recently suffered an adult death. These households are not affected by the epidemic in a uniform way, but differ in their vulnerability levels, with certain groups of households and household members being harder hit by the epidemic than others. Treating these households as a homogeneous group obscures differences not only in impacts and in the households' ability to respond, but also in their differing needs for external assistance.

This chapter examines the differences in vulnerability to HIV/AIDS impacts on the food security situation of the various household categories. It draws on data collected in northern Zambia between 2003 and 2004, disaggregated by sex and age of household head and by morbidity and dependence status of the household. It is recognised that food security and livelihoods profiles of households within the study area are also influenced by the cumulative effects of chronic poverty, liberalisation failures, collapsed marketing arrangements and weakened institutional capacity, all of which are hard to disentangle from HIV/AIDS impacts (Barnett and Whiteside, 2002; Baylies, 2002a). Therefore, the findings for the various household groups affected by HIV/AIDS will be differentiated from those that are not affected by the disease.

4.2 Differential vulnerability

The concept of vulnerability is central to the present HIV/AIDS debate (Barnett and Whiteside, 2002; Loevinsohn and Gillespie, 2003). Vulnerability has its origin in the rural famine and food security literature and encompasses both exposure to shocks and the lack of capacity to respond to the consequences (Chambers, 1989; Moser, 1998). Vulnerability indicates the susceptibility of people, households and communities to an acute loss in their capability to acquire food or realise other favourable livelihood outcomes (Ellis, 2003: iii). Literature on livelihoods makes a distinction between an external side and an internal side of vulnerability (Chambers, 1989; Brons *et al.*, 2007). The external side to vulnerability are the risks, shocks and stress that impact individuals and households such as natural hazards, extremely weak economies and civil war. The internal side of vulnerability constitutes the characteristics of individuals, households or groups that are

⁶ See, for example, Barnett and Blaikie (1992); FAO (1995, 2003b); Fox *et al.* (2004); Haddad and Gillespie (2001); Larson *et al.* (2004); Mather *et al.* (2004); Rugalema (1999); Tibaijuka (1997); Topouzis (2000); Yamano and Jayne (2004).

important to enable them to cope with and recover from stress and shocks like educational attainment, sex and age, asset ownership, income, and so forth.

In the AIDS literature, vulnerability refers to the likelihood of adverse impacts on food security or livelihoods due to HIV/AIDS occurring at household, community or national levels (Barnett and Whiteside, 2002; Loevinsohn and Gillespie, 2003). Although vulnerability is not directly measurable, the vulnerability of a household can be observed indirectly by its ability to adapt to a shock. The household's responsiveness is shaped by the extent of its assets and entitlements, as well as by its capacity to transform these into income and food, meaning that poor households are more vulnerable because of their limited access to assets (Moser, 1998). Vulnerability levels differ substantially among and within households and implicitly expose the structural factors in society that enable or impede households' capacity to respond to shocks (Barnett and Whiteside, 2002). Vulnerability differentiation in the context of HIV/AIDS thus refers to the differing in abilities of individuals, households and communities to resist or adapt to the adverse impacts of HIV/AIDS on food security or livelihoods.

Implicit to the concept of vulnerability are the differences in resilience of individuals, households and communities to the risk faced (Loevinsohn and Gillespie, 2003; Moser, 1998). Resilience in the context of HIV/AIDS refers to the responses that enable households to avoid adverse impacts on their livelihoods or to recover faster than normal (Loevinsohn and Gillespie, 2003). When confronted by a shock, households respond by first cashing in claims and liquid assets while preserving productive assets as long as possible in order not to undermine future household survival (De Waal, 1989; Maxwell and Frankenberger, 1992). In particular, reciprocal relationships are a crucial safety net for households in stress and play an important role in reducing their vulnerability levels (Moser, 1998; Mutangadura *et al.*, 1999). The extent to which households can cash in claims largely depends on their capacity to build up social capital. This implies that poor households can put forward fewer claims than relatively well-off households. Earlier work, such as the World Bank research in Kagera (World Bank, 1997), gives the impression that households are resilient and partially recover over time, whereas more recent and often qualitative work shows that certain households are not able to cope, but struggle with the adverse impacts (Barnett and Whiteside, 2002). The appearance of resilience among households and communities, however, might be deceptive; responses are often temporary and do not take into account the long-term effects. According to Swift (1989), households may demonstrate resilience to a crisis for a certain period of time by selling off assets and calling upon claims through reciprocal relations, but once they have exhausted most of their assets, their ability to survive as a household suddenly collapses. Likewise, De Waal and Tumushabe (2003) argue that while households affected by HIV/AIDS may be able to divest assets in order to avoid complete break-up when faced by a food security shock, they cannot escape the longer-term downward spiral in food security.

Gender inequality is an important aspect of vulnerability differentiation. Inequalities in rights and obligations on the basis of sex and age largely determine differences in the capacity to respond to shocks (Moser, 1996). Women are particularly vulnerable to HIV/AIDS impacts because of their limited access to, and control over, the assets and entitlements needed to absorb shock. For women, these gender-based disparities in asset ownership are often worsened by high incidences of property grabbing by relatives after their husband's death. Women's low levels of education and economic status further limit their opportunities to generate income, and thus increase the likelihood that they will turn to risky survival strategies for obtaining income or food. External shocks such as drought worsen the situation, as was seen in the Southern Africa humanitarian crisis where more women and girls resorted to transactional sex (UN, 2003). Furthermore, the traditional domestic and nurturing roles assigned to women represent a double burden, as women bear the brunt of caring for the sick and orphans, while also trying to secure a livelihood for the household. In situations of limited resources, the demand of caring for ill family members increasingly forces women and girls to engage in survival sex to obtain the means to support their families (ARASA, 2004).

4.3 Study sample and methodology

4.3.1 Research design

This chapter draws upon research conducted in the Northern Province, Zambia, between September 2003 and February 2004. The research was funded by Development Co-operation Ireland and served as a basis for developing a livelihoods support programme for vulnerable households in the province. The research adopted a sustainable livelihood approach to help to understand the opportunities and constraints that different households face and to identify practical intervention areas based on the views of the research participants (see Wiegers, 2003). The study design sequenced the collection of both qualitative and quantitative data on individuals, households and communities in the study area and was implemented in two stages. Firstly, livelihood analysis was conducted to develop a broad understanding of the dynamics in assets and livelihood strategies of HIV/AIDS-affected households in the Northern Province. Information for the various livelihood components was collected through key informant interviews and focus group discussions as well as through household interviews with 231 households. Changes in the variables were measured using a recall period of five years. Secondly, a household survey of 508 households was conducted to supplement the information base with data on household demographic and socio-economic characteristics, morbidity and mortality of household members, asset-base and livelihood activities.

4.3.2 Sampling

The study was confronted with a particular sampling challenge because with an average prevalence rate of 13 percent for the Northern Province, random sampling techniques were unlikely to produce sufficiently large sub-samples of households with people living with HIV/AIDS (PLWHA) to permit meaningful quantitative comparison with non-affected households. This is even more likely to be true because the disease tends to cluster within households (Barnett and Whiteside, 2002). For instance, in a recent study of HIV/AIDS impacts in the Southern Province of Zambia, households were stratified according to the sex of household head and then randomly selected from the different strata in each study site; this produced a total of 766 households. Although study sites in this particular case were purposively selected according to their relatively high prevalence rates, multi-stage random sampling captured relatively few households (less than five percent) that experienced HIV/AIDS and related chronic illness or death (FAO/FASAZ, 2003).

Learning from the Southern Province case, in the research presented in this chapter it was attempted to avoid such a post-sampling bias. For the household surveys, a two-stage sampling technique was applied. At the first stage, sites were purposively selected. Sample sites were chosen on the basis of HIV/AIDS prevalence rates, levels of poverty and main livelihood activities. Following the Zambia Livelihood and Vulnerability Assessment (Zambia VAC, 2003), the Northern Province contains two main livelihood zones: zone 1B where livelihoods are based on crops, fishing and trading; and zone 2B where crop production, game meat, wages, charcoal and/or mining form the basis of households' livelihoods. Site selection included two districts in zone 1B (Chilubi District and a community in Mungwi District) and three districts within zone 2B (Isoka and Mpika Districts and a community in Mungwi District). Investigations were conducted in a total of eight communities: Kananda and Mumba village in Mungwi district, Kampumbu and Milongo village in Isoka district, Finkuli and Lukulu village in Mpika district, and Chilubi Island and Matipa village in Chilubi district.

At the second stage, households within the Standard Enumeration Areas of Zambia's Central Statistics Office covering the sample sites were listed and stratified by AIDS morbidity status. The Central Statistics Office has divided Zambia's districts into Census Supervisory Areas, each of which is subdivided into Standard Enumeration Areas. All households living within the specific enumeration area were listed and, based on information from health centres and local health workers, stratified according to whether or not at least one household member between fifteen and forty-nine years of age had been ill as a result of HIV/AIDS, or related chronic illnesses such as pneumonia and tuberculosis, for three consecutive months or longer prior to the survey. Complete enumeration of households within the AIDS morbidity stratum of the different sites was carried out

(i.e. purposively selected)⁷. The remaining households from the non-morbidity stratum were randomly selected. While the two household surveys have been conducted separately and each had their own specific sample, some households may be interviewed in both surveys as they were conducted in the same study site.

Stratifying by AIDS morbidity brings up ethical issues concerning people's right of non-disclosure, stigma and confidentiality. Therefore, household listing was done through local health centres and health workers in the communities and with the consent of local village leaders and the community in general. To avoid creating stigma, the AIDS morbidity strata of the sample was kept confidential and community awareness meetings were held with community health workers present, to discuss HIV/AIDS and livelihood linkages.

Qualitative research conducted prior to the household surveys indicated that data analysis should be further disaggregated by the presence/absence of orphans (a child below eighteen years who has lost one or both parents through death) and by the sex and age of household head – variables identified from the household registry within the questionnaire. This resulted in eight mutually exclusive household categories for analysis and comparison. The distribution of sample households by these categories is shown in Table 4.1.⁸

In this chapter, male and female-headed households with PLWHA are defined as households that are headed by men and women (respectively) below sixty-five years of age, with at least one family member between fifteen and forty-nine years of age who has needed care for three or more consecutive months as a result of HIV/AIDS or related illnesses. Because the household survey did not purposively sample for presence of orphans, orphans cut across the different household categories, including households with PLWHA. These households thus face a double burden. Households with orphans are those male- and female-headed households (the head being under sixty-five years of age) that take care of their own orphaned children and/or orphaned children from other relatives. In the Northern Province, women take care of a disproportionate number of orphans (an average of 3.36) as compared to male-headed households (an average of 1.86). A households study undertaken by FAO and the Farming Systems Association of Zambia in 2003, indicated that women do not only take care of more orphans, but often these orphans are also younger than in male-headed households and thus contribute less to the household labour force (FAO/FASAZ, 2003). In the case of the Northern Province, orphans do not differ much in age among the different household categories, except for female-headed households with PLWHA who take care of significantly younger orphans in comparison to male-headed households with orphans.

⁷ Selection of households from the AIDS morbidity strata in the first household survey comprising 231 households was done randomly.

⁸ The a priori categorisation of the eight household groups was further confirmed through exploratory data analysis (cluster analysis) (Garbero, 2005).

Table 4.1 Sample characteristics (N = 508)

Household category	Sample size	Mean age household head	Keeping orphans	
			mean number	mean age
Female-headed with PLWHA	74	40.9*	1.86	10*
Female-headed with orphans	45	42.2*	3.36	11
Male-headed with PLWHA	69	40.4*	0.65	11
Male-headed with orphans	36	39.3*	1.86	12*
Elderly-headed with PLWHA	31	71.0	0.87	12
Elderly-headed with orphans	25	71.0	2.76	11
Other female-headed	39	43.7*	0	not applicable
Non-affected	189	40.7*	0	not applicable

Source: Household survey (2004).

* One way between groups analysis of variance (ANOVA) significant at .05 level

Notes: Since the sample design did not purposively stratify for orphans and age and sex of household head, the sample size of the different household categories are not uniform.

Elderly-headed households are defined as households headed by grandmothers and/or grandfathers above sixty-four years of age. In the Northern Province, like in many other places (see Dayton and Ainsworth, 2002), the elderly increasingly bear the brunt of caring for their sick adult children who return home from urban areas. For this reason, the local people have nicknamed the disease '*kalaye noko*', a Bemba phrase literally meaning 'go and say goodbye to your parents'. In addition to caring for the sick, the elderly also have to provide for their orphaned grandchildren without much economic support. Non-affected households in this chapter are nuclear households that do not host orphans and do not have members who are long-term sick as a result of HIV/AIDS or related illnesses. Finally, the sample included a group of single women (defined as 'other'), which did not fit the criteria of keeping orphans or looking after chronically ill members. These women are *de facto* heads of households and include deserted women, married women whose spouses migrated, and women of polygamous marriages who do not stay with their husband on a permanent basis. In the Northern Province, families are traditionally monogamous and matrilocal, however, owing to intertribal marriages, patrilocal kinship systems and polygamous family structures are becoming increasingly important. Few cases of households headed by orphans

could be located in the province as most orphans are fostered by the extended family. Furthermore, only few single widowers could be found as widowed men tend to remarry quickly.

4.4 Results and discussion

4.4.1 A downward trend in household food production

The effects of AIDS on household labour endowment can vary greatly across households, depending on the potential labour availability (Larson *et al.*, 2004; Mather *et al.*, 2004). Table 4.2 depicts the household composition characteristics of the different household categories in the research.

Table 4.2 Household composition characteristics (N = 508)

Household category	Mean household size	Average number of children below 15 years		Average number of productive adults (15–64)		Average number of elderly (65+)	
		Girls	Boys	Women	Men	Women	Men
Female-headed with PLWHA	4.8*	1.18	1.22	1.64	0.72	0.01	0.03
Female-headed with orphans	5.7	1.69	1.20	1.73	1.07	0.02	0.00
Male-headed with PLWHA	6.1	1.38	1.45	1.45	1.67	0.06	0.03
Male-headed with orphans	7.1*	1.86	1.72	1.47	1.97	0.00	0.03
Elderly-headed with PLWHA	5.1*	1.00	0.65	1.42	0.90	0.68	0.45
Elderly-headed with orphans	5.9	1.20	1.52	1.20	0.84	0.56	0.56
Other female-headed	4.5*	1.08	1.15	1.44	0.72	0.13	0.00
Non-affected	5.6*	1.41	1.33	1.32	1.41	0.01	0.10

Source: Household survey (2004).

* One way between groups analysis of variance (ANOVA) significant at .05 level

The high prevalence rate in the province has affected the household labour supply and shaped the household structure in the sample communities so that increasing numbers of families are headed by women and dominated by the elderly and the young. As seen in Table 4.2, the female and elderly-headed households in the study sample have, on average, less total adult labour (persons in the fifteen to sixty-four years of age category) available for productive and domestic activities than do male-headed or unaffected households. In elderly-headed households, adult members comprise only about 35 to 45 percent of total household size, as compared to 48 to 51 percent for other household types. Also, female and elderly-headed households have far fewer productive male members, averaging a single adult male (or less). This lack of available adult male labour constraints livelihood options since some of the common livelihood activities in the area, such as slash-and-burn cultivation, fishing, poaching and charcoal burning, are largely carried out by men. To access male labour, these households are dependent on beer brewing as a source of exchange. Male-headed households with orphans, on the other hand, have the largest household productive labour force, including the largest average number of productive adult males.

One of the response strategies adopted by households to cope with the loss of prime-aged adults as a result of AIDS is a greater involvement of children in farm activities (Mather *et al.*, 2004). According to Table 4.3, the proportion of both girls and boys who are agriculturally-active is highest for elderly-headed households caring for orphans. High levels of child involvement in agriculture can also be observed in female-headed households with PLWHA, male-headed households with orphans and elderly-headed households with PLWHA. Boys below fifteen years of age contribute substantially more to the household agricultural labour force of the different households affected by AIDS compared to non-affected households. For example, 22 percent of boys under fifteen within male-headed households with orphans participate actively in farm labour compared to eight percent in non-affected households. Girls in male-headed households with orphans are less likely to be part of the agricultural labour force, even though there are more girls than boys on average in such households (1.86 girls vs. 1.72 boys). In fact, research findings show a lower contribution of girls to the household agricultural labour force than boys across all household groups. The lower contribution of girls to agricultural activities as perceived by the household head could indicate an undervaluing of women's and girls' input to food production and of their greater involvement in domestic tasks and caring for the sick, as noted in many studies of rural gender issues (see Feldstein and Poats, 1989). It should be noted that children below fifteen who assist in farm and domestic tasks do not necessarily drop out of school, but their attendance is less regular, depending on the demands of the agricultural season (FAO, 2004). Children of these households may not continue to upper-primary and secondary education and for that reason these households may risk the loss of future income-generating capacity.

Table 4.3 Children's contribution to household agricultural labour force by household category (N= 508)

Household category	Contribution of children below 15 years to the household agricultural labour force	
	Girls (%)	Boys (%)
Female-headed with PLWHA	12.2	21.6
Female-headed with orphans	11.5	13.6
Male-headed with PLWHA	8.1	17.8
Male-headed with orphans	6.7	21.9
Elderly-headed with PLWHA	9.4	19.0
Elderly-headed with orphans	15.6	24.4
Other female-headed	2.6	11.6
Non-affected	8.3	8.5

Source: Household survey (2004).

Smallholder agriculture in Zambia is particularly vulnerable to a decline in the productive capacity of households as it is highly labour demanding and relies almost exclusively on family labour, especially that of women. Table 4.4 presents information on food production characteristics of sample households. As might be expected, AIDS-affected households in the Northern Province were more likely to state that they had reduced the area cultivated, shifted from growing maize to cassava, and invested less in farm inputs such as fertiliser. This downward trend in food production is most pronounced among female-headed households with PLWHA and elderly-headed households, as shown in Table 4.4. Research findings indicate that, in particular, elderly-headed households with orphans no longer have the energy and labour force to work on the farm and have consequently reduced the proportion of their holdings under cultivation by almost a third over the last five years. Likewise, female-headed households with chronically ill members face labour and financial problems. Only 44 percent of these households are able to cultivate maize. From focus group discussions and key informant interviews it transpired that many female-headed households with chronically ill members have shifted to cultivating cassava and thus depend on other means to access their main staple food. Larson *et al.* (2004) found a similar downward trend in Central Zambia, where labour-constrained households that faced a prime-aged adult death due to AIDS reduced both maize cultivation and maize output by one-third⁹. Table

⁹ By contrast, Beegle's (2003) research among 800 households in Tanzania recorded insignificant changes in labour supply and no shift towards subsistence food farming among households that experienced a prime-aged adult death.

4.4 further shows that female-headed households with PLWHA and elderly-headed households are less able to invest in agriculture in comparison to male-headed households affected by AIDS and non-affected households. This is reflected in their reduced expenditure on farm inputs and the low adoption of chemical fertilisers. Despite the recent efforts of the Zambian Government to enhance access to farm inputs by partly subsidising fertiliser packages by 25 to 50 percent, female and elderly-headed households can hardly afford these packages. The overall downward trend in food production in the province has its origin in the macro-economic recession in Zambia that followed the collapse of the mining sector. Liberalisation of maize and input markets as part of the structural adjustment programme of the early 1990s resulted in a continuing decline in maize-fertiliser price ratios and a market vacuum for cash crops (Jayne *et al.*, 2004). Consequently, farmers shifted from cultivating maize to cassava production and decreased the use of farm inputs. HIV/AIDS has accelerated this shift for a large number of households. Recently, the government has been encouraging farmers to organise themselves into formal co-operatives, as a move away from subsistence agriculture towards commercialisation of agriculture (GRZ, 2003). These co-operatives are an important vehicle through which rural farmers can obtain government-sponsored input loans. To become a member and access subsidised inputs, farmers have to pay a membership fee and a certain amount, which corresponds to the requested inputs, up-front. The programme is still at an early stage and few farmers in the province have established themselves in formal co-operatives. However, Table 4.4 shows that membership in cooperatives is particularly low across the different household groups affected by HIV/AIDS. The most likely reasons for this are competing labour and cash needs, low perceived benefits, high levels of social stigma associated with the disease and insufficient targeting by service providers.

A decrease in the area cultivated and a diminished ability to invest in agricultural inputs contribute to a reduction in household food production and imply that households are less food sufficient from their own produce. Data collected on food production among 231 households show that none of the different household categories in the Northern Province produce enough food to last them throughout the year (Table 4.4). In particular, male-headed households with PLWHA and female-headed households with PLWHA and/or orphans are less able to produce enough food; on average they are food sufficient from their own produce for a period of 6.9 to 6.6 months per year as compared to 8.2 months for non-affected households. In absence of alternative livelihood options, food insufficiency makes households more prone to adopting risky survival strategies like transactional sex for food and cash. For people already infected, insufficient availability of food may lead to inadequate nutritional intake, with the attendant increased likelihood of opportunistic infections and earlier onset of full-blown AIDS. In a particularly cruel twist of the disease, households that are food insufficient because of the pandemic can often find themselves scattered among relatively more well-off neighbours, especially in an area like the Northern Province, which is generally known to be relatively food secure. As such, they are not identified as deficient through

traditional food and nutrition monitoring systems and may easily be bypassed in emergency food relief programmes.

Table 4.4 Food production characteristics by household category

Household category	Change in area land cultivated (%) ^a	Proportion cultivating maize ^b (%)	Change in expenditure on farm inputs (%) ^{a*}	Adopting chemical fertilisers (%) ^a	Co-operative membership (%) ^a	Number of months food sufficient ^b
Female-headed with PLWHA	-9.6	44	-12.0	6.7	7.1	6.6
Female-headed with orphans	3.7	67	0.0	3.3	7.1	6.9
Male-headed with PLWHA	-5.0	69	3.6	16.7	15.7	6.9
Male-headed with orphans	-12.5	80	27.8	13.3	10.1	7.7
Elderly-headed with PLWHA	-11.5	-	-22.2	6.7	10.0	-
Elderly-headed with orphans	-29.0	-	-33.3	3.3	5.7	-
Other female-headed	10.2	-	0.0	6.7	6.4	-
Non-affected	4.1	72	7.9	43.3	37.9	8.2

Source: Household survey (2004).

^a N = 508; ^b N = 231; - = no data available; * Chi-square significant at the .05 level

4.4.2 Declining exchange entitlements

For the majority of households in the Northern Province, own production provides most of the food consumed. To reduce food deficits owing to decreased production, households thus rely on exchange entitlements through food purchase from income and through social claims. In the Northern Province, where 66 percent of the population lives in extreme poverty, levels of household purchasing power are generally low. Consequently, bartering or the exchange of goods for other

items rather than for money has become an important means to obtain food stuffs and household goods in all of the sample communities. Bartering takes place among households, and with traders, and mainly involves the exchange of crop produce for other crops, groceries, fish, chickens and clothes. Community discussions in the sample communities showed that weak negotiating power, in particular among female-headed households, increases the likelihood of sexual favours during those transactions. Also, female traders coming from neighbouring towns to buy game meat, fish and crop produce offer sex in order to obtain these commodities at lower prices, especially when the demand is greater than supply and prices increase.

In the Northern Province, constrained income-earning opportunities due to its remoteness, poor infrastructure and markets, and the difficulties in obtaining loans form part of the external vulnerability context of rural households. Most households engage in a limited set of income-generating activities, mainly involving a combination of selling crops at a local market, fishing, petty trading, beer brewing, charcoal burning and provision of informal services or casual work primarily rewarded in kind, such as land preparation, weeding, cleaning compounds and collecting firewood. Research findings show that the average number of off-farm income sources in 2004 does not differ significantly across the different household categories and ranges between 1.2 and 1.8 (Table 4.5). Likewise, there is no significant difference in the average number of household members presently involved in income-generating activities across household categories. However, elderly-headed households with orphans have, on average, more household members involved in off-farm income-generating activities than other household types. This represents a higher proportion of the adults in the household, as well as a higher proportion of total household size. Household members engaged in off-farm income-generating activities as a proportion of economically-active adults in the household is also high for elderly-headed households with PLWHA (60 percent), and female and male-headed households with PLWHA (59 and 58 percent, respectively). The findings also show a greater trend towards income diversification for female and male-headed households with PLWHA over the past five years as compared to other household categories. Female and male-headed households with PLWHA increased their income sources by 12 percent and 17 percent, respectively, over the recall period. Over this same period, households keeping orphans and unaffected households each increased their number of income sources by seven percent, while elderly-headed households reduced their sources by five percent.

Diversification, not only related to income sources but also to the portfolio of assets, is generally associated with reducing vulnerability to food and livelihood insecurity as well as with coping in situations of livelihood stress (Ellis, 2000; Niehof, 2004c). Diversification is not only an option for poor small farmers but is prevalent among the better-offs as well. The nature of diversification differs across different income classes. While better-off households diversify more in the form of non-farm related activities such as trade, shop keeping and transport,

diversification by the poor tends to rely on agriculture and largely involves casual wage work, particularly on other farms (Ellis and Allison, 2004). Furthermore, households diversify for different reasons: diversification as a form of profitable livelihood strategies, i.e. diversification for 'good reasons', or as a way to cope with livelihood risks and shocks, i.e. diversification for 'bad reasons' (Niehof, 2004c). In the case of the female and male-headed households with PLWHA, income diversification is primarily a coping strategy.

Table 4.5 Income-generating characteristics by household category (1999–2004)

Household category	Mean number of present off-farm income sources (and % change)	Mean number of household members involved in off-farm income sources	Changes in casual work as income source (food for work basis) (%)*	Changes in beer brewing as income source (%)*
Female-headed with PLWHA	1.7 (+12%)	1.4	+14.3	+16.1
Female-headed with orphans	1.6 (+7%)	1.2	+66.7	+15.0
Male-headed with PLWHA	1.7 (+17%)	1.6	+25.0	+4.0
Male-headed with orphans	1.7 (+7%)	1.5	+50.0	+12.5
Elderly-headed with PLWHA	1.2 (-5%)	1.4	0.0	+10.0
Elderly-headed with orphans	1.5 (-5%)	2.4	0.0	+28.6
Other female-headed	1.2 (-15%)	1.6	+50.0	+10.0
Non-affected	1.8 (+7%)	1.5	+9.5	+6.2

Source: Household survey (2004).

N = 508; * Chi-square significant at .05 level

Table 4.5 shows a significant differentiation among the households in their increased dependence on low-profit economic activities such as beer brewing and food for work. Nearly 29 percent of elderly-headed households with orphans and 15 to 16 percent of female-headed households with PLWHA or orphans resorted to

beer brewing as an income source. These households are constrained by resources and have few alternatives for income generation other than brewing beer, which requires low initial capital, labour and skills, and is an activity that can be undertaken on the homestead. Table 4.5 further shows that higher proportions of male and female-headed households with orphans tend to depend more on casual work than do other types of households. Over the last five years, 67 and 50 percent more female and male-headed households with orphans, respectively, resorted to casual work rewarded by food.

4.4.3 More needs, less to claim

When confronted with sickness and hardship, people lay more social claims on the extended family, kinship group, friends and neighbours for food, labour, cash and other resources. In the Northern Province, reciprocal relations of households affected by HIV/AIDS concentrate predominately on small informal loans, child support in the form of care and clothes and basic food items. Table 4.6 presents information on social capital characteristics, which differ strongly between affected and non-affected households.¹⁰ The table indicates that while small informal loans are an important source of support among households in the province, and help to cover expenses for school fees, farm inputs, medicines and transport, fewer households affected by HIV/AIDS receive financial assistance from their social network than non-affected households. The affected households are less able to reciprocate these loans, which leaves them with few alternatives but to cash-in assets to cover their expenses.

The results also show that, overall, few households participate in labour-sharing groups. Labour-sharing groups are only beneficial to households with orphans and non-affected households as they are less constrained by time and energy to commit to working on a rotational basis from field to field. Furthermore, data in Table 4.6 show that male and female-headed households with sick members depend heavily on their social network for assistance with care and clothes support for the children. The findings suggest that most of the financial and in-kind support is provided by non-affected households, implying that AIDS affects a wider group of people as it increases the dependence on kinship ties and family relations.

Membership in community-based organisations appears to be significantly lower across the different households affected by HIV/AIDS. While membership in various community groups may act as a form of insurance against different types of calamities (De Weerd, 2001), few of these households in the study are able to participate in community organisations, as they lack the energy to invest in their social capital and are often not targeted by development efforts. The participation of elderly-headed households (four to six percent) is especially low.

¹⁰ Data on membership in community-based organisations was collected among 508 households, whereas in-depth information on household's reciprocal relations was collected among a sub-sample of 37 households.

Table 4.6 Social capital characteristics by household category

Household category	Membership in community based organisations (%) ^{a*}	Participates in labour-sharing groups (%) ^b	Receives financial support from social network (%) ^b	Provides financial support to social network (%) ^b	Receives child support (in kind) from social network (%) ^b	Provides child support (in kind) for social network (%) ^b
Female-headed with PLWHA	15.6	0	28.6	0	57.1	0
Female-headed with orphans	4.9	33.3	33.3	0	33.3	16.7
Male-headed with PLWHA	17.5	0	50.0	0	66.7	0
Male-headed with orphans	13.6	20.0	20.0	20.0	20.0	0
Elderly-headed with PLWHA	5.8	-	-	-	-	-
Elderly-headed with orphans	3.9	-	-	-	-	-
Other female-headed	8.7	-	-	-	-	-
Non-affected	30.0	10.0	70.0	50.0	0	60.0

Source: Household survey (2004).

^a N = 508; ^b N = 37; - = no data available; * Chi-square significant at the .05 level

Furthermore, information gathered from 231 households demonstrates that 73 percent of female-headed households with PLWHA who participate in community organisations are members of women and health clubs. These community organisations thus provide an excellent future entry point for food security, nutrition and income-generating activities. This information further shows that female-headed households with PLWHA and/or orphans take up few leadership positions

in community organisations: only 7 percent of them are chairpersons, treasures or secretaries, whereas 29 percent of the male-headed households fulfilled leadership roles. Furthermore, only five percent of female-headed households with PLWHA and/or orphans participate in community satellite committees set up to identify vulnerable households that are entitled to government-sponsored free farm input support. Consequently, these households often lose out on development initiatives, including relief support.

Focus group discussions in the sample communities further suggest that, in general, community social support mechanisms for HIV/AIDS-affected households in the province are weak. In fact, traditional social cohesion appears to be weakening in the face of HIV/AIDS as sick adults and their care-givers are less able, and often too stigmatised, to participate in the kinds of traditional activities that hold communities together, such as community associations and collective economic efforts. The erosion of reciprocal relations parallels the weakening of social cohesion. The AIDS epidemic increasingly makes households more dependent upon money and resources from neighbours, friends and extended family, but at a certain stage such households can no longer reciprocate the gifts and loans to uphold the relationship.

4.4.4 The struggle to maintain and protect asset ownership

Weakening of social capital further undermines the capacity of families to respond to the hardships inflicted by AIDS and increases their dependence on divesting assets. Distress sale of assets is a strategy across all household categories in the sample area to overcome immediate cash needs for expenses like medical bills, transport and school fees. Often, this would involve the sale of a sheep or goat, a bicycle or a radio to other households in the community. The overall pattern across the household categories in the Northern Province shows low asset ownership (see Table 4.7), which reflects the general poverty status in the province. Ownership of cattle, traditionally an important form of savings among rural households, is insignificant in all four sample areas as these areas used to be highly infested by the tsetse fly.

The findings show a significant gender discrepancy in asset ownership, with households headed by women owning substantially fewer items such as small livestock, bicycles, radios and productive assets like axes, compared to male heads of households. Land in the Northern Province is communal and still abundant and hence the user rights of the different household categories do not substantially differ. Female-headed households with PLWHA represent the most asset-poor category. These households have exhausted most of their liquid assets and increasingly dispose of productive assets as well.

Table 4.7 Asset ownership and property grabbing by household category (2004) (N = 508)

Household category	Ownership of liquid assets			Ownership of productive assets			Incidences of property grabbing (%)
	Radio (mean)	Bicycle (mean)	Goats (mean)	Axes (mean)	Hoe (mean)	Mean land size (ha)	
Female-headed with PLWHA	0.07*	0.14*	0.19*	1.20*	2.82	1.14	35.1
Female-headed with orphans	0.09*	0.16*	0.49	1.56	3.22	1.27	11.5
Male-headed with PLWHA	0.42*	0.58*	0.51	2.07*	3.49	1.55	0.0
Male-headed with orphans	0.50*	0.58*	0.61	2.25*	5.25	1.67	0.0
Elderly-headed with PLWHA	0.52	0.42	0.52	1.87	3.77	1.48	8.3 ^a
Elderly-headed with orphans	0.24	0.48	1.04	1.96	3.80	1.95	20.0 ^a
Other	0.23	0.21	0.90	1.56	3.08	1.24	0
Non-affected	0.49*	0.55*	0.88*	2.12*	3.55	1.47	0

Source: Household survey (2004).

* One way between groups analysis of variance (ANOVA) significant at .05 level

^a Property was only taken from elderly women

Distress sales are compounded by the struggle of women to protect their rights to property after the death of their husbands. Marrying one of their late husband's male relatives used to be a traditional way of protecting the widow's access to property in patrilineal societies (Strickland, 2004). However, in most parts of Northern Province, wife inheritance is slowly disappearing and increasingly relatives of the late husband are disposing of the property of the surviving widow,

which they claim was purchased by the husband. Findings show that more than 35 percent of female-headed households with PLWHA reported that property was taken by the in-laws after the death of the husband, including household items, small livestock, farm implements, radios and bicycles. The disposal or grabbing of property from widows and orphans is not a new phenomenon, but the scale at which it is taking place is increasing. It has become more visible as more husbands are dying of HIV/AIDS-related illnesses today than in the past, leaving more widows and orphans behind who are exposed to property grabbing. The increasing occurrence of property grabbing is probably related to a combination of factors. These include the stigma associated with this particular disease (families affected by AIDS morbidity and mortality can be relegated to outcast status), the resource needs of surviving families who may be caring for their own sick family members, the general weakening of social cohesion in societies, the sheer number of widows and orphans that simply cannot be absorbed into surviving families as they traditionally might have been, and plain greed.

In Zambia, legislation assigns women and men full and equal rights to property and inheritance, but local customary laws often overrule such rights in practice. Wills are not part of the tradition of these communities. Discussions with key informants show that many of the women and orphans from whom property was taken do not seek legal assistance because they are not aware of their rights or for fear of witchcraft. Witchcraft is regarded as a power belonging to certain persons through their bodies or spirits, which enables them to fly out of the body or to transform themselves into other creatures and to kill, harm, or inflict illness on those whom they intend to weaken (Stewart and Strathern, 2004: 6). Belief in witchcraft is still common in Zambia and people practice it as a deterrent against theft – in this case the property claimed by the widow which in-laws regard as theirs –, to punish another person or to inflict harm on someone else, especially those who seem to be doing well in life (Walton and Kanbur, 1999).

4.5 Conclusions and implications

This chapter has looked at HIV/AIDS impacts on various aspects of access to food among different household categories. In general, the findings show a decline in household food production among households affected by HIV/AIDS as they reduce the area cultivated and use fewer farm inputs. The findings also show a sharp decrease in affected households' social capital. Households with sick members and/or orphans participate less in the co-operatives set up by the Zambian Government to access fertiliser at subsidised rates, are not often targeted by community-based organisations, and receive less financial support from their social network, as they can no longer reciprocate the assistance. The picture of an overall downward trend of declining resource base and livelihood options available to households is similar to that observed by other studies in sub-Saharan Africa, which have shown that the death of prime-aged adults can lead to a reduction in crop cultivation, a shift from cash to low-input or survival crops, a decline in

household food purchasing power, and an exhaustion of reciprocal relationships (Barnett and Blaikie, 1992; FAO, 1995, 2003b, 2004; Haddad and Gillespie, 2001; Topouzis, 2000). The findings presented in this chapter, however, draw particular attention to the differences in vulnerability to AIDS impacts among households headed by men, women and the elderly and the underlying causal factors that shape their vulnerability levels.

The Northern Province study accentuates the difficulties faced in securing food especially among female-headed households with PLWHA and elderly-headed households affected by the epidemic. Female-headed households with PLWHA represent the most asset-poor category and are least able to respond to the hardships caused by AIDS. These households have reduced crop production, decreased the investment in farm inputs, disposed of many of their liquid and productive assets, and increasingly resorted to low-profit activities such as food for work and beer brewing. Their capacity to respond to economic and other shocks is undermined by their weak ties to the social network on which they rely in times of hardship, their limited income-generating opportunities, and their restricted access to assets, all of which hinders their capacity to build up social capital and increases the risk of property loss after the death of the husband, as discriminatory local customary laws often overrule legislation. Although the literature on HIV/AIDS impacts pictures female-headed households as a marginalized group who are highly vulnerable to the AIDS epidemic, it is important to note that female household heads cannot be taken as a unitary category but also experience different levels of vulnerability, based on age, marital status, educational level and economic position (Baylies, 2002a).

Elderly-headed households burdened by PLWHA and orphans are another highly vulnerable group that have their own specific constraints and experiences in dealing with the epidemic. The age and frailty of elderly household heads make it difficult for them to produce food and to use assets productively. Grandchildren within these households contribute substantially to the labour force, which might jeopardise their education and future livelihood prospects. The social support network of elderly is limited and these households are often ignored by group efforts and development initiatives. Furthermore, Dayton and Ainsworth (2002) found in their research on the elderly and AIDS in Tanzania that the physical well-being of the elderly deteriorates when they have to take care of terminally ill persons.

The various households burdened by illness, premature death and orphans as a consequence of HIV/AIDS cannot be treated as a homogeneous group. Understanding vulnerability differentiation is crucial as it exposes the differing causal conditions that enable or disable people in their capacity to respond, which has important policy and programme implications. These must be sensitive to the differences in impact across households and challenge the inequalities that drive the epidemic as well as its effects (Baylies, 2002b).

Loevinsohn and Gillespie (2003) argue for the use of a 'HIV/AIDS lens' in programme and policy formulation, through which to view the different causal factors that lead to increased or reduced susceptibility and vulnerability levels. In the case presented in this chapter, applying an 'HIV/AIDS' lens would call for pro-poor development efforts for the most vulnerable in society as well as advancing gender equality. Presently, the Government of Zambia directs few financial resources and services towards the very poor in society, such as protecting access to education, ensuring accountability of services to the poor and improving access to credit and employment opportunities. Regrettably, the government social safety net system for vulnerable households is limited and has declined in real terms over recent years (PRSP, 2002), and public welfare assistance schemes are mainly limited to urban areas (Ireland Aid, 2002). To reduce poverty, the Zambian government is concentrating on accelerating agricultural growth (PRSP, 2002), but it places limited emphasis on interventions that ensure sustained food security and increased farmer income for the poorest and most vulnerable households. To date, the government has committed inadequate human and financial resources to gender mainstreaming and the different livelihoods constraints faced by men and women have been insufficiently addressed (PRSP, 2002). Renewed emphasis on promoting gender equality is thus needed, in particular efforts that would remove barriers to women's economic participation, enforce laws relating to property and inheritance rights, and make financial services available to women.

5 COPING OR NOT COPING

In highly affected regions, the AIDS epidemic has resulted in an increase in female-headed households, both in numbers and representation. This is because adult men may often be the ones who are first affected and the first to die – although this trend is changing – and because men tend to remarry quickly after becoming a widower, as opposed to women (Rugalema, 1999; Baylies, 2002b; UNAIDS, 2004a). In southern Africa, the most affected region, approximately 34 percent of households with children are already headed by women (UNICEF and UNAIDS, 2003). In rural Zambia, 24 percent of all households are female-headed (CSO, 2004a). Female-headed households face several difficulties in securing food and income when confronted with HIV/AIDS, as was accentuated in the previous chapter. However, female-headed households are a highly heterogeneous group and the ability to respond to AIDS differs among households.

This chapter examines the differences in the capabilities to respond to AIDS among women heads of households through 12 case studies. In particular, the chapter looks at the resources women mobilised over time and the factors that enabled or disabled them in their response. The analysis of the case studies is done both thematically and per case, and is presented in three main parts. Firstly, the chapter will, on the basis of all 12 cases, discuss how AIDS entered the household, the ensuing stigma and discrimination, and the subsequent problems the women had to cope with as a result of AIDS. Secondly, the chronological process of responding to AIDS will be analysed using five selected case households. Lastly, the chapter will discuss the sequencing of response strategies, the asset-base from which response strategies are derived, and the interrelated factors that contributed to, or limited, women's capability to respond, on the basis of all case studies.

5.1 The concept of coping

The concept of coping has been frequently used and debated in the growing literature body on HIV/AIDS impacts (Sauerborn *et al.*, 1996; Donahue, 1998; Mutangadura *et al.*, 1999; Rugalema, 1999; Barnet and Whiteside, 2002; Loevinsohn and Gillespie, 2003). The discussion on coping strategies derives from the aftermath of the famines in the 1980's (Corbett 1988; De Waal, 1989;

Devereux, 1993; Davies, 1996; Moser 1998; Swift, 1998). Coping strategies are temporary responses that individuals, households and communities adopt in order to avert a negative effect. The attributed purpose of why households adopt coping strategies varies per field. From a famine perspective, coping strategies are designed to avert declines in food availability in abnormal seasons or years, whereas from a livelihood's perspective, household adopt strategies to preserve their livelihoods (Davies, 1996). In the AIDS literature, coping strategies aim at maintaining or improving household food security, raising and supplementing income, and alleviating the loss of labour (Mutangadura *et al.*, 1999). Ultimately, coping strategies are adopted to sustain the economic viability of a household and to avert its disintegration (Sauerborn *et al.*, 1996). Drimie *et al.* (2005), based on a literature review on AIDS and rural livelihoods in Southern Africa, divided household coping strategies into four categories: labour-based strategies, consumption strategies, income strategies, and strategies involving social capital. Labour-based strategies are adopted by households to overcome time constraints due to illness and/or death. They include intra-household labour reallocation, withdrawing children from school, bringing in new members or hiring people, shifting the cropping mix, and reducing the area planted. Consumption-based strategies involve reducing the number of meals, skipping meals, eating wild foods, and food support from kin. Income strategies that have been identified in the AIDS literature include selling livestock, agricultural produce and household assets, income diversification, migration, and receiving remittances. Lastly, coping strategies based on social capital include receiving food and other basic needs from kinship networks, moving in with relatives, and relatives helping with child-care and farming.

Following Frankenberger and Goldstein (1990; in Davies, 1996), households do not respond to a livelihood shock on an arbitrary basis but they develop strategies to minimise risks to livelihood sustainability. These include non-erosive strategies such as reducing consumption, migration of a household member for work purposes, gathering wild food, and erosive strategies like the disposal of moveable assets followed by the disposal of productive assets (De Waal, 1989; Ellis, 2003). Households often adopt these strategies in sequence. Households would first adopt strategies that offset the potential risk to failure of the main production or income source – risk-minimisation strategies –, such as changes in cropping patterns, sale of small livestock, reduction of consumption, and cashing in claims and liquid assets (Corbett, 1988; De Waal, 1989; Webb *et al.*, 1992; Maxwell and Frankenberger, 1995). Upon failure, households dispose productive assets - risk absorption strategies - like livestock, implements and land and thus undermine the future household survival. The last stage of the sequence is destitution, resulting in disintegration of the household. In a study on the impact of the 1996 drought in Sri Lanka, Seneka Arachchi (1998) distinguishes two stages of coping strategies. In the first stage, households would exhaust different avenues that do not weaken future income options, such as using government food stamps, food exchange, food purchase on credit, casual work, reducing consumption, and temporary migration. Only in the second stage households turn to selling productive assets.

The Sri Lanka study further shows that households first diversify the use of their resources and assets to find alternative income sources to cope with a situation of stress, followed by asset disposal, or de-diversification of household assets, to get cash (cf. Niehof, 2004c).

Much of the AIDS impact literature focuses on problem-focused coping strategies, i.e. strategies that households adopt to avert negative impacts of livelihoods shocks. Less attention is paid to emotion-focused coping strategies. Carver *et al.* (1989; see Woudenberg, 1998) stress the importance of emotion-focused coping strategies to reduce or manage the emotional stress caused by livelihood shocks. HIV/AIDS is a special livelihood shock that causes great stress in individuals. AIDS cannot be cured and without ARV treatment for many poor it means the infected person will eventually die. The individual left behind may suffer health problems and question the meaning of life following the death of the spouse (Nolen-Hoeksema and Larson, 1999). Depressed feelings may hinder individuals to build up their livelihood. Especially for widows, the death of a husband can cause stress through loss of self-identity, as before widowhood husband and wife were seen as a couple and part of the extended family and society (Pickard, 1994). The fear of being infected themselves adds to the worry of widows and widowers (Luginaah *et al.*, 2005). Other stress factors include the great direct and indirect financial costs brought about by AIDS as well as the stigma, discrimination and the blaming associated with the disease. Generally, people adopt problem-focused coping responses when they sense they can resolve the source of stress or its impacts, albeit temporarily. When people feel their situation cannot be altered, emotion-focused responses become important. Emotion-focused coping strategies identified in the literature include: seeking emotional social support to get sympathy and understanding from others, positive reinterpretation aimed at managing the emotions associated with the stress by positive sites of one's situation, acceptance of the situation, turning to religion, and denial (Woudenberg, 1998). While the emotional side of losing family and friends should play an important role in HIV/AIDS programmes, it is often not addressed in academic and donor discussions on AIDS impact and interventions (Seeley *et al.*, 2003).

The ability to cope and the strategies adopted differ among households. Several factors influence a household's coping options. The 'choice' of coping options is firstly determined by the livelihood system of the household. Other factors that influence the choice of coping strategies include: the available production options, households' capability to exploit these, and the resource endowment at the onset of the crisis including the household structure, the asset portfolio and the status of the household within the community (Davies, 1996). Wealthy and large households have a greater option of coping choices than poor households. These households can draw more on reciprocal support since they have the resources to return a favour, and are more likely to substitute labour (Moser, 1996; Sauerborn *et al.*, 1996). Differences in coping strategies are not only determined by the asset-base of households but the personality of individuals may play an important role as well (Carver *et al.*, 1992; see Woudenberg 1998). Strong characters might be able to

access more resources or be more inventive in their way of responding to stress and shocks. Barnett and Whiteside (2002), however, question whether poor household have any option at all or whether they are so destitute that they have to use all means to get through the next day.

The appropriateness of the term 'coping' has been widely debated by several authors for various reasons (see Davies, 1996; Rugalema, 1999; Barnett and Whiteside, 2002; Russell, 2003; Loevinsohn and Gillespie, 2003). Davies (1996) mentions that coping strategies are not a useful term as it is often used to describe all activities rural households undertake besides their primary production activities. As such, the term mixes short-term coping and longer-term adaptation and thus disguises permanent changes in the way people acquire food or sustain their livelihood. To provide an example, in the Northern Province livelihood systems are vulnerable as the primary activities cannot guarantee a year-round food supply. To close the food gap, secondary livelihood activities, or in the words of Davies 'adaptive strategies', have become essential. These are eating and selling wild foods, handicraft and casual work. While these strategies were initially used to meet the food gap, over time they have become part of households' secondary activities. In the context of HIV/AIDS, the term 'coping' has been found inappropriate as coping implies that households actually do cope while in reality they do not. Rugalema (1999) argues that coping is a myth as many households dissolve rather than cope and the adopted responses to AIDS impact are efforts to survive in the very short-term rather than viable strategies. Furthermore, households may seem to cope in the short-term, but this is often at the expense of asset depletion and increases the risk that households are not able to cope with future shocks (Swift, 1989; Sauerborn *et al.*, 1996). For instance, Yamano and Jayne (2004) based on their work in Kenya show that households that experienced a prime-aged adult may not recover for years. According to Barnett and Whiteside (2002: 190), coping is another way of saying "desperate poverty, social exclusion and marginalisation". Loevinsohn and Gillespie (2003) argue that coping implies that household strategies towards livelihood shocks are reversible, however, for many of the adopted strategies like sale of assets this is not the case. Hence, they propose the term 'responding' instead of 'coping'. On the other hand, De Waal *et al.* (2005) in their paper on Tanzania reason that traditional rural African coping strategies can mitigate some of the worst effects of HIV/AIDS in the short-term in cases where households are not facing multiple shocks, and depending on a range of factors. The factors include: sex, age and position of the ill or deceased person, the economic status of the household, the production system and its labour requirements, availability of formal and informal sources of support, and livelihood opportunities. Also, several household surveys undertaken in the mid-1990s (see World Bank, 1997; Ainsworth *et al.*, 1998; Bechu, 1998) indicated various degrees of household resilience and recovery of consumption levels following an AIDS death in the household. Barnett and Whiteside (2001; 2002), however, have suggested that traditional impact research such as the World Bank Kagera study painted a more positive picture of households' coping ability as they did not include dissolved households – i.e. households that were not able to cope with the AIDS

effects – nor were in-depth discussions held with individuals using detailed ethnographic and case study approaches as done by Rugalema (1999). Another point of critique on coping strategies is that it implies elements of rational choice and the ability to anticipate a foreseeable crisis in the immediate future, such as bridging the annual period of food shortages (Pennartz and Niehof, 1999; Niehof, 2004c). Unlike recurrent periods of food shortages and seasonal floodings, AIDS is not a shock that is predictable but is uncertain in terms of its duration and what the situation will be when the person has died. Moreover, the impact and burden of AIDS is incremental over time, hence the use of the term responding is more appropriate.

5.2 Study sample and methodology

5.2.1 Sampling

Case study research was conducted in which a total of 12 female-headed households affected by HIV/AIDS from four communities in Mpika and Mwungi Districts, Northern Province, participated. The main purpose of collecting case studies was to understand the resource mobilisation process of different women when confronted with AIDS-related sickness and death and the challenges and opportunities they faced in responding to AIDS. The households were purposively selected from the quantitative household survey sample described in Chapter 4. The aim was not so much to select representative cases but rather a diversity of cases. Therefore, selection criteria included age of household head, the economic status of the household, and the relation of the ill or deceased person to the household head with respect to whether the person was the husband or the adolescent son or daughter. To determine the economic status of the household local indicators of poverty were used. According to local standards, a poor household has a small house, no access to off-farm income sources and depends to a great extent on cassava – considered a poor '(wo)man's crop', whereas an economically better-off household grows cash crops and has access to at least one formal or informal source of off-farm income. The households selected include: young and middle-aged widows as a result of AIDS, *de jure* female-headed households with an adolescent child infected by HIV/AIDS, and grandmothers with orphans (Table 5.1). Selection of these households was done through local health workers after seeking consent from the local leaders.

5.2.2 Procedure and data analysis

The case study participants were interviewed three times between February and April 2005. Each interview lasted for about two hours and was done in private. Prior to the interview, informed consent was obtained from all participants. Confidentiality of the data was discussed and participants stressed that they did not mind if their narratives were used as long as their stories could not be easily connected to their names. Therefore, names used in this chapter are pseudonyms.

Table 5.1 Sample characteristics (N = 12)

Household category	Economic position	Sample size	Representation in overall sample (%)*	Description
Young widow	Poor	2	11	The household is headed by a young widow (below 30 years) who lost her husband during the last five years as a result of AIDS or related chronic diseases
	Better-off	2		
Widow	Poor	1	27	The household is headed by a widow aged between 35 and 59 years who lost her husband during the last five years as a result of AIDS or related chronic diseases
	Better-off	2		
Female-headed household with adolescent child infected by HIV/AIDS	Poor	2	4	The household is headed by a woman (< 59 years of age), either widowed, separated or divorced or her husband is living elsewhere, and she is taking care of a child (aged below 18) infected by HIV/AIDS
Grandmother with orphans	Poor	2	16	The household is headed by an elderly woman (60 years and above) who takes care of her grandchildren orphaned by AIDS
	Better-off	1		

Source: Case studies (2005).

* The overall sample of the household survey discussed in Chapter 4 included 141 female-headed households affected with AIDS through illness and/or the care for orphans.

The open interviews focused on the problems the women experienced during the sickness period and after death of their spouse or child, the different resources they mobilised in time to respond to these problems, and their opinion on their ability to respond. As far as was possible, the cases describe a chronological process of responding to AIDS, which proved to be a challenge, especially in the case of households headed by grandmothers. Participants tended to concentrate particularly on major actions, like selling a particular asset, and underreported the assistance received from their social network. Through probing and the use of an

agricultural calendar and major local events in time, the process of mobilising resources was mapped for the different households.

All interviews were audio-taped with the participants' permission, subsequently transcribed in the Bemba language, and later translated into English. Analysis was done qualitatively. Transcripts were read several times to generate key categories of women's perspectives. These include household characteristics; factors influencing impact, resource endowment and livelihood strategies at onset of crisis; openness towards HIV/AIDS; challenges experienced during illness and after death; responses during illness and after death; present livelihood strategies; own perspective of their ability to respond to AIDS; and livelihood outcome.

5.2.3 Introducing the cases

The 12 heads of households that participated in the case study research are in different phases of the family life span and vary by marital status, age, household characteristics, and educational attainment. Among the 12 participants, seven of the women are part of a monogamous matrilineal society, three of a monogamous patrilineal society, and two of the women were in a polygamous marriage. Furthermore, women differed in their reason for headship: widowhood, separation and polygamy. At the time of data collection (February-April 2005), the women that had lost their spouses because of AIDS had been widowed for two years on average, ranging from three months to four-and-a-half years. The households headed by elderly women in the sample had been widowed for over ten years and had been looking after their orphaned grandchildren for an average of two years.

The average age of the participants ranges from 29 years for the young widows, 38 years for the widows and female-headed households with an adolescent child infected with HIV/AIDS, to 67 years for the grandmothers with orphans. Two of the women have attained secondary education, the others have only primary education, except for the grandmothers participating in the study who were illiterate. The present average household size of the participants is 4.1 and ranges between two to seven persons. The dependency ratio¹¹ at the time of the interview varies greatly among the sample households: from 0.3 to 4.0. Excluding two of the grandmother-headed households, which comprise only dependents, the average dependency ratio of the sample households is high (1.7). In contrast, the average overall dependency ratio for rural households in the Northern Province is 1.06 (CSO, 2004b).

The livelihood of the participating women prior to the sickness of their husband or child was based on a combination of subsistence farming and income-generating activities. Crops cultivated at that time included cassava, maize and millet. Income sources prior to the onset of AIDS varied per household and included running a

¹¹ The dependency ratio is equal to the number of individuals aged below 15 or above 64 divided by the number of individuals aged 15 to 64, expressed as a percentage.

small business, selling vegetables and potatoes, petty trade, beer brewing, and casual work primarily rewarded in kind like land preparation, weeding and collecting firewood. The grandmothers in the sample relied much on monthly remittances from their adult children. Furthermore, participation in community-based organisations prior to AIDS entering the household was generally low. Only three of the 12 participating households had members in the local women's club, the cooperative, or the National Health Committee.

5.3 When AIDS enters the household...

Interestingly, in the first interview conducted with each of the 12 participants, the majority of the women when asked about their situation prior to AIDS entered their household and the subsequent changes in their life, focused their account on the relational side of their experience; i.e. what their spouses or adolescent children had done in their eyes to become sick. More than half of the women spoke of their husband's extramarital affairs when travelling for work purposes. Other reasons for AIDS entering the household included transactional sex, unsafe sex by adolescent children, and polygamy, as is reflected by the personal accounts in the four text boxes.

The first narrative (Box 1) provides an example for a majority of the women interviewed. Their spouses travelled regularly for short periods of time to work in nearby large agricultural estates or to transport goods to and from South Africa or Tanzania. Zambians have always had a fairly high level of mobility. According to the 2001-2002 Zambia Demographic and Health Survey (ZDHS), 54 percent of rural men had spent at least one night away from home in the past 12 months, and 18 percent had slept away from home for durations of more than one month (CSO, 2003c). This increases the risk of having unprotected sex with multiple partners and exposes them to high-risk sexual networks (Garbus, 2003), as might have

Box 1: Extramarital affair

"My husband was a truck driver. In 2002 he started operating in South Africa... There was a certain woman who was a trader in Choma, she asked my husband to help her in transporting her goods and my husband was doing that each time he travelled. Then...my husband had an affair with her. He did not tell me but I had a friend Rose who was also buying things from South Africa who saw them at a guesthouse... I did not tell him that Rose had seen him, but when he went again to South Africa, I also made arrangements with my friend and followed. I went to the guesthouse and got him red-handed. I came back and reported him to the court. I filed for a divorce and he begged me, but I could not withdraw as I learned that that woman always followed young guys just for their money. Her husband had died in the early 1990's... The two families, his and mine, tried to make us reconcile...I forgave him since he was good and for sure a good father to the children and since I am a Christian... Then he started getting sick..." [Emily, 28, young widow].

Source: Case studies (2005).

been the situation with Emily's husband who likely helped advance the female trader's business in exchange for sex. According to the 2000 Zambia Sexual Behaviour Survey (ZSBS), married men are more likely than married women to have different non-regular partners: 29 percent men and 16 percent women reportedly had extramarital sex in the last year (CSO, 2002). Unlike many married women who feel powerless to challenge their husband's extramarital affairs as it may jeopardise their relationship and economic and physical security (de Bruyn *et al.*, 1995; Rao Gupta, 2000), Emily challenged her husband and even tried to file for a divorce. But she is running her own small business and therefore has a certain economic autonomy.

Challenging a husband's extramarital affairs is, however, different from insisting on the use of a condom or having an HIV test when you know you are at risk. Economic and social dependence on male partners often hinders women from refusing unprotected sex (Oppenheim-Mason, 1994; Cohen and Reid, 1998) and is especially difficult for women in long-term relationships (Bond and Dover, 1997). The 2001-2002 ZDHS reported that 43 percent of rural Zambian men are of the opinion that a woman has no right to tell a man to use a condom, despite the fact that 76 percent of them believe a condom is effective in preventing HIV and other diseases (CSO, 2003c). Baylies, in her work on differences among Zambian women in susceptibility to HIV transmission, writes that women strongly perceive marriage as a risk in respect to HIV, since they cannot trust their husbands not to have extramarital liaisons (Baylies, 2002b). According to the ZDHS of 1996, 39 percent of the married women in Zambia feel at risk of HIV transmission, with more than 90 percent of them saying that this is because their husbands had multiple partners (CSO, 1997). The fear is most likely to be greater for younger women and those women with few children as they find themselves under pressure from their husbands and relatives to have children and yet would want to avoid HIV (Baingana *et al.*, 1995; in Baylies, 2002b).

Box 2: Polygamy

"It took long for us to have children. At first they were saying I was bewitched and we went to the witch doctor, but I did not believe this since I don't believe in the witch doctors... When a girl was born we were happy... After that I failed to have children... My husband was forced to marry another wife but he resisted, until in January 1998 when he married again. From then we were in a polygamous marriage... The husband of the woman he married had died. He was sick with diarrhea and vomiting for 5 months... When the husband died, she came back here with two children and started working in a shop in town. In August 1999, my husband started feeling unwell and he was found with TB. Other symptoms were loss of appetite, loss of weight, pain, numbness, and swollen lymph nodes. He was depressed, telling the family that he had refused to marry and put all the blame on his family" [Elizabeth, 37, widow].

Source: Case studies (2005).

Less often mentioned in the literature is the risk to HIV among married women in a polygamous relationship. In Zambia, 16 percent of married women are in polygamous unions (CSO, 2002). Polygamy is more common in rural areas: e.g. in the Northern Province over 20 percent of married women has one or more co-wives. While polygamy may seem to make extramarital sex less likely, it puts more people at risk when one or more of the people in the marriage group have sexual partners outside the marriage. Also, polygamy may pose a risk if a new co-wife entering the union is already infected. This could very likely have been the case in the second narrative (Box 2), where Elizabeth failed to get more children, and consequently her husband was forced to marry another wife whose husband had probably died of AIDS.

The third account (Box 3) illustrates a transmission pathway in which a young adolescent has an affair with an older widower who is most likely HIV positive. Many Zambians become sexually active at a young age. Following the 2005 ZSBS, 25 percent boys and almost 41 percent girls in the 15-19 cohort reportedly had sex within the last 12 months (CSO, 2006). The median age at the first intercourse is just under 17 years for women and about 18 years for men (CSO, 2003c). Not only are girls sexually active at a younger age than boys, they also engage more in unprotected sex: only 34.5 percent of young men and 23.6 percent of young women (15-19 years) living in rural areas reportedly used a condom at last sex (CSO, 2006). This, and the fact that many girls have their first sexual encounter with an older boy or elderly man, some of whom give them money or gifts in exchange, contributes to a more than two-fold higher prevalence rate among girls aged 15-19 than boys of the same age (CSO, 2003c).

Box 3: Unprotected sex among adolescents

"...My daughter [Peggy] went to Lusaka in 2003 to visit her cousin at the barracks, where she met a soldier named Christopher. He had lost his first wife and two children. Coincidentally, he was transferred... and my daughter went with him without her cousin's knowledge. She was away for about one year... In February 2004, we received news from the cousin that Peggy was very sick... I went to Peggy and I took her back with me... My husband accused me of encouraging Peggy to engage herself in prostitution and also claimed that I must be doing the same in the village. He left our home and went back to his parents' home... I don't know what caused the sickness of my daughter. Her skin is sore and she has lost her natural hair. She has swollen lymph nodes behind the ears and in the armpits and she has a persistent fever... I suspect that it was Christopher who made her sick, since he is now also sick and his wife and children died... People used to tease me that my daughter has come to say bye-bye... I used to discuss AIDS with my daughters and sons as the killer AIDS is here with us, so that when they get AIDS, it's not because we did not warn them; but they do not take in what we tell them, just like my daughter Peggy..." [Charity, 39, female-headed household with child infected by HIV/AIDS].

Source: Case studies (2005).

The last narrative (Box 4) represents the reality for many women and adolescent girls whose subordinate status, economic vulnerability and limited livelihood opportunities increase the likelihood that they engage in transactional sex in order to survive for the day, to transport goods, or to reduce the cost price on commodities such as fish. In times of AIDS, these survival strategies turn into death strategies (Schoepf, 1992). In the Northern Province, transactional sex is particularly common between female traders and fishermen, especially in periods of fish scarcity when competition between traders is stiff. The insinuated fish-for-sex exchange in the last narrative is largely driven by financial interest, but blackmailing by fishermen ('no sex no deal') and protection from assaults by other fishermen are important factors as well (Merkel, 2006). Data collected during the 2005 ZSBS on payment during the last sexual act with a non-regular partner showed that 11 percent of Zambian women reported receiving payment, with large differences between rural (14.5 percent) and urban (6.5 percent) women (CSO, 2006). The 2005 ZSBS data reflects a decrease in transactional sex from the 2000 ZSBS data, which showed that 25.6 percent of women had received cash in exchange of sex (CSO, 2000).

Box 4: Transactional sex

"The husband gave some money to Maria to start selling fish to support the family. Unfortunately my daughter was unfaithful to the husband, she was going out with fishermen for which I could say she was a prostitute. I think there is a tendency of these women who go to buy fish from the river. It is true they give their body so that they get free fish. The husband did not know his wife was having an affair with fishermen"
[Felicity, 66, grandmother with orphans].

Source: Case studies (2005).

5.4 The ensuing stigma and discrimination

The last two narratives presented in the previous section (Boxes 3 and 4) show high levels of stigmatisation and discrimination that are attached to the disease. In the case of Felicity (Box 4), she calls her daughter a prostitute and accuses her of having affairs with fishermen for free fish or at reduced price. Merkel (2006), based on her research on HIV/AIDS in the fishery sector, mentions that female fish traders are increasingly becoming stigmatised by local communities as they are perceived as being a source of HIV/AIDS. In the case of Charity (Box 3), her husband accuses her of exchanging sex for money and of having encouraged their child to prostitute as a result of which the child became sick with AIDS.

HIV/AIDS-related stigma remains a great challenge in Zambia. Data from the 2005 ZSBS indicated that only about 25 percent of the rural respondents felt comfortable of sharing a meal with an HIV-infected person, 58 percent would buy goods from an infected shopkeeper, and 35 percent reported that if a family member were HIV-positive, they would want to keep this a secret (CSO, 2006). In many rural areas in

Zambia, women are placed at the centre of HIV/AIDS-related stigma and accusations, particularly those who are poor and single (Panos Institute, 2001; Zambian National HIV/AIDS/STD/TB Council, 2001; Garbus, 2003). Gender-based power inequality leads to women being blamed as HIV transmitters rather than men (Müller, 2005a). For example, according to a study conducted by the Panos Institute on stigma and AIDS in rural Zambia, mothers were accused of transmitting AIDS to their babies, school girls were said to be only interested in sugar daddies, older women were charged with taking younger men at beer huts, and female traders were blamed for bringing HIV/AIDS into the area (Panos Institute, 2001).

Fear, silence and denial perpetuate stigma. Especially in settings where anti-retroviral (ARV) treatment is not accessible without great expenses and AIDS thus leads to death, fear and denial are common (Smith, 2002). Among the respondents, grandmothers and the mothers who cared for their sick adolescent children were the only cases that were ready to admit their (be-)loved ones have or had AIDS. None of the widows attributed their husband's death to AIDS. While the widows described symptoms of their late husbands' diseases that resembled that of AIDS, they remained silent about AIDS and accredited tuberculosis (TB) as the cause of death. Although all their spouses were recognised AIDS cases by the local health centre, they might have died from TB as it is one of the leading causes of death among HIV-infected people. Since HIV affects the immune system, HIV-infected persons are up to 50 times more likely to develop TB (WHO, 2005). On the other hand, TB is a cause of death that is much more 'accepted' by the norms of many societies and cultures than is AIDS. TB has no sexual origins and is thus not transmitted to the spouse, and can therefore be acclaimed without fear or shame, especially, in the case of a widow. It may also have been that the husbands had concealed their hospital diagnosis of being HIV-infected from their spouses. Not disclosing the diagnosis is a commonly found coping strategy among people living with HIV/AIDS (Radstake, 2000). Keeping the diagnosis secret from others is a response adopted to manage emotional stress but also to safeguard relationships with others. Silence and secrecy also surrounded AIDS when trying to discuss HIV status and testing with the participating widows. None of the widows admitted to have gone for testing as they did not want to know their status: *"Concerning my status I don't know, I don't know whether I am sick or not and I don't want to know I can die quickly, once I know my status"* [Julia, 30, young widow]. However, through the local health worker I learned that four out of the seven widows had gone for voluntary counselling and testing and had all tested positive. Furthermore, two of the widows were on ARV treatment at the time of the interviews. Evidently, AIDS is not easily discussed when it is directly affecting oneself; it's less hard to talk about AIDS in general terms and pointing fingers at others. Likewise, AIDS prevention is not easily discussed between couples: *"The bad part with my husband and I is that we were not discussing AIDS and safe sex since it is not common in our tradition to talk about such matters"* [Maria, 29, young widow]. Less than half of the widows in the sample reportedly had discussed AIDS and prevention with their spouses. This proportion is lower than the 2005 ZSBS where 74 percent of the rural women had ever discussed AIDS prevention with the

spouse and/or partner (CSO, 2006). Openness about AIDS within a relationship varies with age, residence and level of education: older women, those living in urban areas and more educated women are more likely to discuss AIDS prevention with their partners (CSO, 2003c).

5.5 The problems to cope with...

The AIDS literature has identified a wide range of challenges generated by HIV/AIDS, ranging from labour constraints, food and money problems as a result of declined production and the burden of caring for orphans, to intergenerational loss of knowledge (Barnett and Blaikie, 1992; FAO, 2003b, 2004; Gillespie *et al.*, 2001; Haddad and Gillespie, 2001; Topouzis, 2000; Yamano and Jayne, 2004). These challenges are experienced differently among households and over time. For the majority of the case study respondents, the most pressing challenge they faced when confronted with AIDS were time constraints due to the intensive care needs of the sick person, followed by interrelated money and food problems.

The burden of caring for AIDS patients

The responsibility of caring for people with AIDS falls primarily within the domain of the households and close relatives, and is based on respect and reciprocity (Radstake, 2000). This ethics of care in which the household and close relatives are the prime carers of AIDS patients has intensified over the last years due to increasing market forces that have resulted in high user fees for medical care (Baylies, 2002b). Caring for the most vulnerable members is a function of the overall resource allocation and management responsibilities of households and can only be provided if households and the caregivers have adequate caring capacity and recognise the common benefit of care (Niehof, 2004b). In the context of AIDS, this is no longer the situation. Members who are bedridden because of AIDS are not able to contribute to the household like they used to do nor can they provide care to others. Moreover, AIDS poses such a heavy burden that many households with sick members do not have the capacity to provide the care that is needed.

By and large, care is predominately a women's task. In their care-giving role, women are insufficiently supported by relevant institutions and are most of the times severely constrained by lack of necessary resources and competence (Niehof, 2004a). Caring for AIDS patients is very time-consuming as patients need both medical and emotional attention. Consequently, women are juggling between nursing the sick, caring for the children, tending the fields and other domestic and productive activities. This balancing act is even more challenging as people with AIDS need intensive care over long periods of time. The average morbidity period reported by the respondents is 17 months with a disability period of nine months prior to death. All patients of the respondents were hospitalised for several weeks in the provincial hospital during which the women continued to be responsible for a

large part of the care requirements. In fact, Radstake (2000) in her research on home care for people living with AIDS indicates that the difference between home care provided by the family and hospital care can be small, as hospital care often means relatives are responsible for cooking and feeding, bathing the patient, helping the patient relieve himself, cleaning the bed, waking at night and buying medicines. The care burden on women and other relatives can be somewhat relieved through home-based care support where volunteers, usually predominantly female, assist the affected household with nurturing the patient, advice, counselling, nutritious foods as well as with domestic and productive activities. This community-based care for AIDS patients is often entirely based on community volunteers and thus can only be sustained if the community's resource base is not eroded by the AIDS epidemic (Niehof, 2004a). In the Northern Province, home-based care organisations are thinly spread and insufficiently supported. Only few of the respondents had received some form of home-based care support through a Neighbourhood Health Committee, which comprised mainly home visits to check on the patient, moral support and food supplement assistance. The majority of the households, however, are unsupported in their responsibility to care for the AIDS patient.

Strained resource base

Caring for an AIDS patient is not only an intensive process for women and close relatives, it also puts a strain on the household resource base. On average, affected households spend about one-third of their monthly income on AIDS care related expenses such as hospital bills, transport to/from hospital, medicines and nutritious foods (Steinberg *et al.*, 2002; UNAIDS, 2004a). Because AIDS has a long morbidity period, households are left with few reserves once the patient has passed away. Money constraints after the death of a household member to feed, cloth and pay school fees for the children has been indicated as the main concern among the female-headed households in the case study research. Many of the women who struggled with the loss of the spouse may also face terminal illness themselves and have worries over what will happen to their children, as is illustrated by the following account: *"At the moment life is very difficult but I am trying by all means to educate my children so that even if I die at least one child can look after the others"* [Maria, 29, young widow].

Sexual cleansing

Compounding to distress over lack of resources is the subjection of the widows to sexual cleansing. As part of the funeral rites, the deceased man's brother or another male relative will cleanse the former spouse's death by having sex with the widow, without necessarily having to marry her. Without sexual cleansing, or *ukupyanika*, which literally means 'to raise the spirit', it is believed that future sexual partners of the surviving spouse will go mad or die. For many widows it is hard to refuse to be sexual cleansed because often refusal means eviction from the home and breaking ties with the community, as is narrated by Colletah:

“My husband relatives liked me; they never even took away any property and they did not want me to leave their area. I wanted to continue to stay in their place, so they organised a sexual cleansing ceremony where I was told to sleep with the young brother of my late husband, Paul, who is married. First, I tried to refuse but Paul came very often to visit the children and me and one day I found myself in a situation where I could not resist... In the process I was impregnated by the same man; this added another burden to me. This man does not support my children although he was given the responsibility by the family to do so” [Colletah, 36, widow].

In the advent of AIDS, increasing pressure has been put on local leaders, both by Zambian government leaders, national women's organisations and local churches, to ban this practice. Gradually, sexual cleansing is replaced with a symbolic gesture of wearing white beads on the right hand of the surviving widow, 'ukuwamy', after which she is free to marry anyone from outside the family.

Property grabbing

Another constraint related to widowhood is that of violating property and inheritance rights. At the end of the mourning period, the deceased spouse's property is typically inherited by his heir, or distributed among family or clan members (Potash, 1986). The widow is often at the losing end: *“My son was rich and had lot of household furniture, therefore some of it we gave to the wife, like the bed and some kitchen utility. I was given a radio, deep freezer, bicycle, a set of chairs, sofas and a bed”* [Mary, 70, Grandmother with orphans]. A quarter of the respondents had property taken by the in-laws after the death of the late husband. Others mentioned that not many assets were left to grab after the sickness of their spouse: *“the relatives did not take any property since most of the items were sold to pay for my husband's treatment”* [Jane, 30, young widow]. Women who have been stripped of property are less able to mitigate the economic and social impacts of HIV/AIDS and have fewer livelihood options to fall back on (Strickland, 2004). Property violations also make women more vulnerable to future shocks as they no longer have assets they could cash in to safeguard their future.

Several factors pave the way for property grabbing, including discriminatory laws and customary practices, unsupportive law enforcement institutions, and the low levels of awareness among women about their rights (Human Rights Watch, 2004). In 1989, Zambia made positive efforts to reform relevant legislation towards women's property and inheritance rights. Under the Intestate Succession Act, a legal procedure was set up to prevent property grabbing in cases where an individual dies without writing a will. According to the act, property of the deceased is distributed according a fixed pattern: 50 percent to the children; 20 percent to the surviving spouse; 20 percent to the deceased's parents; and 10 percent to dependants other than the children, if any. The act with its percentage calculations is not only difficult to comprehend, but also difficult to implement as property is not always easily dividable and parents are often not satisfied with their share of the

deceased's property (Hinz, 2004). Furthermore, the act proves problematic in polygamous settings; the 20 percent share for the widow then needs to be shared amongst all surviving spouses. In theory, the act is an important step towards securing the well-being of widows and her children. In practice, however, local customary laws often overrule. Zambia, like many other countries in sub-Saharan Africa, has a dual legal system: statutory law and customary law. The latter is based on pre-colonial legal systems and interpreted by the local courts. In general, women's access to, control over, and ownership of property, including land, are determined by customary laws that grant fewer rights to women than statutory laws. Furthermore, cultural norms and attitudes, supported by discriminatory marital property regimes, ascribe title deeds to land and housing of married couples to the husband. This negates women's rights to own and register property and results in discriminatory distribution of property after divorce or separation, in which women often lose everything (Human Rights Watch, 2003b). Also, the traditional payment of the bride price by the husband to the wife's parents in patrilineal societies means that all property in the marital home is owned by the husband. In case of death, the surviving widow is inheritable to one of the late husband's male relatives through which the widow's access to property is secured. Recently, however, wife inheritance has become less common in the Northern Province and more often relatives of the late husband are disposing the property of the surviving widow they claim was purchased by the husband. Disputes about the rights to property and inheritance for people married under customary law, which is predominantly the case in rural areas, are settled in local courts. These courts are mainly presided over by men and most of their decisions are based on customary law. Other local law enforcement authorities, such as the police and traditional leaders, are often unresponsive to unlawful appropriation of property and only few women have access to legal services. Most rural women do not challenge their unequal position under customary law and are unaware of their rights under statutory laws. Widows tend to accept the loss of property out of fear for reprisals and because of the high emotional cost involved in confronting their in-laws (Strickland, 2004).

5.6 Mobilising resources – The diversity of responses

Case 1: A portfolio of multiple response strategies

The first case is that of Julia, a 30 year-old widow. Julia attained upper primary education and got married to Paul when she was 15 years old. Julia and Paul are part of a patrilineal system with patrilocal residence, but lived with Julia's mother for personal reasons. Julia has four children, three girls and a boy, now aged 13, 10, 8 and 5. When her husband was still alive, their livelihood depended mainly on cultivating cassava, millet, maize and vegetables. They sold cassava and vegetables at the local market and received bi-monthly remittances from Julia's brother, about K200,000 (USD 43)¹². They also sold charcoal, local chickens and sometimes beer. Presently, Julia is poor and lives in a small house. She has no

¹² 1 USD = 4,660 Kwacha (29/04/05)

well and has to collect water from the nearby river at a 30-minutes walking distance. Julia's husband was sick for about 22 months and Julia had been a widow for almost five years at the time of the interview.

"In August 1998, my husband became sick; he was on and off... In February in 1999, he became worse; he had a terrible rash on his whole body and he was referred to the Kasama general hospital. He was diagnosed with TB and was put on treatment. After finishing the course he was sent home... In taking care of my husband during his sickness my family helped as well as the church members, since we belong to United Church of Zambia. They supplied us with food at the hospital and my relatives took care of the children. We cared for him for a long time: two years. When he was at the hospital, I used to care for him at night and during the day either a church member or a relative, usually my cousin Peter and aunt, would assist with taking care of him... We had to buy medicines for him, so I sold a knitting kit at K100,000 [USD 21]. I also asked for assistance from family and friends; they assisted. My uncle sent me money for food after selling an animal; K300,000 [USD 64]. Aunt Joyce gave me K 50,000 [USD 11] and friends assisted me for two months with K100,000 [USD 21] per month.

In December 1999, my husband became seriously ill again and I was advised by people to try the Chilonga hospital... I sold an old bicycle frame so that I could have money to buy food during our stay in Chilonga hospital. I also used my savings to buy medicine and food for my husband, K50,000 [USD 11], and we reduced our meals as food was not enough. The community members and neighbours helped twice in that month to prepare the fields for the next season. I had to reduce the cropping area because of labour problems and as money had run out since taking care of a sick person is not that easy. Also, the sale of vegetables was affected, since there was no continuous supply to continue selling. My mother and the church members helped me to understand that life is not easy since my husband is sick, but that I have to be strong since I have children to look after... My husband was in Chilonga hospital for about four months... During the period my husband was seriously ill, the community used to supply me with cassava mealie since it was the only meal that my husband could eat... My children Patricia and John were doing piece works in the 1999/2000 season and they were being paid in money or in food. Their performance at school was affected as they were missing classes in order to finish the work. Their grades were bad. I also started to do casual work on other people's fields to earn money to buy food, as I could not manage to maintain the family with no money. I was spending a lot of money on the patient as he was demanding good food... We did not rear any livestock; we only had three chickens, which we sold to send my cousin to inform the relatives of my husband about his sickness. But none of my husband relatives came to my aid, and my brother who was assisting us [with remittances] could not continue as he got married and he could no longer afford it.

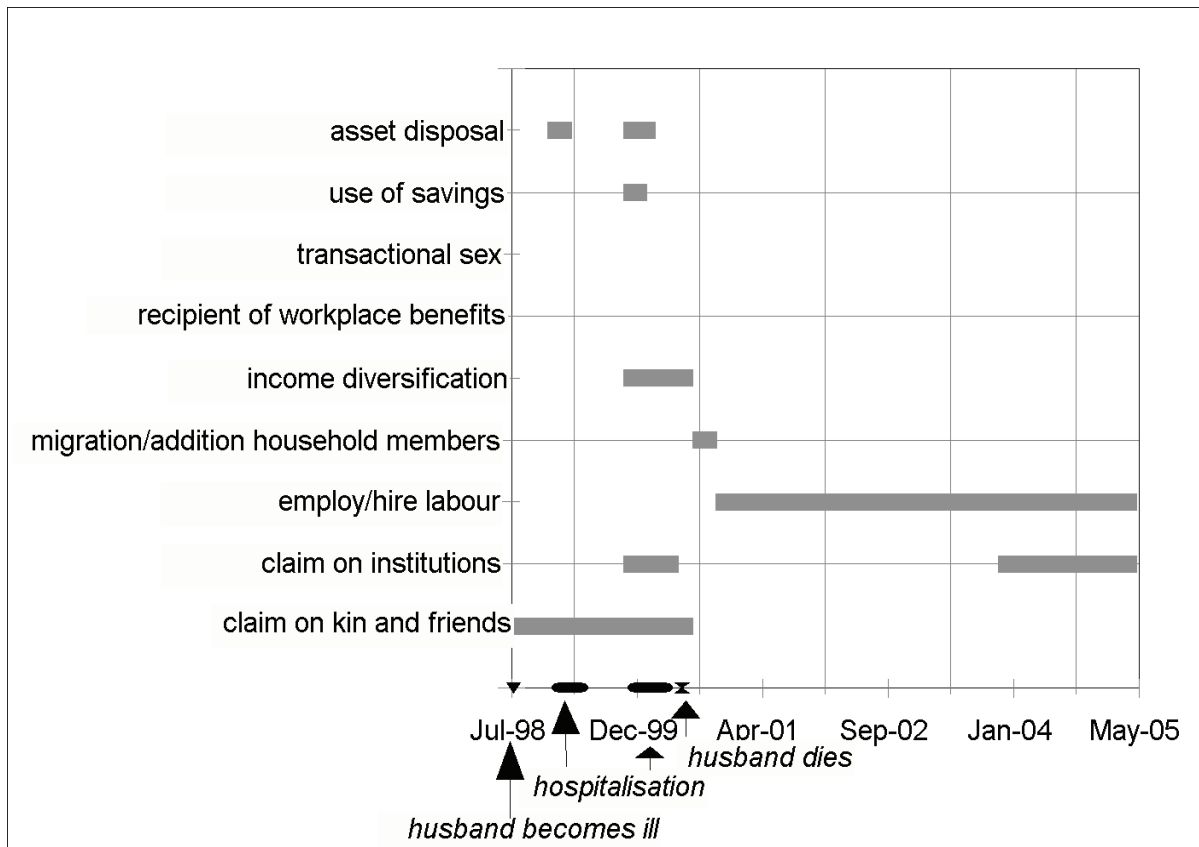
Finally, in June 2000 my husband died and the community assisted with the coffin. Relatives and church members assisted with food for the funeral and my uncle assisted with transport. I did not sell anything after his death...In September, the two older children were taken by the uncle; the elder brother of my husband. Since my late husband was from the patrilineal system, the children belong to the father's side. This has reduced my problems since I now only take care of Joy and Jean... The relatives of my husband came and got the little property we had: a mattress, a radio and a bicycle. I did not seek any legal advice since they had told me to go to their village as per custom. I refused; I do not like the village and I am at ease here, and staying with in-laws sometimes is a bother. I also wanted to stay with my mother's relatives as they assisted me by comforting me... After the death of my husband, I continued to cultivate cassava as it is less labour intense and no inputs are needed as compared to maize. I hired the church chore to help in the field and paid them with cassava. I sometimes brewed and sold beer, if I got millet. Also, when the house needed thatching, I brewed beer and had some two or so people helping me, but the difficult part is to get millet so I used cassava... [Since January 2004], I am being helped by the Catholic organisation Tekela with food aid... Also, I am now a member of the farming committee; I joined in [July] 2004. I receive knowledge on vegetable growing and I receive credit. Ever since I joined, I got once K100,000 [USD 21] around August 2004... I also became a member of the women's club; they also gave me K100,000 [USD 21] credit in August 2004, to buy manure for my garden and to hire somebody to prepare a vegetable nursery for me...

Now I am alone and I make all decisions concerning my family. I don't ask assistance from anybody, I only live with my children...I have been able to respond to all the difficulties since I made it clear to myself to work hard. I cultivate cassava on a small scale as well as vegetables and sell without involving myself in risky situations. And the Catholics assist with food and the days are passing by."

The narrative of Julia illustrates how women with few resources struggle to avert negative effects and the disintegration of the household following illness and death of the spouse. In this case, the husband had been a registered HIV patient with the local health centre. He had been hospitalised twice for TB and had been sick for a total period of 22 months, thus laying a heavy burden on the household's already constrained resource-base. To manage the stress resulting from her husband's sickness and his death, she mobilised resources through a diverse portfolio of responses (Figure 5.1). During her husband's sickness, Julia disposed several assets, relied on her kin and friends for financial support, received assistance from community members with food and field preparation, and used her savings. In particular, her social network comprising the extended family and church members proofed a critical asset during her husband's sickness through which she could claim care support, food, child-care as well as much needed emotional support. Julia's case illustrates how timing of livelihood stresses and additional shocks

undermine a household's capability to respond to livelihood stress. Julia's husband was hospitalised twice: the first time coincided with the so-called hunger period, during which households normally have to make ends need to purchase food; the second time he was admitted was at the start of the planting season, which resulted in reduced cultivation. Furthermore, the financial support from Julia's brother stopped at the time her husband was in hospital and farm inputs had to be bought.

Figure 5.1 Resource mobilisation process of Julia



Source: Case studies (2005).

When her husband died, her social network and the community bore the greatest burden of funeral-related expenses. Her two elder children were taken by the brother of her late husband, together with most of the property. This meant that the burden of supporting the two school-going children was taken over by her relatives, but also that she was left without any property that could be cashed in when needed. In the years that followed her husband's death, Julia tried to adapt her livelihood by cultivating cassava and hired church members in exchange for food. To gain some income, she started selling beer in the community. In Julia's narrative, the year 2004 (3,5 years after her husband's death), is a turning point. Early that year, she benefited from social protection support of a local faith-based organisation. This organisation is part of the Catholic Church in the Northern Province and supports orphans in several communities in the province since early

2003. To each household with orphans that is registered with the faith-based organisation, 20 kg of locally bought maize or rice is provided monthly to supplement the household's own production. In addition, some clothing is given to the children and school fees are paid. Prior to this support, Julia's way of responding to AIDS was mainly aimed at short-term survival. She had moved further into poverty, as she no longer had access to the income she used to earn through selling vegetables and because all her assets were either sold or taken by her relatives. In Julia's case, the assistance she received from the faith-based organisation helped to bridge the households' food and money gap and enabled her to start rebuilding her livelihood. Six months after benefiting from social protection, she joined the local farming committee and women's club, which assisted her to restart her vegetable business through loans and technical support. In Zambia, the civil society is the main provider of social protection for households with orphans, mainly in the form food, money for school fees, clothes and blankets, as the government's social safety net system for vulnerable households is limited and declining in real terms over the last years (PRSP, 2002). While in Julia's case, this form of safety net support has helped her to start rebuilding her livelihood, it also may create long-term dependence. Therefore, Devereux and Sabates-Wheeler (2004) argue for a comprehensive social protection programme that should also include interventions that support livelihoods, protect and build assets, and minimise the risk of dependence on external support.

Case 2: Resilience

This narrative is of Emily, 28 years old. Emily is relatively well-off and lives in a big house made from iron sheets. She completed secondary school and got accepted at a nursing school when she was 21 years old. At that time, she started a relationship with John, a truck driver from Lusaka who operated between Lusaka and Dar es salam. Emily only completed one term at the nursing school as she had to leave school because of pregnancy. She married John who had paid about six cattle as bride wealth (*lobola*). She moved to Lusaka and had four children, presently aged nine, six, four and two years. In Lusaka, Emily started a small saloon shop where she sold hair products, which her husband brought from Tanzania. Prior to her husband's sickness, Emily started to sell potatoes to local restaurants in her native area in Mpika in order to increase her income and to be less dependent on her husband's income to purchase products for her shop. Both her family and family-in-law cultivated her potatoes in return for monthly remittances and her sister was paid for marketing the potatoes. Presently, Emily lives in her native village in Mpika district. At the time of the interview, she had been widowed for eight months.

"He started getting sick in October 2003 with TB and he started coughing. He also had other symptoms like swollen lymph nodes and sores in the mouth... People were supporting us and visited us; they are the ones who encouraged my husband that the hospital was the best place to solve his sickness since they will diagnose the problem and give him medication. I knew about AIDS at

that time but we did not talk about it due to our culture. I took him to the hospital and he started TB treatment. He was hospitalised for three weeks... Both his and my family cared for him. Because I had a small baby, I was not allowed to sleep at the hospital, so my uncle and the elder brother of my husband were taking turns to sleep at the hospital and my mother and his cousin were taking care of him during the day, including my elder brother. Once he came home, we cared for him: his relatives, my relatives and I... I also got support from the Neighbourhood Health Committee; they supplied me with high-energy protein supplements for my husband when he was sick. I did not have to sell anything or use my savings as he had a medical insurance from the company he worked for that covered all the hospital and medical bills... Because of his sickness, I failed to supervise the shop, therefore I employed a woman in January [2004] up to now to work in the shop because I knew this was the only source of income I had. My sister also helped and controlled the money from the shop... His family continued to help with cultivating potatoes. It is a big family, they split; some could go to the field and some could help me to look after the sick. [In March 2004] I was forced to close the shop for a month; there were no supplies since my husband used to bring the products for the shop... I had to look for somebody trustful who could bring me products for my shop. Luckily enough my brother-in-law had a friend who used to go to South Africa to get items for his business so he arranged that his friend would also bring products for my shop. After two months the shop picked up again.

In September 2004 he died. Since he was working, the company where he worked assisted in buying a coffin and gave us money to buy food. They also supported with transport. We did not sell any assets as everything was taken care of... In November [2004] we left for Mpika; the company where my husband worked transported us. Since I was alone, I wanted to stay with my family and in-laws as they could help me with the children, and also life there is simple compared to Lusaka. The relatives did not trouble me with the cleansing; they tied me with beads... I left the shop to my sister to run it and she banks the money. With the benefit shares I was given by the company I had built my own house in October. I am happy looking after my family without problems. I live with my niece. She is 15 years and failed grade 7. She assists in cleaning the house, washing plates, cooking food and looking after my children. I am the one who buys her clothes and she eats in my house... I still continue with my business of potatoes. I have increased the area from two hectare to three hectare so that I get more money. The relatives now cultivate potatoes, maize and millet for me and I support them by buying clothes for them. I decided to cultivate these crops because I saw that I am getting a lot of money from the yields and this money will help me to boost the shop. The maize I will sell at the cooperative union - last year it was K 36,000 [USD 8] per 50 kg bag - and the millet I will sell to traders from Tanzania at K 25,000 [USD 5] per 50 kg bag. We used improved seed and fertiliser from the cooperative... I bank the money I get from my potato business and the shop and whenever I am in need of money, I withdraw and buy whatever is needed for my home... As the children have

continued that Lusaka life and want tea, biscuits and a variety of food, I have acquired a plot to build a house for rent to earn extra money. This money can help my children, even in future if I die.

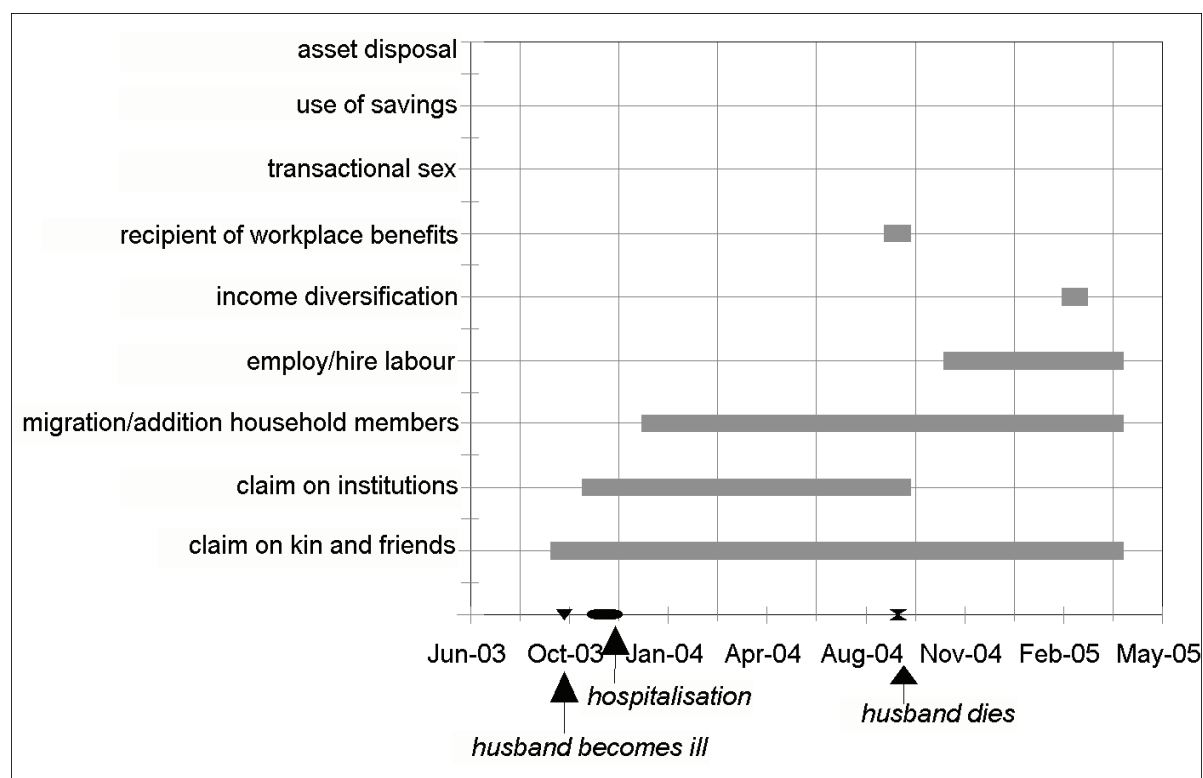
...I feel I have been better able to respond to the difficulties because of the support from my in-laws, who are very understanding, and also the support from my family. I feel in the patrilineal family there is that sharing of the burden of the children as compared to the matrilineal family due to the lobola in the patrilineal system."

This case provides an example of resilience to HIV/AIDS impact. Resilience in this context is the responses of households that enable them to avoid the worst impacts of AIDS on their livelihoods or to rebuild their lives faster than normal (Loevinsohn and Gillespie 2003). In other words, it is the ability to persist and adapt (Adger 2003). Following Loevinsohn and Gillespie (2003), resilience to AIDS impact is seriously under-reported and innovative and resilient responses may not have come to light. In the case of Emily, it's not innovation that contributed to her capability to respond; Emily strengths are her economic independence, which she gained before her husband's illness, her available resources in terms of financial means, the good relationships with her family and relatives, and her capability to use those resources to overcome the impact and to invest. During the 12 months of her husband's illness, Emily mobilised the following resources to resist the difficulties: she made a claim on her family to assist her in care of the husband; she received support from the neighbourhood health committee; she used the medical insurance of her husband; she employed an assistant for her shop; and she located a new stock supplier as her husband could no longer fulfil this task. Upon her husband's death, she claimed the workplace benefits; she returned to the village of her family and relatives and took in her niece to help with domestic activities; AND she increased the size of her potato fields and started producing maize and millet with support of her relatives as an income source to invest in her shop. She also began preparations to rent out a house in Lusaka as an additional source of income (Fig. 5.2).

Emily is also receiving ARV treatment. According to the local health worker, Emily had been on ARVs since the death of her spouse, which she receives through the district hospital. However, she did not want to reveal this information and had said she did not know her status. This denial does not only reinforce the stigma and secrecy ascribed to AIDS but also the sense of hopelessness as for most infected people ARVs are still out of reach, especially in the rural areas. Among the widows in the case studies, only two women, both educated and economically independent, had the financial means for ARV medication. In 2003, Zambia planned to have 100,000 people on ARV treatment at subsidised rate by the end of 2005, as part of the WHO and UNAIDS supported 'Three by Five' initiative, which aimed to provide ARVs to three million people in developing countries by the end of 2005. During the time of the interview, Emily would have to pay K 40,000 (USD 9) a month for the drugs and K30,000 (USD 6) a month for hospital fees for CD4

count tests, totalling an equivalent of USD 15 a month. This amount is too much for many of the poor in rural areas who live on less than one dollar a day and does not include the monthly transport for a round trip to the district or provincial hospital, which often is located far from their village. Also, the costs of buying sufficient and nutrient rich foods needed to tolerate the highly toxic drugs have to be added to this amount.

Figure 5.2 Resource mobilisation process of Emily



Source: Case studies (2005).

Case 3: Struggling to survive

Janet, the head of the household, is 37 years old. Her mother died when she was five, after which she was taken care of by her grandmother. She did not go to school because of money constraints and her grandmother's negative opinion on girls' education. Janet comes from a patrilineal ethnic group. At the age of 13, she got married to Joe, who worked as a game ranger in a National Park. She has three boys aged 18, 12 and 4 and three girls aged 16, 14 and 8. At the time her husband worked at the national park, Janet cultivated maize and reared chickens. She used to sell some of it at the local market to raise extra income. When Janet was 28 years, her husband joined the police and was transferred to another location. Janet did not join him but was sent to Joe's village to look after his sick mother. In his new position, Joe left Janet to marry another woman. He had taken all their belongings and until now does not provide any support to Janet and their children. With financial help from Joe's younger brother, Janet moved back to her grandmother's village in 2001 and rented a room. She started to cultivate cassava

and sell groundnuts, bananas and roasted cassava along the roadside. She also started to go out with truck drivers for money in order to support her six children, four of whom schoolchildren. Her oldest child Felix, aged 18, became sick 17 months prior to the interview.

"My son Felix, upon completing junior high school in 2002, was selected for senior high school. He stayed with his father's young brother. The wife of the uncle was mistreating him and thus he decided to stay with a girl who was working at a bar. He started complaining of chest pains in October [2003]. He was suffering from a cough; the cough made him thin and eventually he was diagnosed as having TB... Well, it's AIDS, I felt shy to mention it last time, but I had him tested. I don't care to mention it, as they will also find out. As they say; you cannot say I am safe unless you know your status... I brought him back to Mpika. He stays with me and I am taking care of him, but when I run out of money then my other children look after their brother while I am away looking for money. I need quick money, so the easiest thing to do is prostitution. I know it's bad, but I use condoms and I tell them that its condoms or nothing and they obey. To me, this is the best way [to earn money]; it's fast and easy. I once tried to brew beer, it's good but it's a slow business and does not give much money... I started going out with men before Felix's sickness to earn money; there is nothing wrong with what I am doing. That is why they advertise on safe sex and the use of condoms; it is to protect people like me.

...I did not receive any support, not even from my own relatives. My family has abandoned me because I have no money to give to them. The truth is, my relatives wanted my husband and me to sit and solve our problems. I totally refused. They told me Joe is also responsible for the children, and what I am doing, going out with men, is not a solution to solve the problems. I was angry and insulted them, and then they told me to solve my own problem. That is why they do not provide any support and why I am always on the road and at nightclubs to look for money. But I have some good neighbours. They help me when I am in need. They help me to look after Felix and my children when I am away and feed them as well as look after my house. In return, I buy sugar and salt for them and when possible give them some money. But when Felix is critically ill, I do not go away nor cultivate... I cultivate cassava, about a quarter of a hectare, which I can manage. Cassava doesn't require labour and it is only for food... Money is always scarce and we usually suffer a lot. This time, my two girls went to look for money at night in bars. They know if they do not look for money, then we will have nothing to eat and nothing to pay the school... They started after Felix's sickness [in December 2003], when I could not afford buying nice clothes for them. It is rather difficult to talk to them since they always point a finger at me. I know it is risky, but I have no option; I have to let them go and look for money. They go out with men they find in bars; they say they use condoms... They say they feel shy to sell on the market [as an alternative] and that they do not have time [for other income generating activities], as during the day they go to school. But they enjoy working at night

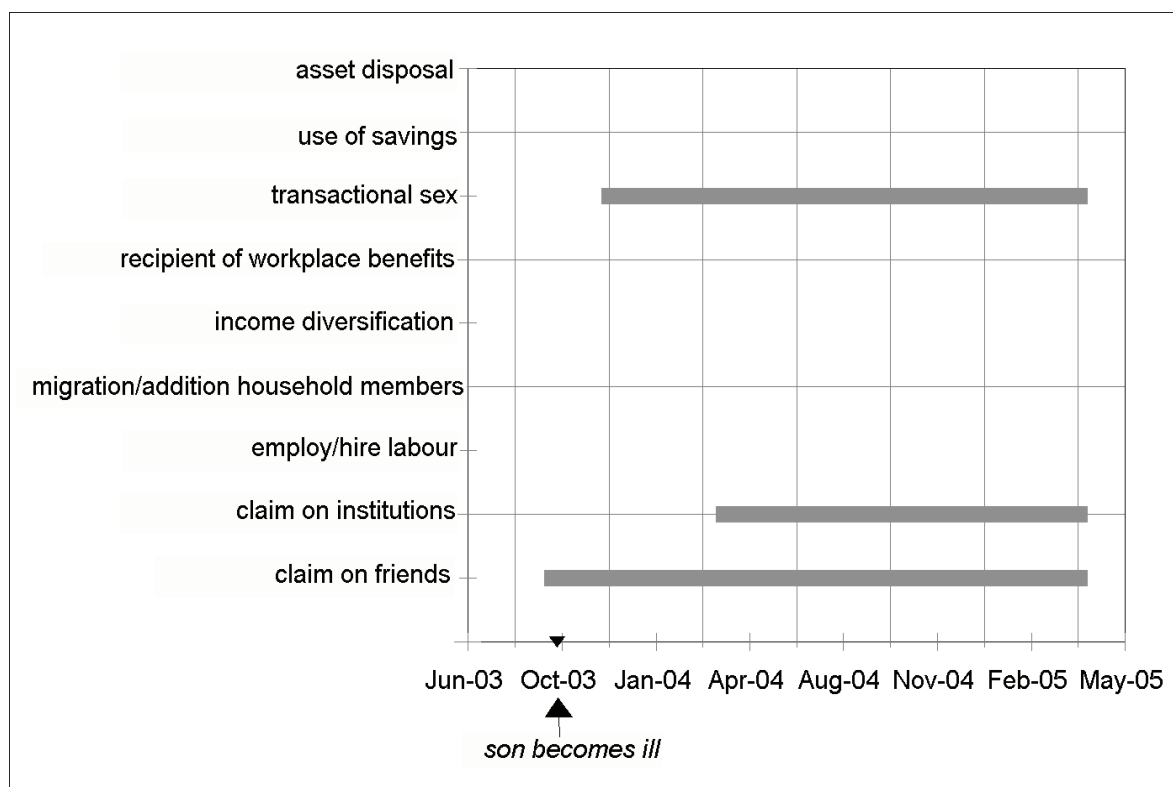
and I cannot stop them since they bring money, pay for their school fees, and buy school requirements. Life continues; they will finish school and support me with their sick brother... Sometimes, even my daughters just sit when their bother is ill and as a result we run out of everything at home. When we do not have enough food to eat because I don't have money, I get credit from a friend to buy food. I got it twice [in January and in March] and I pay back per quarter; no interest... Also [since April 2004], I get help from the Catholics because of Felix. I get food; some maize or rice once every three months. I am a Catholic but they also take care of non-Catholics. I also regularly get credit from the church and buy things to sell like ground nuts or cassava, and sell it, get money, return the credit, and buy what ever is required for the home. My son is also registered with the home-based care agents. Every month they bring him some soya beans powder, cooking oil and some ground nuts. This started in January [2005] up to now..."

Janet's narrative illustrates a household with limited options to adjust to multiple livelihood shocks. In this case, Janet became *de jure* head of household after her husband deserted her and left her to look after their six children without any assets and financial means. Her situation is worsened when her oldest son becomes chronically ill with HIV/AIDS. Not only does her son's sickness entail high medical and time costs, he was also completing high school education and thus embodied the hope of a future source of financial support for his mother. In contrast to the previous case, Janet's way of responding to these shocks is limited by her resource endowment at the onset of the crisis. She has no strong social network on which she can lay claims. Janet is cut off from her extended family following a fight about her husband and her reliance on sex work to support her sick son. Her only source of social support are her neighbours, who help in looking after her children in return for some food and money, and her friend from whom she receives credit support when needed (Fig. 5.3). Furthermore, she has a high dependency ratio and no valuable assets nor savings she could cash in. As for many other poor women, economic vulnerability and lack of income earning opportunities lead to reliance on transactional sex as a strategy to sustain their families (Heise *et al.*, 1995).

Transactional sex, i.e. the exchange of gifts or money for sex, forms a central part of Janet's livelihood after her husband has abandoned her. Her two eldest daughters resorted to exchanging sex for money when their brother becomes sick and greatly contribute to Janet's attempts to respond to AIDS. Transactional sex is common among adolescents throughout sub-Saharan Africa (Bledsoe, 1990; Castle and Konaté, 1999). In Zambia, the proportion of sexually active women aged 15 to 19 years engaging in transactional sex is almost 27 percent (CSO, 2002). Women in this age category have often less negotiating power to insist on condoms and thus risk becoming pregnant and/or contracting HIV/AIDS. Qualitative research in 12 sub-Saharan African countries (Chatterji *et al.*, 2004) identified several factors that influence young women to have sex with different partners in exchange for money or gifts. These include economic difficulties; high

education-related expenses, the need to gain connections in social networks; peer pressure to obtain luxury items; and pressure from parents to access money needed for education and household expenses. In the case of Janet's daughters, economic difficulties following their brother's sickness and possible implicit pressure from their mother to assist her might have been the overriding factors that led them to exchange sex for money.

Figure 5.3 Resource mobilisation process of Janet



Source: Case studies (2005).

Case 4: Responding to AIDS impact in a polygamous setting

The head of the household, Jane, is 30 years old, poor, and is a member of a matrilineal family. She attained upper primary education and got married at the age of 16. Her family disapproved of the marriage. She has two children, a girl aged 12 and a boy of 9. She gave birth to two other children, who both died before reaching one year. When her last-born died, her husband decided to marry a second wife to have more children. Jane failed to give birth again and was suffering from health problems. Her husband moved to his second wife's house but continued to cultivate food crops with Jane on their field. They cultivated millet and cassava under a slash-and-burn system (*chitemene*) and maize and potatoes in the permanent fields. She also burned charcoal, raised chickens, sold potatoes and did casual work on other people's fields. Jane is the vice-chairperson of the local cooperative, from which she purchased improved inputs at subsidised rates. She is also an active member of the local women's club. Her husband had been sick for 12 months and died only recently.

"My husband was sick, but started being seriously ill in July 2004. He would complain of body pains. Sometimes he could not even wake up. He developed a loss of appetite and started losing weight due to continuous diarrhoea. His skin looked pale and shiny with scrubs like fish. I cared for him about 40 percent of my time; well it is rather difficult to estimate since he was not staying with me, I was not looking after him the whole time. The other woman was mostly taking care of him since that is where he was staying when he got sick. When my husband was with that woman, I did not assist her because it was her duty to look after him whilst there. She used to look after him and look for food for the patient and the children. I only used to go there sometimes, when he was very sick. At those times, I could not go to the fields. Our fields that year were bad because no weeding was done and as the result of late weeding, as whenever he was seriously ill nobody would go to the field. To compensate for this loss, I started to go to the market whenever he was not seriously ill. I sold sweet potatoes or ground nuts at the market once a week... To buy some food and medicines for my husband, I sold a mattress around September [2004]. In November, I got a loan from the women's club to buy medicine for him... I still grew crops like cassava, millet, maize and beans but I had reduced. I decided to cultivate these [in December] because most of them do not need fertiliser. I cannot afford to buy fertiliser on my own. I just cultivate enough for food but this food will not be enough to see us through as I have no husband to do chitemene, and the labourers I hire will come after doing their own chitemene and this delays my planting and affects the yields... In December, I sold a nice cupboard at K80,000 [USD 17] to buy more medicines for my husband... I and the other woman were alternating the responsibility for buying medicines for our husband... She had more things than me, but she never sold anything. She had her relatives who supported her with buying food and medicines for him. I don't have relatives who are well-off and they did not support me in any form... My family did not support me because they did not approve of my marriage, as the man is 20 years older than me and his history is not known in our society. Marriage means all in my family and the argument has been why it took him so long to marry. Since he is sick, they are telling me that these are the issues they have been warning me about. I agree with them but I was already in the marriage, so I better stayed...

He died the 3rd of January 2005... After his death, the other wife's relatives assisted with the coffin and transport on the day of burial. My fellow club members assisted me with money and food... We both had a cleansing ceremony. They tied a bead around our wrist and beer was brewed to make an end to the funeral and to put the spirits to rest. The relatives did not take any property from me since most of the items were already sold to pay for the treatment... After his death, I sold a radio to pay back the loan I got from the club for buying the medicine. The radio was the only valuable asset I had left that I could sell... Now my family receives support from the Catholic Church and my children go to school. I registered them in January 2005 and the church takes care of all their school requirements. And they assist with inputs; this is

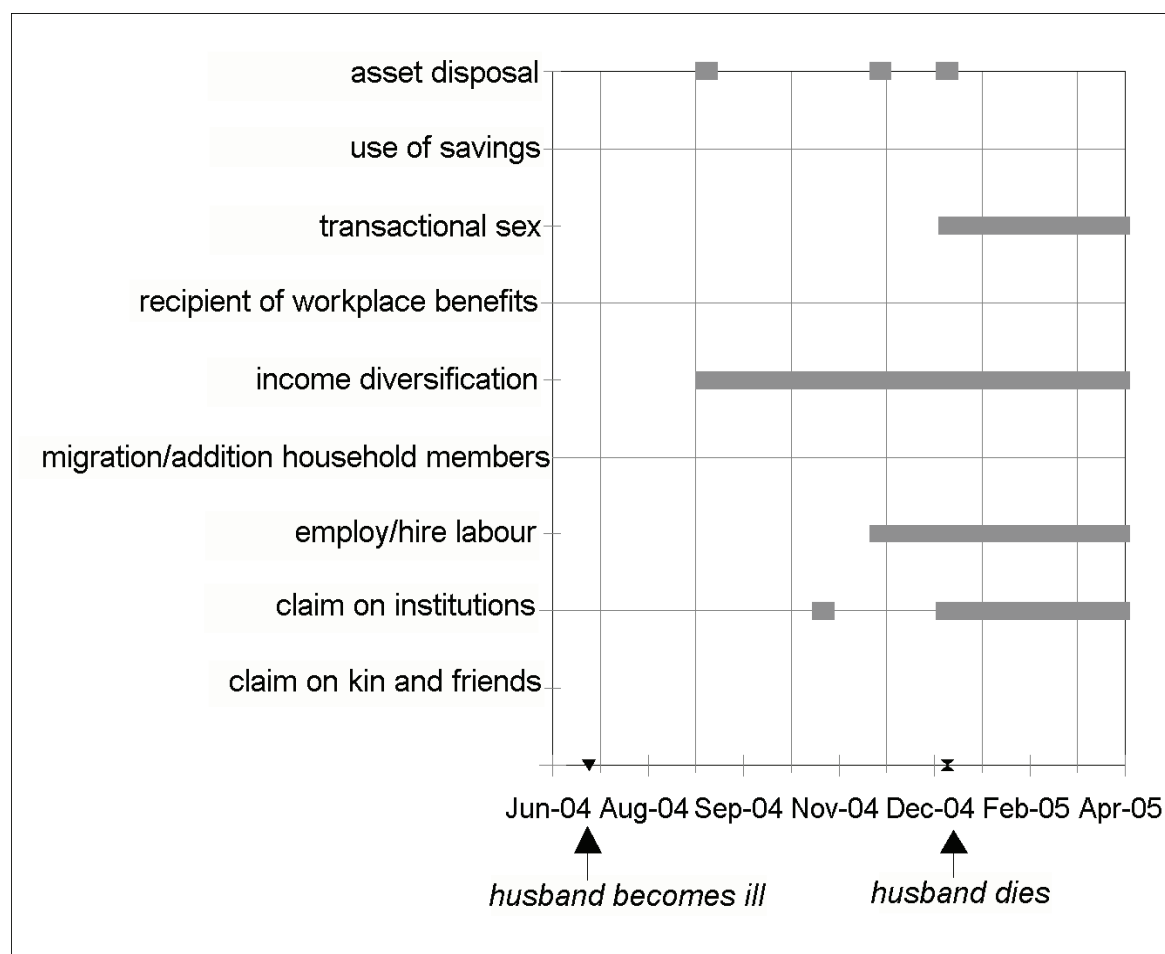
how I managed to cultivate maize this year... I also started baking scones, which I learned at the [women's] club to get some extra income. I sell the scones at schools nearby. I also sell roasted cassava on the street nearby the school. From this I get money to buy some food for my home as well as salt, soap and kerosene... Now in times of difficulties I brew and sell beer, and sometimes, when I visit the beer hall, men friends assist me with money. In return I go out with them as it is tough to rely only on the small income activities. I have to care for my household. It is my new year's resolution; I started in January. I only go to the beer hall monthly since that is when people have money. So I go at the end of the month and of course we have fun and sex...

I feel it differs a lot being a widow in a patrilineal or matrilineal family, because in a patrilineal family the fathers' relatives could have taken one of my children and I could have been relieved somehow. My husband has relatives who are well off, however, since I am in a matrilineal family they are not concerned... Well, I managed to respond to all the challenges, as at least I am a member of organisations; they are helping me in coping with the situation. I don't feel lonely now because when we meet I can see that I am not the only one suffering. We learn a lot from each other in how to accept the situation..."

The narrative of Jane accounts the resources mobilised by a *de facto* head of household in a polygamous setting, to which not much attention has been paid by the AIDS literature. In the case of Jane, the two co-wives experience the impact of the husband's sickness differently. Since the husband is residing with the second wife, she bears most of the burden in caring for the husband. She was responsible for feeding the patient, cleaning up, washing and assisting him with the bathroom on a daily basis. In taking care of her husband, the extended family provided support to the second wife with nursing, caring for the two small children, labour in the field, food and money. Though Jane would only go to her husband and abandon her fields at times when he was bedridden, she experienced a loss of income as her husband could no longer assist her in the field. She could not rely on her own family to overcome the labour shortages following their arguments over her marriage. As a result, she reduced the area under cultivation and started petty trade to earn income (Fig. 5.4). The loss of her husband's labour contribution is especially impacting Jane's cultivation of food crops. For many households like Jane's that cannot or no longer afford to purchase fertiliser, *chitemene* (slash-and-burn) is an important cultivation system contributing to the household's food security. *Chitemene* fields are located far from the homestead and normally used for three to four years, after which a new field is be opened up. The clearing of a new field is labour-intensive and involves cutting down trees, chopping the branches, heaping the branches across the field and burning them to provide potash for crops – all tasks normally carried out by men. Consequently, fewer female-headed households cultivate under *chitemene*: 39 percent as compared to 61 percent of non-affected male-headed and 55 percent of male-headed households with a chronically ill person (FAO, 2004). Female household heads like Jane who, with no presence of adult male members, continue *chitemene* cultivation

normally hire male labourers in exchange for beer. However, as Jane indicated, labourers only come after finishing their own fields, which delays the planting.

Figure 5.4 Resource mobilisation process of Jane



Source: Case studies (2005).

In addition to differences in impact due to caring responsibilities for the husband, the financial consequences of purchasing medicines differ for the two women. The two co-wives alternated the responsibility of buying medicines for the husband. Whereas the second wife receives financial support from her family and as a result did not have to sell assets to cover the costs, Jane did not receive such assistance. She had to sell all her valuable assets and take a loan from the women's club to fill her contribution. When her husband dies, she has no valuable assets left and the crops she cultivates are insufficient to support her household. Therefore, Jane enlisted her children with the local Catholic Church for school support and started selling beer, scones and roasted cassava. Seeing that these income-generating activities are insufficient to sustain her household, Jane has started exchanging sex for money. In her way of responding to AIDS, Jane strongly relies on the local women's club who do not only assist her with credit, funeral support, and with income-generating activities, but also emotionally. Through meeting and working with other women in similar situations, Jane gets sympathy and understanding

from others and no longer feels isolated. Accordingly, she is learning to manage her emotions and to accept her situation.

Case 5: Dependence on support network

This household is headed by Felicity, a grandmother of 66 years, who since one-and-a-half years looks after her two orphaned grandchildren Happy and Joyce. Happy is nine years old and Joyce is five. Felicity did not attend school and got married at the age of 26. She had five children of whom four died before the age of five due to illness. Her husband died when Felicity was 48 years old. She lived with her daughter until Bertha got married at the age of 25 to a relatively well-off garage owner from nearby. When her daughter left the household, Felicity remained alone. Her livelihood depended mainly on cultivating cassava and brewing beer. She received K100,000 [USD 21] every month from Bertha, which her daughter had earned by selling fish. Also, Felicity received remittances from her younger brother; K150,000 [USD 32] every three months. Her younger sister Rebecca used to assist Felicity with food. Felicity was not a member of a community group but she used to look after the young children of community members. When Felicity was 59 years old, her daughter Bertha became chronically ill with HIV/AIDS. Because Bertha used to go to the fishing camps to buy fish, Felicity thinks she exchanged her body for fish. Bertha was sick, on-and-off for over three years.

"In January 2000 she started feeling sick. She had a chronic on-and-off cough, body rash, sores on the whole body and she lost weight. People used to run away from her as they thought it was AIDS. At that time I did not know of AIDS, so I never discussed safe sex with my daughter. The husband of my daughter was caring for her, as he was self-employed. He owned a garage where he was fixing cars and he had three people working for him. As he spent most of the times with her I used to look after their children... When my daughter was sick, she was pregnant with Joyce. When Joyce was born, we informed the doctor about it and he assured us that she would be fine and the baby is fine... I got support from our neighbourhood health committee [since December 2000]. They helped me to prepare nutritious food for the small baby, like porridge with soya flour, groundnuts and soya milk. They also gave me high-energy protein supplements. There was also one member who worked closely with a nurse to look after this baby. This really helped me a lot as Joyce by then was a small baby and she was not breastfed by her mother. So far, Joyce is healthy and there has not been a time when she was very sick, apart from the malaria and flue, which she gets during the time when it is the malaria and flue season... [In September 2001], my daughter was very sick and hospitalised for three weeks... The husband covered all the hospital bills from his garage repairs... My daughter had a sewing machine. When she was in hospital, we decided to sell it because we had completely nothing, no food and no money to buy food. The patient wanted to eat, so we just sold the machine at K150,000 [USD 31]. I used to go to the hospital twice a day, so I was not able to go to the fields to cultivate. I could just brew beer to have a small income... During the hospital

visits, I stayed with my Church mates in Chilonga, and my sister Rebecca and the community helped out in the farm... In May 2002, Bertha's health became bad, she was hospitalised for three months and again in [February 2003] for two months... We used her savings from her fish business for food... The husband and I had told her to stop the business, but each time she felt better she went back to the fishing camp. She usually returned to bring money and relish for the husband as well as some money and fish for me. Since the husband at that time did not know what was happening, he just gave up telling her to stop her business. He used to think she liked to support the home, so life went on. I believe she returned to see her men friends, but we really do not know why she continued going. I am only guessing that she wanted to see her fishermen boyfriends. The husband used to bring enough money, but Bertha was feeling bored staying at home so she suggested that to have extra income selling fish was good....

...My daughter died in May 2003. Her whole body was full with rashes, which at the time of death turned into sores, including on her head. And she was coughing. I believe it is this same AIDS, which is killing such people who do not want to behave... The husband bought a coffin and my relatives, especially my brother and sister, contributed food and the community helped with food... The husband continued to stay with the children since we live in the same area. Then [in June 2003] the husband started getting sick; he was coughing and had a fever. I believe it was AIDS; my daughter gave it to the husband since it did not take long and he also had rashes. His relatives took care of him while I was looking after the children. I used to visit him and this did not affect my activities... The children started staying with me in my home. My home was the only place my grandchildren could be happy because they used to visit me when both parents were alive, and they did not spend as much time with the relatives from their father's side as they did with me; they were freer with me. And I was happy since I used to stay alone... In order to keep us going, I just grow a little cassava and brew beer. I am too old to do many things. This time, I even taught my first granddaughter how to brew beer, so that if I die before they finish school she can brew beer to keep them going. It is an easy way to get income and there not much work involved...My son-in-law died in January 2004... My grandchildren Happy and Joyce and myself now do casual work because basic needs such as soap and salt as well as clothes are difficult to get. We collect firewood and clean the compounds for people in our community. They give us work to help us. We started doing casual work after my son-in-law died and do it twice a month. We are paid in money... Since February 2004, we receive assistance from the Evangelical Church. They pay for school fees, every term, and give us food; every month about 20 kg. Whenever we have problems, we get assistance from them...Unfortunately [in March 2004], the husband of my sister Rebecca died. He was the one who used to cultivate a lot. I still get [food] support from Rebecca but not so much... Now I am a member of Katondo woman's club... since April 2004... They give me food like soya bean flour, beans, and maize; about 5 kg per month. I get this support every month...

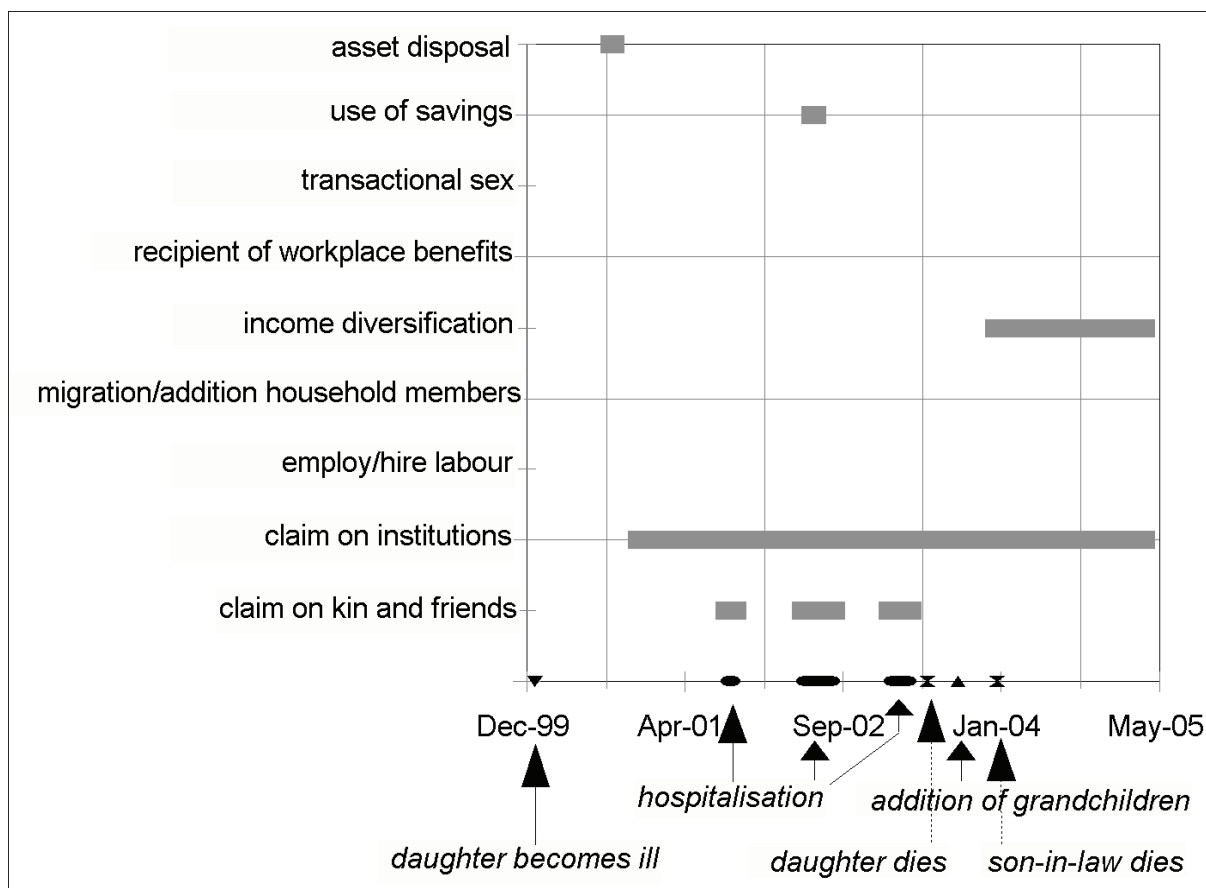
I think I have responded better [to all challenges resulting from HIV/AIDS] since I accepted to take care of these children including the young one, and I have taken the time to register them at the neighbourhood health committee. These people helped me to take care of the children, especially the young one, in terms of knowledge on how to take care of children, since I am old."

This narrative represents the fate of many elderly in sub-Saharan Africa who care for the sick and their grandchildren orphaned by HIV/AIDS at a stage in their lives when normally they are recipients of support and care. In Zambia, grandparents make up the single largest group of orphan guardians after the surviving parent (UNAIDS/UNICEF/USAID, 2002). Whilst caring for her two grandchildren during her daughter's sickness, Felicity relied on her son-in-law, the Neighbourhood Health Committee, her sister and community members (Fig. 5.5). Her son-in-law covered all hospital expenses of her daughter from his garage and, unlike in many situations, bore most of the nursing responsibilities. While this might have been an exceptional case, some studies have reported that increasingly men are taking on the caring responsibility of sick partners, suggesting that the epidemic might foster a renegotiation of gender roles (Baden and Wach, 1998; UNAIDS, 2002a; Müller, 2005a). Felicity, on her part, looked after her baby granddaughter and the by then four year-old grandson at times when her daughter was unfit to do so. Felicity registered the children with the local neighbourhood health committee, which advised her on the baby's diet and caring needs. Felicity's daughter had been sick on-and-off for over three years. During the times she was not sick, she would return to her fish trade. Felicity's reaction to this is ambiguous. She is visibly angry at her daughter for dying, saying "*she was going out with fishermen for which I could say she was a prostitute*" and "*I believe she returned to see her men friends, but we really do not know why she continued going*". Yet, Felicity was economically dependent on her daughter's monthly financial support (an equivalent of USD 21 per month), which Bertha gained through her fish business.

As already noted, not long after her daughter's death, the husband fell ill and their household dissolved. As in many cases, the burden generated by the death of an adult woman shifts onto others, usually older, women who care for the orphaned children (Steinberg *et al.*, 2002; UNICEF and UNAIDS, 2003). In looking after her two grandchildren, Felicity faced the challenge of providing them with food, clothing and school fees, while lacking the economic support she used to receive from her daughter. Felicity's situation is particularly difficult as the household comprises only dependents. Households headed by elderly that take in orphans and lack prime-aged adults are less economically viable and more time and energy demanding on the part of the elderly who care for the children and generate income (Dayton and Ainsworth, 2002). In the case of Felicity, she and her grandchildren carry out small tasks for community members in exchange for money. Furthermore, she requests food and schooling support from the local Church and becomes a member of the local women's group in order to get small food assistance. In this case, all club members contribute some food to vulnerable members. As Felicity indicated in her narrative, she is too old and lacks the energy to earn a stable income for her

household, and consequently, her household is entirely dependent on external support and the goodwill of community members.

Figure 5.5 Resource mobilisation process of Felicity



Source: Case studies (2005).

5.7 Discussion

5.7.1 Sequencing response strategies

Various authors have described different stages that households go through to adapt to livelihood shocks. All these broadly imply that, firstly, households place claims on their social network, diversify sources of income or use other reversible mechanisms to manage stress, secondly, households dispose of key assets, which threatens the sustainability of the household, and lastly, households dissolve (Corbett, 1988; De Waal, 1989; Webb *et al.*, 1992; Seeley, 1993; Maxwell and Frankenberger, 1995; Donahue, 1998). Topouzis and du Guerny (1999) further noted that households affected by HIV/AIDS respond initially by disposing insurance assets that are reversible, such as liquidating household savings, seeking remittances and assistance from the extended family and borrowing from informal or formal credit sources. If needed, the sale or disposal of productive assets typically follows. Reflecting on the different case studies, such trajectories are hard to detect. The cases show a complex and diverse process of resource

mobilisation, comprising a range of responses such as hiring labour, transactional sex, adding household members, cashing in claims, requesting support from faith-based and community-based organisations, diversifying income sources, taking informal credit from friends, liquidating savings, and disposing assets. The response or resource mobilisation strategies adopted by the women vary greatly, depending on the households' endowment and entitlement base, as well as personality characteristics. Also, the responses overlap in time and often several resources are mobilised simultaneously, which illustrates the severity of the livelihood stress caused by AIDS. Furthermore, the cases do not follow a set pattern of strategies as described above but responses are repeated over time, in particular the disposal of assets. According to Barnett and Whiteside (2000), HIV/AIDS initiates a slow process of decline in resources, with each season requiring another asset to be sold or a request for assistance to be made to relatives, friends and neighbours. However, examining the case studies, resource mobilisation is a dynamic process, where strategies overlap in time and concentrate around major stressors such as hospitalisation. Also, women's ways of responding to HIV/AIDS during the morbidity period tend to differ from the period of widowhood. During illness, resource mobilisation is more aimed at daily survival and responses adopted by the women are likely to be short-term, such as cashing claims, selling assets, and using savings. When widowed, strategies appear more long-term oriented, aiming at somehow rebuilding a livelihood as best as possible and include seeking support for schooling and food from a faith-based organisation, joining a community-based organisation, and starting small income generating activities.

Moser (1998) points out the complexity in determining the sequence of response strategies because of the interrelationship between the different assets. For example, in the case of Julia (Case 1), her uncle took the two older children to his homestead to ease her financial burden but at the same time this measure reduces her labour force due to which she has to hire labour in exchange for beer. The different cases make it clear that it is not possible to generalise on the sequence of response or coping strategies. Resource mobilisation is not a linear process, especially not in the context of such a complex phenomenon as AIDS.

5.7.2 Response strategies and their asset-base

Categorisation of coping or response strategies varies per field. Davies (1996) in her work on famine classifies coping strategies on the basis of what they are aimed at, i.e. to off-set potential risk or to manage deficits, and on the sources of entitlement from which they are derived: production-based, asset-based, and exchange-based. In the AIDS literature, coping or response strategies are distinguished into those aimed at overcoming time constraints (so-called labour-based strategies), improving household food security (consumption-based strategies), raising and supplementing income (income strategies), and strategies that involve social capital (Drimie *et al.*, 2005; Mutangadura *et al.*, 1999). In this section, women's ways of responding to AIDS is discussed using the sustainable

livelihood approach. Looking from a livelihood perspective at response strategies, households control a portfolio of different assets – human, social, natural, physical and financial – that they can utilise to reduce their vulnerability and strengthen their resilience towards livelihood shocks (Bohle, 2001; Stokes, 2004). The more assets household can draw on, the greater their capacity to respond successfully to livelihood risks, stress and shocks (Moser, 1998). For the 12 female-headed case households, social capital is central to their capacity to respond to AIDS (Table 5.2). It includes the social networks and local organisations, such as women's groups and faith-based organisations. Response strategies based on natural capital, such as selling firewood, burning charcoal, and selling wild foods, were not mentioned by the case households. This could be due to the low importance attached to them as a means to respond or because these activities were already part of their livelihood strategies prior to the onset of AIDS.

Human capital-based responses

The most frequent human capital-based response adopted by the female-headed households was employment or hiring of labour in exchange for beer to compensate for the loss of productive members. Following Whitehead and Kabeer (2001), women's access to labour and/or the means to mobilise labour is central to the well-being of their households. In the cases presented, women mobilise labour through brewing beer. Other strategies adopted by the households to offset the loss of labour include involving children in simple income-generating activities and absorbing younger relatives in the household to share child-care and domestic responsibilities. According to Moser (1998), households are important adaptive institutions that act as a safety net for its members and individuals who join them in times of difficulties through restructuring. In two of the 12 cases, younger relatives were taken in to help with domestic activities, while in four cases, older children or foster children had left the household to reduce the burden on the household and/or to make space for orphaned grandchildren.

Paid sex is another human capital-based response female-headed households had fallen back on upon widowhood: a quarter of the women had sexual relationships with one or more partners in return for money to assist in the basic needs of the household and the payment of school fees. In many parts of Africa, where women are discriminated in access to education, credit and the formal wage economy, they rely on sexual exchanges as a strategy to sustain their households (Heise *et al.*, 1995). Especially widows who are left with dependent children and who are not supported by remittances have few other options to fall back on.

Table 5.2 Responses adopted by the 12 female-headed case households to counter HIV/AIDS impacts by asset-base

Responses by asset-base	Frequency	28					
	<i>Case12: female-headed household with PLWHA</i>			X			X
	<i>Case11: female-headed household with PLWHA</i>					X	
	<i>Case 10: household headed by grandmother</i>		X				
	<i>Case 9: household headed by grandmother with orphans</i>	X			X	X	
	<i>Case 8: household headed by grandmother with orphans</i>				X	X	
	<i>Case 7: household headed by widow</i>	X			X		X
	<i>Case 6: household headed by widow</i>	X					
	<i>Case 5: household headed by widow</i>		X		X		
	<i>Case 4: household headed by young widow</i>	X			X		X
	<i>Case 3: household headed by young widow</i>				X		
	<i>Case 2: household headed by young widow</i>	X	X	X	X		
	<i>Case 1: household headed by young widow</i>		X	X	X	X	
Human capital-based:							
Reduce cropping area							
Children assist in income-generating activities							
Hire labour in exchange for beer							
Migration household members to reduce consumption							
Transactional sex							
Addition of adolescent/adult to assist with labour							

- Continuation-

Social capital-based:													43
Claim on kin and friends to assist in care of patient	X	X	X	X	X	X	X	X	X	X			8
Claim on kin and friends for food and labour support	X	X	X	X	X	X	X	X	X	X	X	X	11
Remittances/financial support from kin		X					X	X	X	X			6
Support from women's club or farmer's group	X	X			X				X	X		X	6
Food support/medical advice from home-based group			X						X	X	X	X	5
Support for food and/or school fees from faith-based organisation	X	X			X				X	X	X		7
Financial capital-based:													16
Income diversification		X	X	X	X				X			X	5
Informal credit from friends	X										X		2
Use of savings for food and medicines	X	X				X				X		X	5
Recipient of workplace benefits	X		X						X	X			4
Physical capital-based:													6
Sale of household goods		X			X			X		X	X		5
Sale of small livestock		X											1

Source: Case studies (2005).

Social capital-based responses

Several researchers have highlighted social capital as an important means to cushion livelihood shocks (Seeley, 1993; Moser, 1996; Sauerborn *et al.*, 1996; Rugalema, 1999). Among the 12 cases, eight attributed their ability to respond to the different problems to their social networks and membership of formal and informal groups. According to Cater and May (1997), poor households employ a range of claims using various distinctive claiming systems. In the cases presented, women make claims against kinship, friends, the community, the church, a faith-based organisation and local community-based organisations for support. Reciprocity support from kinship and friends was the most important claiming system and was mainly centred around food, labour, care and money. Eleven women had received food and labour support during the sickness period from extended family members and friends, eight relied on their kin for caring support of the patient, and six received short- or long-term financial assistance.

The different case studies also show that while social support from kin plays an important role in households' capability to respond to stress and shocks, it cannot be taken for granted. In reality, social support networks have their limits and should be seen as "safety nets with holes" (Seeley 1993, quoted in Baylies 2002a: 662). Not all households have access to strong networks as they lack the resource base to build up and sustain the network. The strength of social networks also depends on the overall resource base of those involved and one's place in the network (Baylies, 2002a). Some are able to claim more as was the case with Emily (Case 2), who received strong and continuing support from her family and relatives in nurturing her husband, running her shop, child-care and cultivating her fields. Emily's claim to strong kinship support is the result of her ability to provide financial assistance to her extended family. The strength of social networks is, however, not only a function of assets, but also of family ties. For both Janet (Case 3) and Jane (Case 4) the support of a caring family did not exist because of marriage disagreements with their families. Furthermore, social network support is influenced by kinship systems. Women in matrilocal ethnic groups seem to receive more assistance from their family when faced with chronic illnesses than women in patrilocal systems (Shah *et al.*, 2001). However, respondents of the case studies indicated that upon widowhood, patrilineal societies provide more support to widows as compared to matrilineal systems:

"In a patrilineal family, children are taken care of by their father's relatives because of the 'lobola' paid by the family and it reduces the burden of caring for children on the mother. In my case, since I belong to the matrilineal system, my mother's brother could only look after my children if my husband had paid what is called 'chitoba mafwesa', a special bride price paid by the husbands' family before marriage. My husband had not paid, therefore I have to look after my children by myself" [Maria, 28, young AIDS widow].

The support to widows in patrilineal groups has to be balanced against the lack of entitlements, widows having to leave their husband's compound upon widowhood, and the risk of property taken by in-laws.

In addition to differences in strength, women's social networks also differ in terms of duration of support. While the support Emily (Case 2) receives from her network continues after the death of the husband, for many other women kinship support ceased after the funeral as the women were no longer able to invest in their reciprocal relationships and because the provider can or will no longer do so.

Women's capacity to respond can be improved if they function in a supportive environment that forms a buffer against outside threats as well as provides opportunities to reduce household vulnerabilities (Moser, 1998). In the absence of state-sponsored welfare programmes, the support environment of the women in the case studies is made up by the community, the local church and faith-based organisations, and the women's club. In general, support provided by the community is centred on post-harvest food contributions to the most vulnerable and funeral assistance in the form of food, bicycle transport, and child-care. Like in other countries with high HIV/AIDS prevalence rates, community support has come under strain due to AIDS, poverty and individualisation of society:

"In the past the community assisted more; they provided transport, money, a lot of food and labour. But due to the increase in deaths because of HIV/AIDS, it is now difficult to give such help since it [AIDS] has increased poverty too... [Also] the community assistance has greatly changed due to an increase in western culture and because the extended families are no longer there" [Catherine, 64, grandmother with orphans].

While in the past, the community provided a stronger safety net, it is now the immediate family that bears most of the burden.

Upon the death of the spouse or adult child, the faith-based organisation and church operating in the communities play an important livelihood-support role by providing more than half of the female-headed households with food ratios and schooling support for orphans. As was illustrated in the case of Julia (Case 1), this safety net helps to close the food and money gap and rebuild livelihood, but can also create long-term dependency on external aid. Also, the local women's clubs are of importance to women's ability to respond to AIDS as members assist each other with food, income-generating activities and small informal loans, as well as emotionally. A third of the women became member of the women's club after the death of their spouse or adult child. Being part of a community-based organisation does not only enhance available resources to widows, it also reduces emotional stress by providing a channel to communicate about the problems and lessens the isolation and stigma associated with the disease (Luginaah *et al.*, 2005):

"I am a member of the Neighbourhood Health Committee and I receive advice on how to take care of my sick daughter, especially on what food

to prepare and how to bath the sick. In return, I teach the community how to prepare food and care for a sick person and I don't get stigmatised. In the Neighbourhood Health Committee we talk about AIDS and encourage one another. After I was comforted, I also took a step and started encouraging others who had lost their husbands and relatives to take on the challenge with a positive mind" [Charity, 39, female-headed household with PLWHA].

Moser (1998) mentions that a community can be regarded an asset that households utilise to offset or manage a livelihood risk, depending on the extent of social capital present within the community. To measure the extent of social capital, she suggests using the number of community-based organisations. While this indicator might give some indication on the community social capital stock, it does not provide insight into whether the support provided is appropriate nor whether it is equitable. Communities are not a unified actor, and although based on values of solidarity and reciprocity, there may also be inequalities in accessing community support (Niehof, 2004b). Sauerborn *et al.* (1996) in their study found that poor households had less access to community support than the better-off ones. Baylies (2002a) mentions that factors such as wealth status and whether you are an in- or outsider contribute to the likelihood of receiving community support. She further mentions that the prevailing power structures within a community may prevent that those impacted by AIDS receive the assistance they need. Thus, one might question the wisdom of supporting community organisations and building upon what already exists when designing HIV/AIDS programmes.

Physical capital-based responses

Physical capital comprises the basic infrastructure and producer goods needed to support livelihoods. Responses to livelihood shocks based on physical capital include the disposal of domestic and productive goods. Overall, ownership of productive assets and tangible assets that can be converted into cash, such as durable items, saleable land or housing is low among the female-headed households. Half of the households had to sell one or more assets to cover medical and food expenses. In most cases, small domestic goods such as a knitting kit, sewing machine and bicycle frames were sold rather than productive assets. The need to sell assets corresponds predominantly with the morbidity period when food and money constraints are high. Poorer households relied more on physical capital-based responses. Three times as many poor households had to sell one or more assets as compared to the relatively better-off households during the morbidity period, because they lacked savings, did not benefit from workplace support and received less financial assistance from their support network.

Financial capital-based responses

Financial capital comprises the financial resources that people use to sustain their livelihood, including money, credit, stocks and flows of income. Responses to

mobilise financial capital among the female-headed households include income diversification, informal borrowing, use of savings, and receiving workplace benefits. Among the cases, five women used their savings to cover medical and food expenses and four households were entitled to workplace benefits of the spouse's employer. The use of savings and workplace benefits is mainly confined to the relatively better-off households. Workplace benefits include medical insurance, coverage of funeral expenses, transport, and a lump sum that can be used to pay off debts or to invest. They contribute substantially to a household's capacity to respond to AIDS. The cases further show that traditional credit mechanisms, where households borrow from each other on a short-term basis, are mainly taking place through local women's clubs. These clubs provide loans to individual members to bridge food gaps or to start an income-generating activity, without charging interest and asking for collateral. Other strategies used by the women to raise income include starting small trade, casual work on other people's field or homestead, and selling foodstuffs along the roadside.

5.8 Conclusions on women's capabilities to respond

This chapter examined the differences in responding to AIDS impacts among women. Through the use of 12 case studies of female heads of households, who differ by marital status, age, educational attainment and wealth, the chapter explored the process of resource mobilisation and the factors that determine women's capability to respond to AIDS. Throughout the literature, female-headed households are characterised as highly vulnerable and disadvantaged in terms of entitlements and capabilities, limited access to assets and resources, heavy work burdens and low earnings (Chester, 1995; Firebaugh, 1995; Chant, 2003), although this has been disputed by other authors (see for example IFPRI, 1995; Quisumbing *et al.*, 1995; O'Laughling, 1997; Gleww and Hall, 1998; Quisumbing *et al.*, 2001; Mtshali, 2002). Findings from the cases show that not all female-headed households are very poor; some women heads of households are relatively well-off as they run their own businesses or receive monthly remittances from their kin. Likewise, not all female-headed households are equally vulnerable. A few women manage to resist AIDS impacts and adapt their livelihoods (Case 2). Some female household heads manage to overcome the worst impacts and are able to start rebuilding their livelihood after the spouse's death, however often at expense of dependence on external support, like the young widow in Case 1. Others (Cases 3 and 4), are not able to withstand the stress and resort to transactional sex. Similarly, households that manage to avoid the worst impacts are not necessarily less vulnerable. For example, grandmother-headed households that are doing relatively well after AIDS entered their household owing to the financial support of the son or the son-in-law, will collapse once the financial support stops, as they have nothing to fall back on.

The cases illustrate a high diversity in resource mobilisation among the female-headed households in terms of the range and sequence of strategies deployed.

Sequencing of coping or response strategies as described in the literature is not unilateral but resources are often mobilised simultaneously and repeatedly over time. Women differ in their ability to respond to AIDS as a result of their differences in access to endowments and entitlements, capabilities to use these to mobilise resources, as well as personality characteristics. The case studies identify different interrelated factors that contribute to women's capability to respond to AIDS, including: a strong resource base and economic independence at the onset of a livelihood crisis, access to strong support from kin, friends, community-based and faith-based organisations, access to ARV treatment, and medical insurance through the workplace. In particular, a strong social network is central to women's ability to mobilise resources, as is the access to social protection support from faith-based organisations in the form of monthly food rations and school fees. Furthermore, findings show that women's capability to respond is also influenced by family and marriage systems. In polygamous marriages, the care of the spouse and related medical and food expenses is shared, although likely unequally. Also, women in matrilineal societies reportedly receive more assistance from their family during the sickness. Upon widowhood, patrilineal societies tend to provide more support to the women in terms of sharing the burden of child care, but on the other hand give women less access to entitlements and pose a greater risk of property taken by in-laws. Further detailed research is required to look into the role of kinship system in reducing or increasing vulnerability to AIDS impacts. Important factors identified in the cases that limit women in their ability to withstand AIDS impacts include: weak kinship support; high dependency ratio; timing and duration of livelihood stress; and occurring of concurrent livelihood shocks, such as property grabbing and discontinuation of food and financial support from kin. A lack of support from kin to the female-headed households is the result of asset constraints to maintain the social network by returning favours, poor resource base of those involved in the network, and family disputes.

Thus, female-headed households are a highly heterogeneous group. They differ by factors such as reason for female headship (widowhood, separation, polygamy), composition, age, socio-economic status, and contributions of offspring (Chant, 2003). The households headed by women in the case studies differ according to level of economic empowerment, access to kinship support and community institutions, access to ARV treatment, and personal circumstances. These differences are reflected in their abilities to respond to AIDS impacts. Women face many limitations as a result of their gender-specific roles, responsibilities and access to productive resources, but within those limits use the means they have to respond to livelihood shocks and stress. The actual effectiveness of women's capability to respond to AIDS and their level of vulnerability is difficult to measure in absolute terms but can be assessed in relative terms through inter-household comparison. Generally, the outcome is judged against two extremes: the responses adopted by households have led to household debt or damaged the asset base, or these responses mitigated the impact of illness costs and safeguarded the household's economy and existence (Russell, 2003). Such judgements are often made by comparing quantitative snapshots of the household

asset-base and their livelihood strategies before and after the death of a core adult member, the so-called 'before and after scenario'. Depending on when these snapshots are taken, they may not reveal the adaption processes after the breadwinner's death, as was illustrated in Case 1. Furthermore, they do not show the process through which households mobilised resources and the factors that contributed to or hindered their capacity to resist AIDS impacts. Thus, to support effective programming, household survey data, like that presented in Chapter 4, need to be complemented with longitudinal and in-depth information on household's ways of responding to AIDS obtained through detailed ethnographic and case study research.

6 METHODOLOGICAL CONSTRAINTS AND EMICS AND ET(H)ICS IN AIDS-IMPACT RESEARCH

“...we really do not have long-term evidence with the kind of detailed analysis necessary to understand the complexity and diversity of the impact of the epidemic on rural society in Africa. What we do have is a large and growing body of very uncertain ‘evidence’ about what has been happening” (Barnett, 2006: 344).

Measuring the impact of HIV/AIDS on rural livelihoods is challenged by a range of factors such as the stigma and silence that surround the epidemic and lead to the underreporting of HIV/AIDS incidence, ignorance about the actual presence of HIV in the absence of testing, the multiple factors that influence people’s livelihoods besides HIV/AIDS and the heterogeneity in households responses to livelihood shocks. This chapter examines the methodological and ethical concerns and implications relating to micro-level AIDS-impact research in rural areas. The chapter is based on my own experiences in conducting cross-sectional quantitative and qualitative AIDS-impact research in Zambia, Uganda, Kenya and Namibia while working for the Food and Agriculture Organization (FAO/AIMS, 2003; FAO/FASAZ, 2003; FAO/NAADS, 2003, FAO, 2004) and on the review of agency reports, journal articles and other publications that summarise the findings of empirical research on AIDS impact. The first part of the chapter addresses the main methodological considerations and pitfalls concerning AIDS-impact research such as the diversity and contradictions in findings among AIDS-impact studies, research design and sampling challenges, the appropriateness of the household as unit of analysis, measurement challenges in using the livelihood framework and the emics and etics of research. The second part of the chapter focuses on the ethical aspects of conducting AIDS-impact research.

6.1 The differentiation effect

Since the 1990s, several studies have examined the socio-economic impacts of AIDS on rural livelihoods and household food security using qualitative and quantitative approaches and data sources. Examples are: Barnett and Blaikie

(1992); FAO (1995, 2003b, 2004); Loevihnsen and Whiteside (1997); Tibaijuka (1997); Rugalema (1999); Mutangadura (1999); Topouzis (2000); Ngwira *et al.* (2001); Yamano and Jayne (2002); De Waal and Whiteside (2002); SADC-FANRE VAC (2003); Loevinsohn and Gillespie (2003); Fox *et al.* (2004); and Müller (2004a, 2005a, 2005b). Much of the research concerns micro-level studies focusing on smallholder farmers in a few rural communities in east and southern Africa and is conducted to guide prevention and mitigation policy and programming. From these studies a generally accepted narrative has emerged about the impacts of HIV/AIDS on rural livelihoods and food security that has been widely used to inform and develop policies and programmes and that postulates the following main effects:

- ❖ Decrease in household labour force;
- ❖ Reduction in the area cultivated resulting from labour losses;
- ❖ Shift towards less labour-intensive (lower-value) crops, such as cassava or sweet potatoes, and away from more labour-intensive (higher-value) cash crops;
- ❖ Reduction in the amount of (labour-intensive) weeding, which results in lower yields and thus lower crop value;
- ❖ Decrease in the use of farm inputs due to lack of finances, which leads to reduced production and productivity;
- ❖ Losses in off-farm income and increased poverty resulting from the loss of wage;
- ❖ Distress sale of tangible household assets;
- ❖ Increase in gender inequality in access to assets.

Although there is broad agreement on the effects of HIV/AIDS on rural livelihoods, the reliability of the above assumptions is increasingly being questioned, as among existing studies many are recycled anecdotes, ignore the longer-term perspective or speculate on what is happening in a wide range of farming systems (Barnett, 2006). Also, the assumed effects tend to take different shapes across space as studies report different and contradicting results for some of the main AIDS impacts, such as the impact of HIV/AIDS on household labour supply, the area under cultivation and whether or not AIDS leads to a shift from labour-intensive to labour-saving crops. For example, while many studies report labour scarcity problems of households as a result of AIDS, others studies find that AIDS does not necessarily alter the household labour force but that the effect varies according to the ability of households to offset the loss of internal labour supply by e.g. attracting new members, hiring labour or relying on their social network for labour (Donovan *et al.*, 2003; Beegle, 2003; Yamano and Jayne, 2004; Mather *et al.*, 2004; Murphy *et al.*, 2005; Chapoto and Jayne, 2005). The effect of AIDS on the labour force also depends on who is ill or has died. For example, research in Rwanda showed that the death of a female head or spouse often led to a new adult woman entering the household, as opposed to the death of a male head, which did not result in a new adult entering the household (Donovan and Mather, 2004). Furthermore, many studies report a reduction in the area under cultivation and a

shift in the area cultivated from cash crops to less labour intensive crops among HIV/AIDS-affected households relative to non-affected households (FAO, 1995, 2004; Barnett *et al.*, 1995; Tibaijuka, 1997; Topouzis and du Guerny, 1999; Asingwire, 2001; Shah *et al.*, 2002; SADC-FANR, 2003). However, other studies do not indicate significant changes in agricultural production and output (Beegle, 2003; Mather *et al.*, 2004; Chapoto and Jayne, 2005), or found that the extent and significance of the decline was a function of the gender, age, and position in the household of the deceased person as well as the household's initial wealth level (Yamano and Jayne, 2004). Furthermore, research conducted by Chapoto and Jayne (2005) found that households that experienced a death of non-spouse females reduced instead of increased the area under low labour-intensive roots and tubers.

The impacts of the epidemic on rural livelihoods do not conform to a simple narrative but are in fact complex and diverse. While it is clear that HIV/AIDS affects people's livelihoods, not all households across rural sub-Saharan Africa face a similar inevitable and rapid decline in livelihood security as a result of AIDS (Murphy *et al.*, 2005). Several factors condition the specific effects of illness and death such the gender, age and role of who falls ill or dies, the pre-death household asset level, characteristics of adults remaining in household, labour requirements in a livelihood system and the ability to attract new members and respond to AIDS. Furthermore, the impact of HIV/AIDS differs when a household is affected by AIDS through chronic illness, death, or by looking after orphans (O'Donnell, 2004). Also, timing is an important factor as findings might differ if a respondent is interviewed relatively shortly after the death of a spouse or after some years, as some households are able to rebuild their livelihood a few years after their spouse's death, as was illustrated in Chapter 5. In order to understand how AIDS affects different peoples' livelihoods in a certain setting, research, and in particular cross-sectional studies, should stratify the sample population according to carefully selected criteria such as gender and role of the person ill or deceased and, if sample size permits, pre-death asset level. Ignoring the diverse picture of the epidemic and its impacts and relying too much on the general statements that nowadays have been widely adopted by policy-makers and donors can lead to the formulation of inappropriate policies that are not context-specific and do not reflect the diverse needs among affected households (Murphy *et al.*, 2005; Barnett, 2006).

6.2 Research design considerations

6.2.1 The array of research design among impact studies

Although during the last decade much has been written on the effects of AIDS on household food security (e.g. Barnett *et al.*, 2000; Loevinsohn and Gillespie, 2003; De Waal and Tumushabe, 2004), livelihoods (Topouzis, 2000; Shah *et al.*, 2002; FAO, 2004), nutrition (Piwoz and Preble, 2000; Haddad and Gillespie, 2001) and the agricultural sector in general (Rugalema *et al.*, 1999), only few empirical field research has been undertaken. The original studies that have been conducted are

predominantly carried out by organisations as baseline studies (e.g. C-Safe, 2003; FAO/AIMS, 2003, FAO/FASAZ, 2003; FAO/NAADS, 2003), diagnostic studies (Barnett, 1995; Drimie, 2002; Bishop-Sambrook, 2003; FAO, 2004), or as part of standard food security monitoring assessments (Zambia VAC, 2003; SADC-FANR, 2003). These studies are commonly concentrated in high HIV prevalence areas in Southern Africa, especially Kagera in Tanzania (Tibaijuka, 1997; Ainsworth and Semali, 2000; Ainsworth and Dayton, 2001; Beegle, 2003) and Rakai district in Uganda (Menon *et al.*, 1998), and differ by contextual factors, focus of the study, design and sample size. A review of 40 commonly cited empirical studies on AIDS impact (Table 6.1) shows that the majority of AIDS-impact studies (19 out of 40) are quantitative. These studies use predominantly structured questionnaires that have a set of questions asked to all respondents and that are administered through personal interviews as the only means for data collection. A quarter of the reviewed studies (10 out of 40) combine quantitative and qualitative research methods. These studies use participatory approaches like focus group discussions to complement the information derived from formal surveys and to report on community level aspects of AIDS impact (Asingwire, 2001; Barnes *et al.*, 2001; FAO/AIMS, 2003, FAO/FASAZ, 2003; FAO/NAADS, 2003; Mutangadura, 2000). Furthermore, 11 out of the 40 reviewed studies are qualitative in nature and information is gathered through focus group discussions (Bishop-Sambrook, 2003; Baylies, 2002a), case studies (Waller, 1997; Aliber *et al.*, 2003; Mothibi, 2003) and to a lesser extent ethnographic research (Rugalema, 1999). These studies contribute to the understanding of underlying causes of susceptibility and vulnerability, household coping strategies and community-based responses.

Most studies on HIV/AIDS household level impacts (i.e. 30 out of 40) that have contributed to the general narrative have made conclusions based on cross-sectional data analysis, i.e. studies that collect data from households at one point of time. Only 10 out of the 40 studies in Table 6.1 are longitudinal studies that interview a representative panel of households at specified intervals and are thus able to monitor a set of changes over time. Among these is the famous Kagera Demographic and Health Survey (Ainsworth and Semali, 2000; Ainsworth and Dayton, 2001; Beegle, 2003). This study was specifically designed to investigate the impacts of AIDS impacts on households and sub-populations, such as the elderly and young children, by collecting data over three years on amongst others chronic illness and premature adult mortality. Other longitudinal studies conducted to look at AIDS impact include the work done by Bechu (1998), Nampanya-Serpell (2000), Deininger *et al.* (2003) and Yamano and Jayne (2004).

The majority of impact studies investigate the social-economic impacts of AIDS among households in a few selected villages in a particular district or districts (Barnett, 1995; Waller, 1997; Baylies, 2002a; Shah *et al.*, 2002; Mothibi, 2003; Bishop-Sambrook, 2003; FAO/FASAZ, 2003; FAO/AIMS, 2003; FAO, 2004). Their samples range from 22 respondents interviewed in Namibia (Engh *et al.*, 2000) to a national population survey of 18,528 respondents in Swaziland (Swaziland-VAC, 2003). Among the reviewed empirical studies, 19 percent have a sample below

100 households, 33 percent have interviewed between 100 and 500 households, 24 percent have samples between 500 and 1000 respondents and another 24 percent base their findings on national representative samples. Amongst these are Mather *et al.* (2004), whose work is based on a national representative rural household survey conducted by Mozambique's Ministry of Agriculture and Rural Development. This survey focused on agriculture and income-related information but included a demographic, health and mortality component on basis of which they could examine the impact of adult mortality on rural households' livelihoods. Chapoto and Jayne (2005) used the national representative post-harvest survey in Zambia, carried out annually by the Central Statistical Office, as a basis for conducting a smaller supplemental survey to collect additional data on non-farm income, basic socio-economic information on all household members, and adult and child mortality information including retrospective questions on cases of death in the household over the past five years. In addition, samples of the reviewed studies are commonly stratified by district or region, or in the case of C-SAFE (2003) and SADC-FANR (2003) by agro-ecological zone, although the latter has not been used to control for environmental factors present across different agricultural and climatic regimes (Murphy *et al.*, 2005).

Adding to the diversity of AIDS research, AIDS-impact studies use different proxy indicators (see 6.4.1.) to attribute AIDS morbidity and mortality to a household, because the stigma and silence surrounding AIDS excludes open treatment and the actual presence of HIV is not known without testing. Among the most used AIDS proxy indicators are the presence or absence of AIDS-related illness or death (Baylies, 2002a; Oni *et al.*, 2002; Shah *et al.*, 2002; FAO/AIMS, 2003; FAO/NAADS, 2003) and the presence or absence of AIDS-related death (Tibaijuka, 1997; Menon *et al.*, 1998; Nampanya-Serpell, 2000; Ainsworth and Dayton, 2000; Beegle, 2003). Only two out of 40 reviewed studies focus on the effect of AIDS morbidity and compared households with AIDS-related illness with unaffected households (Bechu, 1998; Mothibi, 2003) and three studies make explicit distinction between the impact of AIDS-related illness and AIDS-related death (Booyesen and Bachmann, 2002; FAO, 2004; Larson *et al.*, 2005). In addition, most studies do not disaggregate their sample by, for example, the length of time that had elapsed since the death or by the stage of disease, despite the general acknowledgement that the impact of illness and death differs considerably depending on the stage of the disease or the length of period after death. An exception is the work of Beegle (2003) in Kenya, who distinguished between effects evidenced shortly after a death in the households and effects more than six months after a death.

Table 6.1 Summary of research design of 40 commonly cited empirical studies on AIDS and rural livelihoods

Study	Study design		Data collection instruments					AIDS proxy indicators					Sample size
	Longitudinal	Cross-sectional	Structured questionnaire	Semi-structured questionnaire	National survey data	In-depth interview/ case studies	Focus group discussions	Presence or absence of AIDS-related illness or death	Presence or absence of AIDS-related death	Presence or absence of AIDS-related illness	Presence or absence of orphans	Presence or absence of prime-age adult death due to illness	
Ainsworth and Dayton (2000)	X		X						X				566
Ainsworth and Semali (2000)	X		X						X				816
Aliber <i>et al.</i> (2004)		X				X	X	X					81
Asingwire (2001)		X	X				X	X					313
Barnes <i>et al.</i> (2001)		X	X				X	X			X		338
Barnett (1995)		X				X	X	X					-
Baylies (2002a)		X				X	X	X					150
Bechu (1998)	X		X							X			107
Beegle (2003)	X		X						X				816
Bishop-Sambrook (2003)		X					X						-
Bishop-Sambrook and Tanzam (2004)		X					X						-
Booyesen and Bachmann (2002)		X	X						X	X			258
Chapoto and Jayne (2005)		X	X		X							X	5,420
C-Safe (2003)		X	X							X	X		2,030
Deininger <i>et al.</i> (2003)	X		X								X		1,300
Donovan <i>et al.</i> (2003)		X	X					X					1,584
Drimie (2003)		X		X			X		X				60
Engel <i>et al.</i> (2000)		X	X				X		X				22
FAO (2004)		X	X	X			X		X	X			740
FAO/AIMS (2003)		X	X				X	X					513

Study	Study design		Data collection instruments					AIDS proxy indicators					Sample size
	Longitudinal	Cross-sectional	Structured questionnaire	Semi-structured questionnaire	National survey data	In-depth interview/ case studies	Focus group discussions	Presence or absence of AIDS-related illness or death	Presence or absence of AIDS-related death	Presence or absence of AIDS-related illness	Presence or absence of orphans	Presence or absence of prime-age adult death due to illness	
FAO/FASAZ (2003)		X	X				X				X		770
FAO/NAADS (2003)		X	X				X	X					610
FAO/ICRISAT (2004)		X		X			X			X	X		90
Janjaroen (1998)		X	X									X	324
Larson <i>et al.</i> (2005)		X	X						X	X			750
Mather <i>et al.</i> (2004)		X			X							X	4,908
Mothibi (2003)		X				X				X			29
Menon <i>et al.</i> (1998)	X		X						X				1,945
Mutangadura (2000)		X	X				X				X		215
Muwanga (2003)		X	X						X				417
Mwakalobo (2003)		X	X						X				119
Nampanya-Serpell (2000)	X		X						X				324
Oni <i>et al.</i> (2002)		X	X				X	X					680
Rugalema (1999)	X					X		X					167
Shah <i>et al.</i> (2002)		X		X			X	X					24
Swaziland – VAC (2003)		X	X					X					18,528
Tibaijuka (1997)	X		X			X			X				220
Waller (1997)		X				X		X					32
Yamano and Jayne (2004)	X		X									X	1,422
Zambia VAC and SADC FANR (2003)		X	X							X	X		1,448

Source: Adapted from: Booyesen and Arntz (2003); Murphy *et al.* (2005); Gillespie and Kadiyala (2005).

6.2.2 Longitudinal vs. cross-sectional surveys

HIV/AIDS has prolonged effects on people's livelihoods and triggers a dynamic process of household responses (i.e. each season can exhibit a new negative change in farming and not all assets are sold at once). Its long-term impact was for example highlighted in the Kagera Demographic Health Survey where the effects of AIDS morbidity were evidenced up to 30 months after the adult death (Booyesen and Arntz, 2003). Also, Case 1 in Chapter 5 shows the long-term character of the epidemic: only three-and-a-half years after the husband's death, the widow was slowly able to start rebuilding her livelihood. Thus, the effects of AIDS can best be understood through a longitudinal approach. Longitudinal or panel surveys compare households in two or more periods of time and are thus used to study dynamics of individual households (Deaton, 1997). Up to now, there are only few longitudinal studies that examine the impacts of HIV/AIDS on households, except for the work done by researchers such as Donovan *et al.* (2003), Yamano and Jayne (2004), Mather *et al.* (2004) and Chapoto and Jayne (2005). One of the main reasons that so few AIDS-impact studies are longitudinal is that longitudinal data is scarce and generating them is expensive. Donors are often not that keen to fund longitudinal studies as they require tracking and interviewing of the same household over time and are thus costly, particularly when as in southern Africa, they are applied to large areas of diverse economy. Additionally, donors and policy-makers require information on a short notice while in absence of baseline data they would have to wait for three to five years before researchers can get information and model over time (Donovan and Mather, 2004). Longitudinal surveys are also difficult to design and are complicated by attrition, i.e. households that dissolve or migrate, and by unaffected households becoming affected during later phases of a given study (Booyesen and Arntz, 2003; Donovan and Mather, 2005; Curry *et al.*, 2006). It means that in time the number of households originally in the survey decreases, which requires re-sampling to replace either affected households or controls, thus creating a bias. It also means that study findings probably underestimate the severity of impact of AIDS on households as the most vulnerable households are most likely to dissolve. However, Yamano and Jayne (2004) in their discussion of their household level survey in Kenya downplay this 'underestimation' by showing that only a small proportion (6%) of household attrition in their panel surveys can be attributed to household dissolution.

Most AIDS-impact research is cross-sectional in nature, meaning an assessment of impact is made once at a particular moment in time, often by comparing the household asset-base and their livelihood strategies before and after the death of a core adult member, the so-called 'before and after scenario'. Although cross-sectional studies are relatively inexpensive and easy to design and implement compared to longitudinal studies, AIDS-impact studies that are cross-sectional have distinct limitations. Such studies cannot really capture impacts but provide a snapshot of households' conditions at the time the interview takes place, which is commonly after a death has occurred. Hence, they do not measure the changes in household conditions over time nor do they capture the impact of the illness preceding the death. Furthermore, cross-sectional studies lack the temporal

dimension required to uncover the dynamics of responding to AIDS. As shown in Chapter 5, coping with AIDS impacts is a dynamic process whereby households mobilise different resources simultaneously and repeatedly. Household's utilisation of resources cannot be understood by taking a snapshot but requires a longitudinal approach to capture the process (Pennartz and Niehof, 1999). Especially the variable 'household composition', which is often used in AIDS-impact research as it refers to the household labour supply and implicitly the labour scarcity problems of households as a result of AIDS, cannot be sufficiently pictured by cross-sectional data as it obscures the in- and out-migration of members that is characteristic of many households. For example, the cases in Chapter 5 showed households that had taken in relatives to off-set the loss of labour and households where younger children had moved out to the extended family to reduce the burden. Implicit to the nature of cross-sectional surveys is that these studies are mainly able to show differences in the asset-base and livelihood strategies between affected and non-affected households, but cannot demonstrate causality. Additionally, cross-sectional studies cover a relatively short period of time and are thus less likely to provide evidence of intergenerational impacts like the loss of knowledge.

AIDS research requires a dynamic analysis to understand how livelihoods change from before HIV entered the household, during the illness phase, the post-death phase, and, hopefully, in the recovery process (Jayne *et al.*, 2006). However, in the absence of longitudinal data cross-sectional data can be useful in comparing after-shock outcomes of affected versus non-affected households, although differences cannot be directly attributed to HIV/AIDS. The limitations of cross-sectional surveys can be offset somewhat by careful stratification of the sample, for example according to the length of time elapsed since a death has occurred or by the stage of disease. Also, longitudinal data can be generated from cross-sectional data by repeating surveys over time. Presently, Drinkwater *et al.*, (2006) are among the few who have tracked individuals and households from their original study conducted in the early 1990s by undertaking a restudy. Furthermore, to a certain degree retrospective data can be constructed from a single interview by including questions about changes in a certain period of time, i.e. using a recall period. Because cross-sectional surveys are based on a single interview, studies use recall to gather historical data for various indicators. The length of recall periods may vary depending on the aspect that is being assessed. For example, in the case of major events like death, a four to five years recall period may result in reliable answers, whereas in the case of income, expenditure and agricultural production, a one-year recall may be the maximum to yield fairly reliable results (Donovan and Mather, 2004). Using a recall period induces various biases as people tend to forget or have selective memory. In the FAO-sponsored studies in Uganda, Namibia and Zambia (FAO/AIMS, 2003; FAO/FASAZ, 2003; FAO/NAADS, 2003; FAO, 2004), a recall period of five years was used in order to measure change as a result of HIV/AIDS. This lengthy recall interval created problems of 'recall loss' (Moser and Kalton, 1972), especially concerning accurate recollection of income and expenditure, food consumption patterns, proportion of land under cultivation. Respondents were unable to recall exactly the changes for

these variables before death occurred in the household as compared to after. This problem of recall loss is inherent in many studies utilising subjective self-assessments as measurements (Collinson, 1972; Moser and Kalton, 1972; Fowler, 1993).

6.2.3 Limitations of data collection instruments

Survey-based methods are still the norm in AIDS-impact studies (Booyesen and Arntz, 2003). While survey methods have more statistical power to assist policy and programme development, allow a high disaggregation level needed to map the diverse impacts of AIDS, and facilitate the comparisons between affected and unaffected households by their ability to control for different factors during data analysis (O'Donnell, 2004), they have many limitations, especially in the context of AIDS-impact research. The stigma and silence that surround AIDS make that many topics are too sensitive and often socially unacceptable to include in a standardised questionnaire. As a result survey-based studies are limited in their use and mainly produce easily measured data such as asset ownership and changes over time, and changes in production, which might or might not be attributed to AIDS. By their nature, survey-based studies are less suitable to collect information on more complex issues related to AIDS. For example, information on the persistence and effect of stigma, attitudes and knowledge concerning HIV/AIDS, cultural norms and perceptions, the problem of property grabbing, factors underpinning sexual decision-making among women and sexual violence, the change in gender- and age-specificity of household tasks, and the psycho-social effects of AIDS on children are difficult to capture using formal survey methods. Another drawback is that survey-based methods are unlikely to reveal underlying motives and uncover concealed behaviour, which can result in different findings depending on who is interviewed (Scrimshaw, 1990).

Survey methods do not have the potential to probe more deeply into people's accounts of social life. Thus, instead of relying predominantly on survey methods, AIDS-impact research should concurrently employ qualitative methods to enhance insights in the social aspects of AIDS. The most commonly used qualitative techniques in AIDS-impact research include in-depth and semi-structured interviews, focus group discussions and case studies. Especially the use of focus group has become one of the main methods for gathering detailed information on AIDS impact and sexual behaviour (Price and Hawkins, 2002). During my involvement in HIV/AIDS-impact research in Uganda, Namibia and Zambia, focus group discussions were used to discuss issues related to AIDS and livelihoods. However, given the sensitivity of the subject, these group meetings proved to be problematic for two main reasons. First, persons living with HIV/AIDS and their caregivers often do not participate in these meetings, as they are constrained by both time and the stigma attached to the disease, or are reluctant to discuss their experience openly. Consequently, the focus group discussions yielded general statements and problem identifications, and provided limited insights on how people's lives were affected by AIDS. Second, larger focus group discussions have

the danger of suppressing the voice of less empowered groups, which include stigmatised people with HIV/AIDS and AIDS-widows and widowers. As a consequence, these community meetings did not reveal the required in-depth knowledge and understanding of the issues. Price and Hawkins (2002), who used focus group discussions for their research on transactional sex and AIDS in Mozambique, experienced that this method has a tendency to produce normative social responses as the lack of privacy prevents participants from openly discussing experiences that differ from the community norms and values. Similarly, Longfield *et al.* (2004) in their study on cross-generational sex in Kenya experienced that focus group discussions among young women resulted in a reflection of social norms rather than actual behaviour, as none of the participants openly admitted to having a relationship with an older man but they easily knew other young women who were involved in intergenerational sex. In Kenya, during research on the sexual and gender-based violence, equal property rights and AIDS, I developed open-ended stories to explore areas related to sexual abuse, women's (in)ability to negotiate safe sex, and transactional sex (Wiegers, 2006). In this case, open-ended stories that were based on real situations were narrated to a group of participants, who in sub-groups discussed the story on the basis of a series of predefined questions. The open-story technique does not directly implicate the participants and thus they feel freer to talk about sensitive and often culturally unaccepted issues, however, the yielded information still concern people's beliefs and opinions and not people's personal experience. To obtain trustworthy answers on issues related to different social aspects of HIV/AIDS that relate to people's personal experience, narratives should be collected as was done for Chapter 5, or infected persons should be asked to keep a personal diary, as for example Bowie *et al.* (1996) did for their work concerning HIV/AIDS-related private expenses. While these latter methods may produce more reliable information, they tend to be time-consuming and cost-intensive and can only be included in conventional household surveys at relatively great cost (Booyesen and Arntz, 2003). Hence, these innovative techniques are normally only used in small-scale studies that focus exclusively on particular aspects of the AIDS epidemic, such as sexual violence and AIDS, and psycho-social effects of AIDS on orphans.

Given the sensitivity of the research topic, an integrated research design that sequences qualitative and quantitative research methods is needed in HIV/AIDS-impact studies. Qualitative investigations should precede quantitative surveys to help determine what should be investigated and how to characterise the quantitative variables, given local circumstances. Particularly for research on AIDS impacts, qualitative and quantitative research methods make a good match. According to Scrimshaw's (1990) overview on advantages and disadvantages of qualitative and quantitative methods, qualitative research methods are effective for exploring sensitive issues in a particular context, revealing perceptions and attitudes and for identifying factors underlying a particular problem, whereas survey-based methods as opposed to qualitative methods are best for obtaining data from a large population.

6.3 Unit of analysis

In most AIDS-impact studies, the household is the primary unit of analysis as this is the context in which impacts are most felt and decisions towards responding to AIDS are made. The community is rarely used as unit of analysis and no systematic study exists on the impact of AIDS on community institutions and norms (Murphy *et al.*, 2005). The exact definition of the household varies among the impact studies or in many cases is not provided by the researches (e.g. Booyesen and Bachmann, 2002; Zambia VAC and SADC FANR, 2003; C-Safe, 2003; Chapoto and Jayne, 2005). In general, the definitions used for household comprise elements of living and eating together and attending of daily needs. For example, the famous Kagera study defined the household as “a group of persons living and sharing meals together in the same dwelling for at least 3 of the past 12 months.” (Ainsworth, 2004: 10). FAO (2004: viii) also defines the household as a “group of people who live together, provide for each other and often share meals” but without a specific time frame, however, the definition includes “those who are temporarily absent from the household but have returned at some point in the last year and are expected to resume residence in the household in the future”.

The concept of household has been much debated in the literature and recently several authors (White and Robinson, 2000; Topouzis, 2000; Drinkwater, 2003; Booyesen and Arntz, 2003; Müller, 2004b) are questioning the usefulness of the household concept for AIDS-impact studies. The household as unit of analysis is found particularly problematic in the context of AIDS-impact research for two reasons. First, households dissolve because of death and the inability to adapt, implying that the most severely affected are lost to impact research that uses the household as unit of analysis. Consequently, such research create a positive bias of household coping abilities and does not provide information on what happens to children of dissolved households that end up outside any formal household structure, such as on the street or in orphanages. Yamano and Jayne (2004) oppose the idea of a positive bias created by household dissolution as only a small proportion of households were dissolved in their research in Kenya. Furthermore, Niehof (2004b) argues that this methodological problem can be overcome when a study design includes a temporal dimension through e.g. retrospective questions or a case study or life history approach in addition to the survey data to gather information on dissolved households and former members who moved to other households.

Second, authors argue that household-level research fails to capture the complex interactions between households that play an important role in mitigating or aggravating effects of AIDS. For example, family members might join a household to assist in off-setting the labour loss or because they need to be looked after because of illness, a family member living far away might pass away because of AIDS, the extended family, neighbours, friend or church members might provide financial assistance or assist with labour; all of which is not fully captured when using a household level analysis. Furthermore, a household focus often ignores the

intra-household effects of AIDS as not all members share equal status or have access to resources equally (Murphy *et al.*, 2005).

One attempt to capture these social dynamics is the use of cluster analysis, as proposed by Waller (1997) and Drinkwater (1992, 2003, 2006), who introduced the concept in order to understand the complex interrelationships that exist between households. Except for the work done by Waller and Drinkwater, cluster analysis has not been widely used. Basically, a cluster comprises a group of producers who exchange resources with each other, usually on the basis of kinship (Drinkwater, 1992). These interrelationships can be supportive, like caring for orphaned grandchildren or helping out with the harvest, or abusive, such as appropriating a widow's possessions after her husband's death. A cluster can comprise several households and the size of a cluster usually ranges from five to twenty individuals. Data is collected from individuals but is used to identify cluster boundaries and to place the individuals within the cluster, and allows for understanding the relationships between the individuals who differ by age, gender, marital status as well as one's place in the social network. Cluster members usually live in the same geographically area, but this is not necessary. For example, one of the most significant findings from a cluster analysis conducted by Drinkwater (1992) in Zambia in relation to AIDS impacts was the effect of AIDS-induced morbidity and mortality among urban households that were part of a particular rural cluster. Through the use of cluster analysis, the impact of death or chronic illness of one person on several households can be better understood. Furthermore, Drinkwater *et al.* (2006) found through their re-mapping exercise of clusters 12 years after their original research that cluster analysis helps to capture and understand how families actively manage generational change in order to respond to AIDS, by for example, absorbing widows or widowers into other clusters through claims on kinship ties or marriage. Also, their restudy showed the use of cluster analysis in mapping the role of social networks in responding to adversities.

I would like to argue against the use of a cluster-based approach as an alternative for household-level analysis for several reasons. In addition to the high cost and time requirements, clusters are highly dynamic as they change in composition and size, which makes tracing clusters for longitudinal analysis difficult. Furthermore, a cluster focus has implications for targeting as clusters are not easy recognisable units for which standard definitions exist. Drinkwater *et al.* (2006) suggest that vulnerability can only be understood in the context of cluster relationships and thus programming should target resource-poor clusters rather than households. However, support relations among households in a particular cluster are often unequal and households or individuals that are part of a particular cluster have different gender-specific needs. Niehof (2004b) further argues against moving away from a household focus as it would obscure the continuing reformation that takes place within households such as a shift in the gendered division of labour, roles, power balance, decision-making and access to entitlements. Rather than moving away from a household focus, mapping of a household's external relationships should be done as part of household impact studies.

6.4 Sampling issues

6.4.1 AIDS proxy indicators

One of the main methodological challenges in AIDS-impact research is identifying with certainty households that have members who are presently ill or died from HIV/AIDS, because generally people are not willing to admit or do not know their status. Only a few studies have been able to directly study the impact of AIDS deaths on households through the use of serological surveys (Urassa *et al.*, 2001) or by following intensively families with AIDS over a period of time using ethnographic methods (Rugalema, 1999). Furthermore, increasingly biological markers that use blood tests to identify the presence of the virus are being used in population-based surveys, such as the Demographic and Health Surveys in Zambia and in Kenya. While these surveys provide population-level prevalence estimates, data on HIV status is not linked to household characteristics because of confidentiality and thus preclude the use of HIV status as a variable in analysing social impact of AIDS (Murray *et al.*, 2005). Additionally, population-based surveys that use HIV-testing are biased because persons who provide consent to testing might differ from non-consenters. Research on demographic and AIDS-related characteristics of consenters to population-based HIV surveys in Tanzania found underrepresentation of especially older men and individuals with higher levels of education (Booyesen and Arntz, 2003).

The majority of impact studies rely on indirect measurements or proxy indicators to identify AIDS-affected households. While proxy indicators are becoming standard in AIDS-impact research their use has several limitations. Firstly, impact studies use different proxy indicators and thus make it difficult to compare research findings. The proxy indicators used in AIDS-impact research range between 'prime-age adult death' (Yamano and Jayne, 2002; Donovan *et al.*, 2003; Mather *et al.*, 2004; Chapoto and Jayne, 2005), 'illness or death from HIV/AIDS-related causes' (Shah *et al.*, 2000; Baylies, 2002a; FAO/AIMS, 2003; FAO/NAADS, 2003), 'death from HIV/AIDS-related causes' (Ainsworth and Dayton, 2000; Nampanya-Serpell, 2000; Beegle, 2003; Drimie, 2003), 'AIDS-related illness or chronic illness' (Bechu, 1998; Mothibi, 2003; FAO, 2004) to 'orphan-burden' (FAO/FASAZ, 2003). Especially common are the proxy indicators 'AIDS-related illness or chronic illness' and 'death from HIV/AIDS-related causes', which are used in two-thirds of the reviewed AIDS studies in Table 6.1. These indicators are problematic as they are subject to the researcher's interpretations. In general, a person is assumed to be sick or have died as a result of AIDS when he or she belongs to a specific age category and has been chronically ill for a particular period of time. FAO (2003b, 2004) specifies chronic illness further into TB, malaria and pneumonia. This is because HIV/AIDS and parasitic and infectious diseases like malaria and TB mutually reinforce each other. In high HIV prevalence areas where malaria affects a large proportion of the adult population, HIV infection has likely contributed to increased incidence of malaria (Craig *et al.*, 2004; WHO/UNICEF, 2006). Also, persons with HIV are up to 50 times more likely to develop TB as a result of HIV affecting the immune system (WHO, 2005), and is the leading cause of death

among infected people in sub-Saharan Africa (Stillwaggon, 2006). Vice versa, malaria and TB may also increase the spread of HIV infection in sub-Saharan Africa (Stillwaggon, 2006). Acute malaria increases temporarily viral replication and thus HIV viral load, which in its turn can speed up disease progression and contribute to heterosexual HIV transmission (Kublin *et al.*, 2005). While these illnesses are often related to AIDS, they do not necessarily have to be. Others like Donovan and Mather (2004) do not define chronic illness and thus illness could range from not feeling well to bedridden. Furthermore, the period of illness is ambiguous. Often three months is set as the lower limit but it is still questionable whether this refers to three consecutive months or any three months out of a year (Donovan and Mather, 2004). Also, the age category of the person that is assumed to suffer or have died from AIDS differs among studies. The majority of AIDS-impact studies include men and women aged between 15 and 49 years, as for most individuals in those age ranges HIV is the leading cause of death. Others like Donovan *et al.* (2003) use 'prime age', i.e. adults aged between 15 and 60 and in their 'prime' for sexual activity, to associate premature death with AIDS. The difference in the age of the study population is due to the way researchers define the age range of prime sexual activity and risk of HIV infection. The ages of sexual activity and hence susceptibility to HIV transmission is, however, not equal for men and women. Women become sexually active at a younger age than men. Therefore, Yamano and Jayne (2002) for their research in Kenya defined 'prime-aged' as 15-54 years for men and 15-44 years for women.

Secondly, while impact studies use different proxy indicators to identify households for measuring AIDS effects, they tend not to reflect the proxy indicator in presenting their findings but use the general term 'affected household'. In 1992, Barnett and Blaikie proposed a distinction between AIDS-afflicted and affected households for AIDS-impact research: AIDS-afflicted households are households where a member is currently ill or has died from AIDS, and AIDS-affected households are households where impact is the result of the death of a family member due to AIDS, resulting in the loss of support to the household and/or in the uptake of orphans. Presently, few studies distinguish between affected and afflicted and use the term 'affected household' instead, which depending on the proxy indicator used, could have different meanings. For example, an affected household in the research of Booyesen and Bachmann (2002) is a household in which at least one person is known to be HIV-positive, whereas in the work done by FAO (2003b; 2004) affected households encompass both chronic illness and death as a result of HIV/AIDS or related diseases.

Thirdly, proxy indicators that are used to identify households on the basis of absence and presence of AIDS-related chronic illness or death do not result in mutually exclusive household categories. Households where no member is ill or has died from AIDS can still care for orphaned children from relatives and thus are actually affected by the epidemic. To overcome this orphan effect, data could be disaggregated by the presence of orphans to reclassify unaffected households, as was done in Chapter 4 and originally proposed by Barnett and Blaikie (1992). The

danger of doing so is that too many household categories are created to allow meaningful statistical analysis.

Fourthly, bias is created as not all chronic illness or premature death is due to HIV/AIDS, despite the fact that AIDS is the leading cause of death among adults. In order to improve reliability in identifying chronically ill adults suffering from HIV/AIDS and adult deaths that were caused by HIV/AIDS, some researchers have used a modified verbal autopsy method in combination with proxy indicators (Ainsworth and Semali, 2000; Doctor and Weinreb, 2003; Donovan *et al.*, 2003; Mather *et al.*, 2004; Donovan and Mather, 2004). Verbal autopsies, in which medical fieldworkers collect information from close relatives or friends about the deceased person's symptoms prior to death, are commonly used to ascertain the likely cause of death. Ainsworth and Semali (2000) modified the verbal autopsy method for their HIV/AIDS research in Tanzania. In their work, for each person who according to the household was chronically ill or had died due to illness questions were asked about whether the person had any of the four major symptoms: fever, chronic diarrhoea, skin rash, or weight loss. AIDS was attributed as the likely cause of adult illness or death when the person had three or more of these symptoms. Donovan and Mather (2004) used a similar approach for their impact survey in Rwanda but found the method to be indecisive as few of the chronically ill and adults who died after illness had three or all of the four major symptoms, while the majority had only two. Doctor and Weinreb (2003) and Chapoto and Jayne (2005) refined the verbal autopsy method to increase the probability of correctly assigning AIDS as the cause of adult death by dividing the symptoms into major and minor signs based on the World Health Organization's classification of symptoms that are related to HIV/AIDS. Major signs were chronic diarrhoea, prolonged fever, and a weight loss of over ten percent of body weight, while minor signs included prolonged cough, prolonged breathing difficulty, prolonged pneumonia, and rash. AIDS was assigned as the cause of death when the deceased had at least two major signs and at least one minor sign of AIDS. While the verbal autopsy method might contribute to increased reliability of correctly classifying AIDS as the cause of death or chronic illness, it has several limitations. Chapoto and Jayne (2005) indicated that the AIDS criteria of verbal autopsy methods are very context-specific as they are validated on the basis of small clinical samples and are thus unlikely to be representative of a population. Furthermore, verbal autopsy can lead to invalid classification as also non-HIV malaria, tuberculosis, or pneumonia fit the criteria set by the method.

One could question whether misclassification of non-HIV chronic illnesses would lead to data pollution, as the economic effects are likely to be similar to that of AIDS. On the one hand, it should not matter if these impacts are caused by HIV/AIDS or by malaria, tuberculosis or pneumonia when the deceased person is within the same age range. However, on the other hand, AIDS is not a chronic illness like others; it is associated with high levels of stigma and discrimination, it is non-curable and death is often preceded by long periods of illnesses and subsequent high costs. Furthermore, AIDS has a greater likelihood of a

subsequent death in the household after one member contracts the disease (Jayne and Chapoto, 2005).

6.4.2 Sample design challenges

Another challenge of conducting AIDS-impact research is how to design a sample that would ensure sufficient representation of affected households. Generally, sample design differs between qualitative and quantitative research. For qualitative research purposes, sampling is meant to generate a wealth of information related to the specific topic of the study and the sample size is determined by the different information sources that set light on the topic and the topic's saturation point, i.e. when new respondents do not provide further insights. The sample size of qualitative research is normally small and respondents are selected with the assistance of service providers or other informants. Sampling for quantitative research is aimed at obtaining sufficient respondent to permit meaningful statistical analysis and at maximising the representation of the sample to allow generalising of study findings to a larger population. The design of a sample includes the calculation of the numbers needed in order to yield significant results when data is disaggregated by different criteria (Donovan and Mather, 2004). Given the complex nature of HIV/AIDS, impact studies should ideally disaggregate their data by illness and death, the gender, age and role of the ill or deceased and the pre-illness household asset level, which increases the desirable sample size. The calculation of the numbers will depend on HIV/AIDS prevalence and the estimated number of AIDS deaths in the country or district under study. In order to be able to generalise study findings to a larger population, researchers apply probability or random sampling, in which each member of the population has a known or non-zero chance of selection. However, in the context of HIV/AIDS research, random sampling techniques are unlikely to result in sufficient representation of HIV/AIDS-affected households unless the sample is very large. For example, a study that is conducted in an area where the average HIV prevalence rate is ten percent would require, in theory, a sample of 1000 in order to yield a subset of 100 subjects who are HIV positive. However, in practice the sample size has to be increased because AIDS tends to cluster in households (Barnett and Whiteside, 2002). Furthermore, a larger sample is required as the complexity of the epidemic requires disaggregated data analysis.

In order to avoid the need for an extremely large sample to enable statistical analysis, the majority of impact studies use a two-stage sample design by first selecting sites purposively and then households randomly (Chapoto and Jayne, 2005). For example, the Kagera demographic and health panel used a random sample that was first stratified geographically and then according to several measures of adult mortality risk. This allowed the study team to obtain an adequate number of households with AIDS-related death in the sample while maintaining the ability to generalise the findings to the entire population. The research in the Northern Province, presented in Chapter 4, also used a sample design that integrated random sampling and purposive (non-probability) sampling techniques.

Purposive sampling was used to select study sites and to capture ad-hoc affected-households derived from household lists compiled with the help of rural health centres and community health workers; random sampling was used to select households from the non-morbidity stratum. Alternatively, AIDS-impact studies use non-random methods of data collection to ensure adequate representation of affected households, such as recruiting respondents through health care facilities or NGOs and CBOs that provide HIV/AIDS-related services. For example, in Zambia Nampanya-Serpell (2000) purposively selected families likely to be suffering from a recent AIDS death through information that was provided by NGO's working in the study site and the mission hospital. In general, sample sizes that are generated through enlisting the help of health care facilities, NGOs or CBOs that provide HIV/AIDS-related services are smaller, most likely because only a few institutions are included in the sampling process and/or because these institutions have a low uptake of people infected with HIV (Booyesen and Arntz, 2003). Furthermore, there will also be a bias in that the sample excludes people that are not able to access these services, opt for other services or do not go as their status is unknown, and because not all health care facilities provide HIV-testing. Consequently, these studies are context-specific and not representative of a larger population.

Another form of non-random sampling used in AIDS-impact research is snowball sampling. Snowball sampling has been used as a non-random sampling strategy to obtain information from respondents who otherwise are difficult to locate, the so-called hidden population, as no adequate lists are readily available from which they can be sampled (Power, 1998). Snowball sampling has in particular been used in AIDS-impact research to study certain subgroups like drug addicts, street children, and sex workers, or to study certain social aspects of the epidemic like property grabbing and sexual violence. In snowball sampling, the respondent is requested to identify other persons, according to criteria set by the researchers. These mentioned persons will be interviewed and asked to assign according to the same criteria persons they know. This referring continues until a sufficient number of respondents have been interviewed. The method relies on insider knowledge to start the process and is based on relationships between people that belong to certain subgroups. Consequently, snowball samples are biased as people who are well known by others have a higher probability to be selected. Therefore, probability statistical methods cannot be used for snowball samples (Faugier and Sargeant, 1997).

6.4.3 Generalisation

Several studies have generated a so-called representative picture of how AIDS impacts rural livelihoods and household food security. While many researchers and policy-makers would want to extrapolate findings from available studies to other settings, this is restricted by the selection of research sites and the way studies are designed (Murray *et al.*, 2005). Many of the AIDS-impact studies are highly context-specific and should not be over-generalised. These studies differ in

location, ranging from researching a specific village to several communities, and from districts to the entire smallholder agricultural sector of a particular country. These locations have distinct cultural and socio-economic characteristics and differ by the stage of the epidemic, the presence of AIDS-related service providers and the accessibility of ARV. In addition, by nature of the selection of sites that are of interest to the aid agencies that fund or undertake such research, these studies often exclude large segments of the rural population, such as pastoralists, fisher folks, traders, landless, middle and large farm owners, rural households that do not rely on agriculture for their livelihood and households located in peri-urban areas.

Comparing findings of different studies is further hampered by differences in design and the way data is collected, which are often a function of funding availability and the intended end-user of the findings. AIDS-impact studies range from rapid appraisals to intensive studies conducted over multiple years, and from small participatory studies to formal population-based surveys. They further differ by the definition of proxy indicators, the meaning of 'affected' households, and by the use of indicators to measure impact. Certain agencies use indicators that are specifically defined for their own programming and monitoring purposes, such as the coping strategies index adopted by C-SAFE (2003) and the vulnerability classes used by SADC/FANR (2003) for their vulnerability assessments. Generalising impact findings is further challenged by the sample design of these studies. Often sample sizes are small and differ in the way the sample is selected. For example, much of AIDS-impact research is implemented by aid agencies to support their programming and thus site selection is confined to the intervention area of the agency. These areas are likely to be poorer than other regions but might be stronger in community social capital (Murphy *et al.*, 2005). Furthermore, impact studies tend to purposively sample high-prevalence areas such as Kagera and Rakai (Barnett and Blaikie, 1992; Barnett *et al.*, 1995; Tibaijuka, 1997; Ainsworth and Semali, 2000; Ainsworth and Dayton, 2001), chosen in order to ensure sufficient representation of AIDS-affected households. Thus, their findings cannot be extrapolated to the national level. Unless data is obtained from randomly selected samples, impact studies provide valuable insights and describe effects and household responses to AIDS within the given sample, but their results cannot be taken out of their context and generalised for rural households in sub-Saharan Africa (Murphy *et al.*, 2005).

6.4.4 Attribution

In addition to the problem of generalising findings from AIDS-impact studies, the changes observed among affected households cannot be directly attributed to the AIDS epidemic. This problem of 'inadequate impact attribution' or 'internal validity' (Murphy *et al.*, 2005: 270) is the result of the use of proxy indicators, the lack of control households, and the lack of inclusion of detailed questions on reasons behind witnessed changes in for example agricultural production as these changes might be due to factors other than AIDS, like market conditions or the abolishment of farm input subsidies. It is hard to disentangle the effects caused by the epidemic

from other harmful environmental, social and political conditions, as in many situations AIDS interacts with a complex set of factors which tend to differ per location (Barnett, 2006).

The impact attribution problem can be partly reduced by identifying and subsequently controlling for other underlying causal factors, as suggested by Shannon (2003). According to Shannon, AIDS-impact research should be limited to a subset of livelihood assets and, through the use of rapid appraisal techniques, collect information on major alternative factors that likely could cause change for these assets as well as on how these factors impact different types of households. In case the alternative causing factors, such as drought, affect all households similarly, they become a constant rather than a variable to which the changes in livelihood assets could be attributed. However, if the impacts of alternative factors are likely to be felt differently across households, then data on the estimated impact severity of these causal factors should be collected for each household included in the survey. This data could then be used to construct crude measures of impact, such as mild, moderate or severe, for each of the alternative factors that could then be incorporated into a multivariate analysis in order to partial control for their effects. This, however, is easier said than done as livelihoods are influenced by a complex set of interacting factors that impact households differently.

Attribution problems can also be partly overcome by including a control group of non-affected households in the sample that reside within the same social-cultural and economic context. This would allow comparing households that experienced AIDS-related morbidity, a prime-age adult death due to AIDS, or that had to take care of AIDS orphans with those that did not. However, the use of a control group has several limitations. Firstly, it increases the costs of research, which might be one of the reasons why many impact studies do not include a control group (Booyesen and Arntz, 2003). Secondly, the non-affected households or control group could have a member infected with HIV or are likely to be impacted by the mortality of relatives, friends or neighbours, and thus being no longer a valid control group. Lastly, it is difficult to attribute differences to AIDS by comparing affected with non-affected households as these households were different already before AIDS entered the household. This could partly be solved by stratifying the research sample by socio-economic status and other determining factors, like age and gender of the head of household, in order to control for differences between affected households and the control group. However, it is impossible to control for all differences as the number of possible differences among households is large and would thus require a large sample.

Donovan *et al.* (2003) used a technique called 'propensity score matching' to facilitate the comparison of affected households with a similar but not affected household under the same conditions, using a combination of cross-sectional and panel data. To do so, information for each affected household is matched with similar unaffected households by identifying a set of characteristics (for example educational level or profession of head of household) that are associated with an

increased probability of having a member with HIV and that likely influence the impact outcome, such as a reduction in area under cultivation. While propensity score matching enables the comparison of households, it requires a large sample to match all factors that are likely to be associated with being affected by HIV/AIDS and with certain outcomes, as households tend to respond differently to the epidemic (hence, yielding different outcomes) and because of the need to control for alternative factors that could result in similar outcomes.

6.5 The livelihood framework and AIDS-impact research

6.5.1 The livelihood framework from an AIDS perspective

To date, no framework of analysis exists for AIDS-impact research that, through the use of standardised indicators, would allow for better comparison of study findings within and across countries. In the absence of such a framework, the livelihood framework has been used by much of the AIDS-impact research to understand how AIDS impacts the various assets people hold (Loevinsohn and Gillespie, 2003; Harvey, 2004; O'Donnell, 2004; Curry *et al.*, 2006). The livelihood framework has been discussed at great length in Chapter 2. Briefly, households are seen to possess five sets of capital assets essential to pursue their livelihood strategies: human capital, social capital, financial capital, natural capital and physical capital. Within a certain vulnerability context and influenced by social, economic and political processes, households deploy their assets in different combinations through a set of different livelihood strategies that are designed to meet their basic needs or livelihood outcomes. The livelihood approach tries to understand the factors that lie behind people's choice of livelihood strategy in order to reinforce the positive aspects (i.e. factors that promote choice) and mitigate the constraints.

From an AIDS-impact perspective, the livelihood framework can be used to understand how AIDS directly and indirectly interfaces with people's livelihoods. The analysis of livelihoods in Figure 6.1 starts with the understanding of the external context, which includes trends, shocks and seasonality that influence people's livelihoods, but over which they have limited or no control. The external context will to a certain degree influence the susceptibility of a particular livelihood system to HIV infection and the degree of AIDS impact (Gillespie, 2006). For example, in dry and/or poor areas it is quite common for people to spend some periods each year as labour migrants to large commercial farms, mines or urban areas where they face a higher risk of contracting HIV. Also, external shocks, such as drought, increase the likelihood of women and girls resorting to survival sex in order to obtain food, money or consumable goods, as was seen in the Southern Africa humanitarian crisis (UN, 2003). The policies, institutions and principles in the livelihood framework that shape livelihoods also partly govern people's risk of contracting the virus and the extent to which the impact is felt. Examples are customary and statutory laws that regulate gender-equal access to property and resources, campaigns that prevent traditional practices like sexual cleansing, and

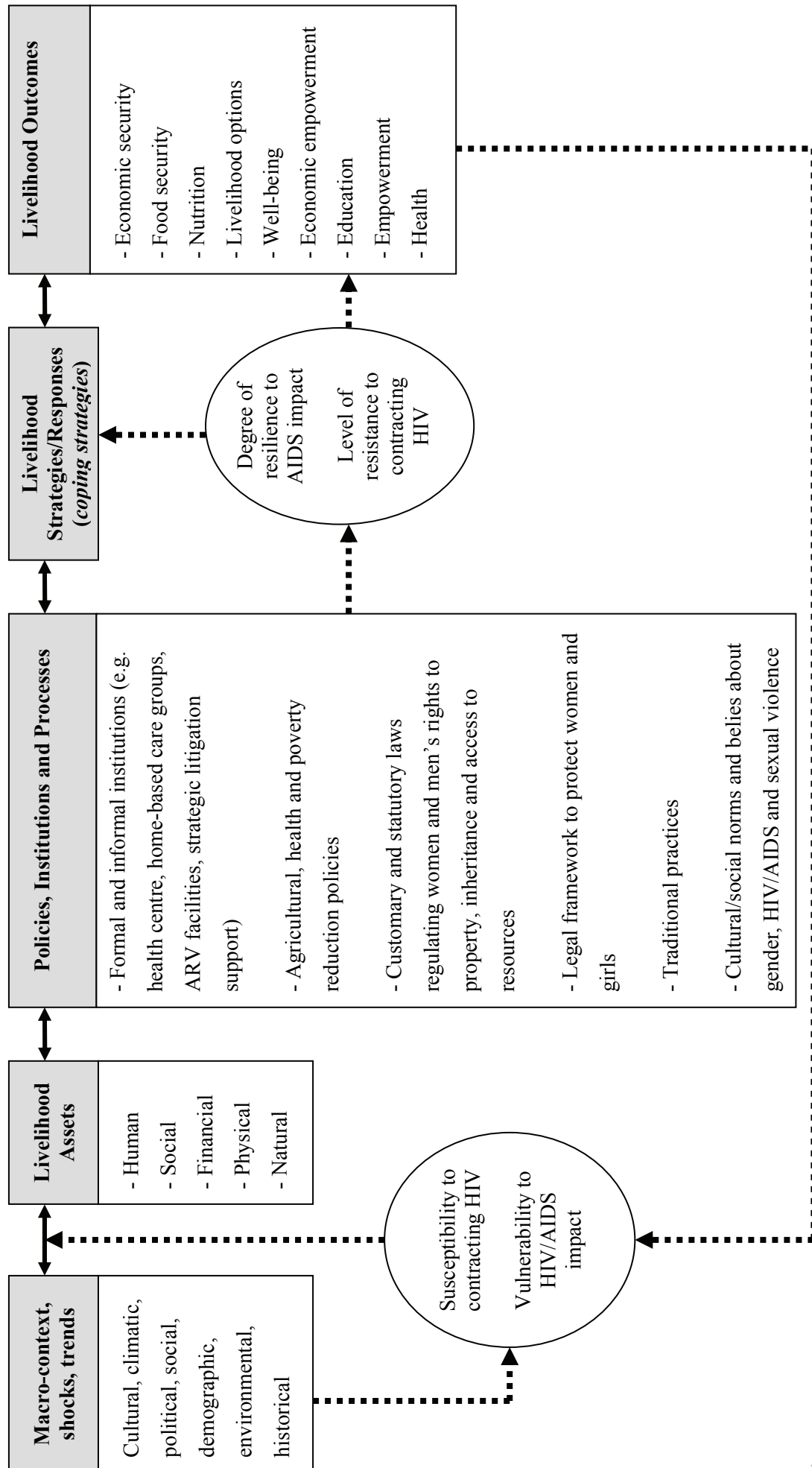
government commitment that ensures affordable access to ART. Livelihood analysis maps the impact of AIDS on the different assets, institutions and strategies in order to reveal intervention points for reducing susceptibility to HIV infection and mitigating the impacts of HIV/AIDS (TANGO International, 2003). The impact of AIDS on household assets is also influenced by the vulnerability of the livelihood system on which the household depends. For example, smallholder agriculture is particularly vulnerable to the negative effects of AIDS as it relies almost exclusively on family labour, especially that of women. Furthermore, the nature and extent of impact on household assets will influence the type of livelihood strategies that households adopt to respond to AIDS and hence the livelihood outcomes. These strategies or responses may differ in the degree of resilience to AIDS impact and the likelihood of contracting HIV and result in various outcomes that in turn also influence future susceptibility and vulnerability to AIDS (Gillespie, 2006).

6.5.2 Measurement challenges

The livelihood framework is a useful tool for impact research as it helps to explore people's responses to the effects of the epidemic on the basis of their assets and the subsequent livelihood outcomes. It helps in organising information and presents researchers and development practitioners from different disciplines with a common reference (Gillespie, 2006). Nevertheless, it also has its drawbacks. The approach is demanding and to study each element in the framework – the macro context, asset-base, policies, institutions and principles, livelihood strategies and outcomes – is a major undertaking. As commented by Scoones (1998: 13): "If the full range of differentiated and nuanced quantitative and qualitative information is to be amassed for the analysis, even a major field research effort may be insufficient to uncover all aspects of sustainable livelihoods in a given site".

The complexity of the framework also leads to problems of measurement and selection of relevant indicators. The livelihood framework creates the tendency to manage complexity by fragmenting it into distinct categories that are separate analysed for impacts (Asley and Hussein, 2000). In the case of AIDS-impact research, the use of a livelihood framework risks producing a long list of effects and changes in the asset base, livelihood strategies and livelihood outcomes that may or may not be attributed to AIDS. Consequently, the end-user might drown in the findings and may find it difficult to find the right entry-point for appropriate interventions. To avoid this, Stokes (2002) suggested focussing on a limited subset of possible impacts. He proposed a range of indicators one can use to measure and monitor the impact of HIV/AIDS on both households and communities. The indicators he suggested for measuring AIDS impact concentrate predominantly on livelihood assets and not directly on livelihood outcomes, such as food security, because livelihood assets are regarded as proximate determinants of household food security. Since mitigation strategies for AIDS impact on food security will most probably focus on strengthening the asset base of households, it is also important to identify foremost the effects of AIDS on the different livelihood capitals.

Figure 6.1 The livelihood framework from an AIDS perspective



Source: Adapted from Carney (1998); Gillespie (2006).

Adopting a livelihood approach poses particular problems of operationalisation and measurement of key variables as described below. For example, during my involvement in four FAO-sponsored studies in Uganda, Zambia and Namibia, all studies used to varying degrees the framework for measuring the impacts of HIV/AIDS on livelihoods. Given time and financial constraints, the four studies attempted information on a few or more of the following indicators in the five livelihood capital groups:

- ❖ **Human Capital:** illness or death of household members; fosterage of orphaned child(ren); school drop-out; changes in household size/composition; change in age/sex of household head; change in household dependency ratio; temporary migration of household member; addition of adult in household; intra-household reallocation of labour; change in area cropped and cropping patterns; and declining yields.
- ❖ **Financial Capital:** changes in income and expenditure sources, wage work and remittances; sale of stores of value; change in borrowing patterns from informal sector; changes in borrowing from rural traders or money lenders; and pledging of future crops for credit.
- ❖ **Physical Capital:** distress sale of livestock, household goods, equipment, tools, bicycles, radios, and so forth; and property grabbing.
- ❖ **Social Capital:** membership, participation and/or support received from formal and informal institutions; change in number members participating in community organisations; change in nature of assistance to/from extended family networks; change in nature of interaction with other households, e.g. labour exchange; change in type of support received to cover sickness and burial cost; change in type of support received to assist in fostering orphans; nature of labour-sharing arrangements and changes over last 5 years; and capacity of community support system in assisting HIV/AIDS-affected households.
- ❖ **Natural Capital:** reductions in soil fertility; asset stripping (sales of firewood, increased harvesting of wild food, depletion of game); distress sales of land and livestock; and renting or leasing out portions of the household's landholdings.

Even if focusing on a subset of livelihood aspects, many of these indicators proved difficult or problematic to measure as described below.

Human capital

The effects on human capital are central to any study measuring AIDS impacts as declines in human assets have continuing effects on other capital assets (Stokes, 2002). Stokes compiled a long list of human capital-related indicators. Some of these refer to reversible changes, like temporary migration for wage work, while others limit the household's future ability to respond to shocks, such as the withdrawal of children from school, decreased area cultivated and the loss of

intergenerational knowledge. Many of these indicators are difficult to measure, especially when using cross-sectional data. For example, obtaining reliable data on changes in area cultivated and in yields is subjective to people's memory and ability to estimate. Furthermore, intra-household reallocation of labour and the loss of inter-generational knowledge are difficult to measure through a few variables and require specialised studies that involve different members of the household.

Other human capital-related indicators tend to underestimate the observed impacts. For example, school-drop out rate turned out to be low in all four studies but affected households indicated irregular school attendance as a result of AIDS with subsequent low grades. Also, the conventional household dependency ratio as a means to measure the loss of labour tends to underestimate the impact. This ratio has long been used in studies of the economic behaviour of farm households (e.g. Chayanov, 1966; Ellis, 1988), and has been used in the Southern African context to explore on-farm production and off-farm employment linkages (Low, 1986). In the context of HIV/AIDS, the ratio of dependents (aged 0-14 and ≥ 65) to producers (15-64) should become worse as a result of AIDS deaths in the productive segment. However, as De Waal (2002) rightly argues, the conventional dependency ratio underestimates the AIDS impact on labour. Some people in the 'productive' age category are in fact chronically sick, and therefore increase the number of *de facto* dependents in the household. Other household members may spend less on economically productive activities because of having to engage in household maintenance (reproductive) activities such as caring for sick members. Furthermore, those in the dependent ages may in fact be economically productive, as households resort to the labour of children and elderly to accomplish both productive and social reproductive tasks. Consequently, the standard dependency ratio does not reflect the labour constraints experienced by affected households. Furthermore, the dependency ratio is problematic as it shows great variation, which can only be partially attributed to HIV/AIDS (Mather *et al.*, 2004; Murphy *et al.*, 2005).

Alternatively, an economic dependency ratio can be used as was done by Mtshali (2002) in South Africa. The economic dependency ratio calculates the ratio of household members who are dependent on the household income from all sources. Although an improvement upon the demographic dependency ratio, this ratio may also provide an incorrect picture as it is income-based and thus does not include in-kind payments like food-for-work nor the food rations provided by aid agencies for households with orphans on which increasingly many affected households depend.

Financial and physical capital

The impact of AIDS on human capital has a direct effect on financial capital through declining household income as a result of both reduced production and reduced off-farm income and remittances, and through increased household expenditures on medical care and subsequent decline in savings (Stokes, 2002).

Measuring financial capital effects are, however, complex and generally respondents are reluctant to provide reliable information on income, expenditures and their economic assets. Perhaps that's why much of the studies limit themselves to changes in income-generating activities as proxies for financial capital. In the FAO sponsored impact studies we tried to measure the impact of AIDS on income and expenditure patterns by asking for the various current income and expenditure sources and their overall importance as compared to five years ago, as well as for the proportion of income and expenditures from each source to the overall household income and expenditure at a five year interval. Although providing some interesting insights, these measures were subject to people's often differing interpretation, and affected by recall loss and the difficulty of using elaborate rating scales in rural settings. Alternatively, financial capital can be measured through constructing an asset index as is suggested by Filmer and Pritchett (2001). Following their approach, it was assumed that household wealth is the main cause of variation in asset ownership levels, and, thus, levels of asset ownership could be used as proxy for the level of household financial capital.

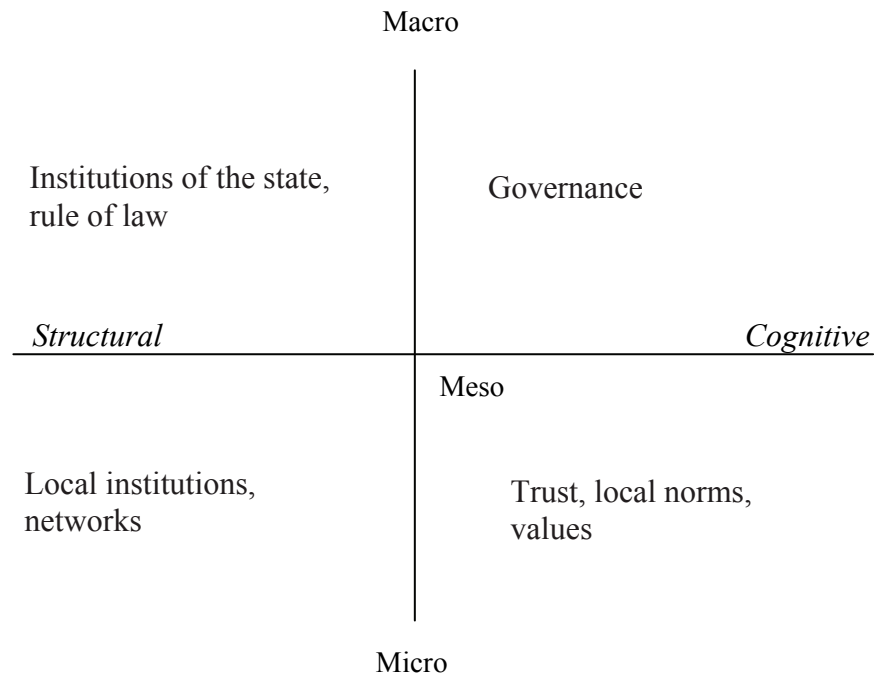
The impact of HIV/AIDS on physical capital is the most direct and visible effect of the epidemic and therefore perhaps the least complicated to measure. Because households normally only resort to selling assets when other sources have been exhausted, a decline in physical assets like agricultural implements and domestic appliances provides an indication of the vulnerability status of that particular household. By including questions on present and past asset ownership, using checklists of agricultural tools and household items, and reasons for change, appropriate insights can be gained in the impact of AIDS on physical capital. These asset lists are normally constructed locally and thus contain sample-to-sample variations in the items monitored, which hampers tabulation, analysis and comparison across study samples. Furthermore, experience on including questions in formal surveys that are related to changes in physical capital as a result of property grabbing is that respondents are often reluctant to provide answers out of fear and stigma. Information on asset grabbing may, therefore, need to rely on open-ended survey questions and/or qualitative techniques to obtain reliable information.

Social capital

The importance of social capital for households to mitigate AIDS impact is much talked about but often included to only a limited extent in AIDS-impact research. Most of the data collected are measures such as membership of informal institutions or participation in community activities among people living with HIV/AIDS. While social capital comprises an important asset for households that helps to reduce their vulnerability and adapt to changes in the external environment, AIDS-impact research has collected few empirical data on social capital as it difficult to measure. Firstly, social capital is invisible and intangible and thus difficult to measure. Secondly, it is multi-dimensional and has different meanings for economists, sociologists and political scientists. In general, social

capital refers to the groups and networks people can call upon and the contributions to these groups and networks as well as to shared norms and trust (Healy, 2003; Grootaert *et al.*, 2004).

Figure 6.2 Elements and observational levels of social capital



Source: Grootaert and Bastelaer (2002: 4).

Grootaert and Bastelaer (2002) distinguish social capital in various elements and observational levels to allow researchers to isolate certain aspects of social capital (Fig. 6.2). A first distinction is between structural social capital, i.e. the groups and networks, and cognitive social capital, which includes aspects like reciprocity and trust, values, attitudes and norms (see Krishna and Uphoff, 2002). Structural and cognitive social capital can be looked at separately, however they reinforce each other as the function of groups and networks often depends on trust and norms. Secondly, Grootaert and Bastelaer distinguish social capital into micro, meso and macro levels of observation. At the micro level, social capital can be witnessed in the form of local institutions and networks of individuals as well as the trust and norms that are associated with these networks. Meso-levels of observation are horizontal and vertical linkages between groups, such as for example regional associations comprising local groups, whereas macro-level observations are the institutional and political context and the quality of governance. The different definitions of social capital have led to a situation that to date no commonly accepted measurement method nor a single proxy indicator for social capital exists. The various studies on social capital have used their own measurement methods. These include large household surveys with standardised questions on issues as

trust, social support networks and participation in community organisations; time-use survey that are based on recorded time diaries to study human behaviour aspects like time spent on conversation with others or visiting friends, voluntary work, and so forth; and small context-specific surveys that included questions on attitudes, behaviour and relationships (Healy, 2003).

Since the mid-1990's, the World Bank has been much involved in the conceptual and piloting work to develop survey instruments for measuring both structural and cognitive social capital in the context of poverty reduction in developing countries. The Bank developed a so-called integrated questionnaire that measures various and sometimes overlapping dimensions of social capital and that can be integrated in a larger household survey such as national Living Standards Measurement Surveys. The instrument focuses on the micro and meso-structural and cognitive quadrants of Figure 6.2 and gathers information for the following six dimensions or proxy indicators of social capital (Grootaert *et al.*, 2004; Dudwick *et al.*, 2006):

- 1) **Groups and networks:** a long list of closed questions have been developed to gather data on the nature and extent of household membership in various informal organisations and networks, the contributions to and benefits from these organisations and networks, changes in one's involvement, the diversity of group membership and the external linkages and decision-making processes of these organisations.
- 2) **Trust and solidarity:** a few closed questions have been developed using statements, scales and ordinal categories related to the trust people have towards their neighbours, local institutions and strangers, and how this trust has changed over time as well as the extent community members are helping each other. Because trust is difficult to measure at household level and has different meanings to people, the World Bank approach focuses on the general trust people have and leaves out interpersonal relationships.
- 3) **Collective action and cooperation:** the tool explores through a selected number of closed questions the extent to which household members work with community members and the nature of the activities that are undertaken collectively as well as the extent of people's willingness towards collective action.
- 4) **Information and communication:** because building and maintaining social capital relies to a great extent on households' ability to communicate with members of their social network, community or other communities, the World Bank tool collects selected data on poor households' accessibility to communication infrastructure and how they receive information on market conditions and public services.
- 5) **Social cohesion and inclusion:** the dimension social cohesion and inclusion focuses on the divisions within communities that can lead to conflict, the way conflict is managed, and on the type of groups that are excluded from essential

services and resources. For the latter, the tool unfortunately does not include exclusion from access to land.

- 6) ***Empowerment and political action***: this category relates to the extent people feel they can exert control over local events, institutions and processes that affect their livelihoods. Empowerment and political action focuses at community, local and broader national levels.

The World Bank model for measuring social capital includes over 100 variables and is therefore too extended to be incorporated as a component in most AIDS-impact research. Furthermore, the data gathered remains very general, but could yield interesting information on the impact of AIDS on societies if the tool would be integrated in longitudinal surveys that cover communities hit by AIDS. Especially temporal data for the categories *groups and networks*, *trust and solidarity*, *collective action and cooperation*, and *social cohesion and inclusion* would provide insights in the possible degradation of social capital in the context of the AIDS epidemic. However, the attribution problem remains, as AIDS is not the only factor impacting on social capital; also the individualisation of society in general plays an important role (see the case studies in Chapter 5). Social capital is, however, context and sector-specific. Culture for one plays a dominant role in the interpretation and meaning of social capital dimensions like trust, values and networks across locations (Healy, 2003). Hence, no universal measurement and culture-free method can be developed that would yield valuable and policy-relevant information across different contexts. For purposes of measuring social capital in AIDS-impact studies in rural areas, the following four categories and indicators that relate to micro-level structural and cognitive social capital are of importance:

- ❖ ***Formal and informal institutions***: membership and changes in participation in formal and informal institutions; support received from these organisations; creation or disruption of formal or informal self-help organisations; nature and extent of exclusion of members to these organisations.
- ❖ ***Kinship/ support networks***: composition and extent of support networks people rely on in times of need; changes in nature and extent of peoples' participation in support networks; changes in the extent to which households receive support from their network; changes in the nature of the transactions that take place in these networks.
- ❖ ***Norms of reciprocity and trust***: changes in mutual rights, expectations and moral obligations that underlie support or kinship networks; changes in the overall norms of kinship solidarity; changes in the levels of trust people have towards their community members.
- ❖ ***Collective action***: changes in the nature and extent of activities that are undertaken collectively; changes in the extent of people's willingness towards collective action and in time spent participating in community activities; nature

and extent of constraints that limits peoples' willingness or ability to work together.

These categories reflect the multi-dimensionality of social capital as well as the various social capital and AIDS interrelationships. In order to capture the complexity of social capital and AIDS, impact research would benefit greatly from an integration of qualitative and quantitative approaches, including conventional survey tools, open-ended questions, Venn diagrams, institutional profiling, community maps, focus group discussions and case studies. Employing a mixed-method research approach to social capital does not only allow for better understanding of the different linkages between social capital and, in this case, HIV/AIDS, it also provides better insight in the different structures and perceptions of social capital (Dudwick *et al.*, 2006).

Natural capital

Natural capital consists of the land, water and biological resources people use to support their means of living (Ellis, 2000). To date, not much empirical research has been undertaken on the interactions between natural capital and HIV/AIDS and the existing evidence is mainly based on case studies, narratives and workshop reports. Barnett and Blaikie (1992) provide an important diagram of changes in cropping patterns over a nine-years period as a result of AIDS-related illness and death, based on their work in rural communities in Buganda, Uganda. The diagram shows a classical process in which high value and nutritious crops are progressively substituted for poor-value root crops (Barnett and Whiteside, 2002). According to Barnett and Blaikie (1992), households first respond to AIDS by reducing the number and diversity of crops grown. Because coffee requires pruning and marketing, people abandoned the coffee fields in favour of their staple food bananas. They then shifted from cultivating bananas and vegetables to cassava cultivation, which required less input and labour. As time proceeds, more land was left fallow.

Stokes (2002) identified some general indicators for measuring AIDS impacts on natural capital. These include: reductions in soil fertility, changes in on-farm conservation/irrigation practices, fallow land returning to bush, reduction in number of varieties maintained by farmers, decline in quality of permanent crops through decreases in mulching, weeding and pruning, asset stripping, and appropriation of land by relatives. Many of these indicators refer to processes that are hard to measure by cross-sectional household surveys, such as reductions in soil fertility, fallow land returning to bush, and reduction in number of varieties maintained by farmers. Also, attributing AIDS to these processes might prove challenging. While AIDS may accelerate some of above processes, like reductions in soil fertility due to reduced time for soil fertility maintenance measures or increases in fallow land returning to bush because households have no longer the resources to cultivate all their land, other socio-economic, bio-physical and cultural factors play a dominant

role as well. For example, in Zambia, a reduction in soil fertility is greatly influenced by the Government's policy to abolish fertiliser subsidies.

6.6 Emics and etics of AIDS impact

The impact of HIV/AIDS on people's livelihoods has been much discussed from an etic (i.e. outsider point of view) rather than an emic (insider point of view and culture-specific) perspective. The concepts emic and etic were introduced by linguist and anthropologist Pike and their relevance have been much debated in the literature (Headland *et al.*, 1990). The anthropologist Harris (1968) defines emic and etic as follows:

"Emic statements refer to the logico-empirical system whose phenomenal distinctions or 'things' are built up out of contrasts and discriminations, significant, meaningful, real, accurate, or in some other fashion regarded as appropriate by the actors themselves [...] Etic statements depend upon phenomenal distinctions judged appropriate by the community of scientific observers" (Harris, 1968: 571, 575).

In other words, emic is the insider explanation that is shared by a particular group of people, but which can differ between men and women, the young and the old. It is what de Josseling de Jong (1977) referred to as 'the participants' view of their culture'. An emic statement or perspective is falsified by the actors themselves. In contrast, the scientific construction of emic elements that are verified by researchers through evidence is etic. The concepts of emic and etic have played an important role in the field of medical anthropology and resulted in the distinction between disease and illness (Niehof, 2004b). Illness is emic as it is based on people's own experience and disease is etic as it is based on a scientific definition.

The emic-etic distinction can also be applied to HIV/AIDS. In this context, an etic description of HIV/AIDS is based on a biomedical interpretation in which AIDS is caused by infection with HIV, which can be transmitted through blood and sexual fluids. An emic description of AIDS relates to the experience and associations people have with AIDS. Central concepts to an emic perspective of illnesses like AIDS are illness identity (i.e. the interpretation of symptoms of AIDS and the labels attached to the illness), the perceived cause of illness, treatment, and prevention (Moodley, 2000). AIDS as an illness is related to a series of symptoms that often people do not refer to AIDS (Niehof, 2004b). As presented in Chapter 5, respondents talked about symptoms of their (late) husbands' diseases that resembled that of AIDS like swollen lymph nodes, sores in the mouth, loss of appetite, losing weight, pale skin, skin rash, and so forth, but not admitting that their (be-)loved ones have or had AIDS. Farmer (1994: 805) constructed a folk model of the nature of AIDS within a Haitian village. According to his model, villagers identified AIDS as a new disease, that is strongly associated with skin infections, tuberculosis, diarrhoea and drying up and that may occur naturally through sexual contact ("God's illness") and unnaturally. In case of the latter, AIDS

was sent by another person who imposes death upon the sick person. AIDS, whether occurring as a “God’s illness” or “sent” by someone, was seen to be caused by a microbe that could be transmitted by contact with contaminated or “dirty” blood. An emic model of AIDS is not a static one and changes as multi-media campaigns and health workers expose people to the etic understandings of AIDS.

How different groups identify HIV/AIDS may vary according to whether they attribute outcomes to human agency, fate or supernatural forces (Liddell, 2002). Because HIV transmission is linked to body fluids, sex, reproduction and death, many cultures associate AIDS with extraordinary symbolic and emotional power or witchcraft (Schoepf, 2001: 336). Witchcraft generally means manipulation by malicious individuals with powers to cause harm to others, often because of jealousy (Ashforth, 2001). Many characteristics of AIDS make witchcraft a reasoned association. Firstly, AIDS is a sexually transmitted disease that has mystical associations. The relation between sexually transmitted diseases and witchcraft is deeply rooted in the age-old valuing of fertility (Liddell *et al.*, 2002). Traditionally, a person’s well-being in life and in afterlife relies on fertility, which makes it a preferred target for witchcraft practices. Parallel, sexual intercourse is linked with mystical powers such as the belief that sexual intercourse can cool or purify one’s blood (Smith, 2003). There are also many rules and taboos inherent to sexual intercourse and relationships, which serve to protect men and women from having sexual relations outside the culturally prescribed boundaries (Liddell *et al.*, 2002). By disobeying these rules, a person might become victim of witchcraft practices by a betrayed partner or a jealous associate (Ngubane, 1977; in Liddell *et al.*, 2002). Secondly, AIDS leads to premature death. Premature death by itself is often associated with witchcraft because it is unnatural and cannot be attributed to ancestral wrath, as it would be counterproductive for ancestors to kill a relative (Ashforth, 2001). Thirdly, AIDS has reached epidemic proportions in many countries of sub-Saharan Africa. Epidemics have mystical powers and are seen as divine retribution or as being sent by the collective ancestors of a tribe or nation because of ancestral neglect and disrespect for social and moral behaviour (Liddell *et al.*, 2002). In addition to AIDS being a sexually transmitted disease, having epidemic proportions and leading to premature death, several other symptoms of AIDS suit the association with witchcraft. For example, the fact that healthy-looking individuals can transmit the illness to others, people can choose who to infect with the disease, HIV can be passed from mother to baby during pregnancy or delivery and through breast feeding, and infected persons commonly suffer a range of respiratory problems, all fit within the witchcraft paradigm (Ashforth, 2001; Liddell *et al.*, 2002).

Although nowadays many people are aware of the etic model of how infection works and how AIDS develops, it does not provide people with answers on why *they* have been infected or are sick with AIDS (Radstake, 2000). The witchcraft belief, however, provides people with answers on why they have been infected and who is to blame (Asforth, 2001). In this case, the emic and etic models of

explanation are distinct but not mutually exclusive: the etic model describes how AIDS is contracted and the emic model explains why AIDS is contracted by a particular person.

Another element inherent to an emic model of AIDS is the treatment-seeking behaviour of people. People choose a form of treatment not only according to the symptoms of a particular disease, but also according to what they believe is the cause of their sickness (Radstake, 2000). A family suspecting witchcraft as the cause of AIDS will feel the need to consult traditional healers (Ashforth, 2001). In the absence of accessible and affordable medical treatment, some people are willing to try all as a possible cure. For example, AIDS carriers might target young girls in the belief that it will treat them from AIDS. Raping young girls, or virgin-rape, in order to be cured from AIDS is a practice that exists in several countries, including South Africa, Kenya, Zambia, Zimbabwe and Nigeria. According to the virgin-rape myth, a child virgin avoids infection as her vagina has been closed off, which prevents HIV from getting into the girl's blood. It is believed that the blood produced by raping a virgin will cleanse the virus from the infected person's blood. The myth is similar to the way in which sexually transmitted diseases were dealt with in Victorian England in the last century (Smith, 2003). In the 19th-century, it was believed that sex with a child would cure people from syphilis and special brothels with mentally retarded virgins were kept to provide this cure. The virgin-rape myth and similar myths are more likely to come forward in times of desperation as people anxiously look for answers and solutions. Or in the words of Sontag (1978: 58): "Any important disease whose causality is murky, and for which treatment is ineffectual, tends to be awash in significance".

When applying an emic-etic distinction to the impact of AIDS on people's livelihoods, the emphasis of the people involved might differ from the scientific point of view. The etic model of AIDS impact is based on a number of qualitative and quantitative studies that originated in the 1990's by e.g. Barnett and Blaikie (1990). As Barnett puts it:

"[we] used field material from a number of sites in Uganda to suggest ... the effects of AIDS on rural production in Uganda and possibly more broadly in Africa... Since then, many studies using mainly qualitative and participatory methods have confirmed a story of AIDS impact, which runs broadly as follows: AIDS causes rural labour shortages because of excess illness and death in the productive age group; this leads to a progressive decline of agricultural production and food availability as a result of reduction of cultivated land area and shrinkage of crop and livestock portfolios accompanied by decay of rural infrastructure and overall reduced rural production and productivity, and thus nutrition status of the population" (Barnett, 2006: 343).

The above-mentioned AIDS-impact narrative is an etic model that is built on emic perspectives but does not necessarily correspond to an emic model of AIDS

impact. An etic model of AIDS impact usually focuses on more tangible changes like a change in household labour, land cultivation, crops cultivated, number of income sources, physical and financial assets, and in access to land. These changes can be empirically observed and measured and tend to be included in many of the AIDS-impact studies, either to confirm the etic statements or to highlight the context-sensitivity of the model. An emic model of AIDS impacts brings up intangible issues such as the worries about how to pay for all the expenses, feelings of hopelessness, shame and anger, strained social relations and the unravelling of the social network, which are not easily quantifiable and therefore do not appear in the above-mentioned etic narrative of AIDS impact. Furthermore, in an etic model of AIDS impact, the concepts of susceptibility, vulnerability and resilience play a central role. These concepts are etic, and not emic ones. In an etic model, the extent of a household's vulnerability or resilience to AIDS impact is often measured in terms of the extent to which agricultural production is maintained and physical and financial assets are safeguarded. The outcome of these processes in its turn influences people's susceptibility to HIV. In emic terms, other indicators might reflect the level of a household's ability to persist AIDS and adapt, such as children continuing education, food in the house, no involvement in transactional sex, and being a member of organisations and/or a social network that provide spiritual and financial support as was shown by the case studies in Chapter 5. This emic-etic distinction in expressing the extent of a household's ability to respond to AIDS does not insinuate that the degree of impact is perceived less or more in an emic or etic model, but as affected households make response choices that correspond to their emic motivations, indicators that measure outcome of people's responses should include an emic perspective.

Furthermore, in the etic model of AIDS impact, HIV/AIDS causes and exacerbates food insecurity through reduced agricultural production, a shift to survival foods such as cassava, and diminishing investment in agriculture as a result of a decreased household labour force and increased expenses on medical costs. Food insecurity, on the other hand, also contributes to accelerating the spread of the virus and the course of the disease, as hungry people are driven to adopt risky strategies to survive and for people who are already infected with HIV, hunger and malnutrition increase their susceptibility to opportunistic infections, leading to an earlier onset of full-blown AIDS. While this is a much-cited rationale in impact studies, when I conducted focus group discussions in Zambia, community members had a different point of view. For example, in the etic model a decrease in food security and a shift towards cultivating cassava (low input, labour-saving) are linked to the effect of AIDS. However, focus group participants maintained that while AIDS is a problem in the community, food insecurity and an increase in cassava cultivation was caused by the liberalisation policies of the Zambian Government that led to households' inability to purchase fertiliser. This emic-etic difference in attribution might be due local realities that are not included in the more general etic impact model and the overall attribution problem of HIV/AIDS. The focus group method itself may be a factor too, because it has a tendency to yield statements that do not reflect those of affected households as persons living

with HIV/AIDS and their caregivers often do not participate in these meetings or are reluctant to discuss openly their experience.

Similarly, an etic and emic view on AIDS impact might differ when it comes to problem prioritisation. Cultural groups may rank problems differently than scientists depending on their religious beliefs, whether the specific problems are seen as rarities or normative, their impact, and the extent of priority that is given to the welfare of households as opposed to individuals when decisions are made regarding resource and risk management (Liddell, 2002). For example, fieldwork in northern Zambia showed that HIV/AIDS is not the sole problem households face and that AIDS is one of the many factors that impede people's livelihoods, and consequently insiders do not always rank HIV/AIDS as the most important problem. In a problem analysis exercise comprising 24 separate focus group discussions in which a total of 405 women, 259 men and 77 village leaders participated, on average the problem of HIV/AIDS (as part of an overall increase in diseases including HIV/AIDS, malaria, pneumonia and TB) was ranked fourth, after the lack of agricultural inputs, lack of/low income and food insecurity (FAO, 2004). The emic and etic difference in attribution and prioritisation of AIDS impact might call for broader intervention approaches that address HIV/AIDS along with other factors affecting livelihoods, and thus do not target primarily affected households at the expense of households whose livelihoods are equally or more at distress.

The emic-etic distinction can also be applied to designing AIDS prevention and mitigation strategies. Insiders may perceive prevention and mitigation interventions and their anticipated effect differently than intended by researchers and policy-makers. An example is the female condom, which has been introduced as a means of women's empowerment, especially in the context of HIV/AIDS. When referring to empowerment, the main advocates of the female condom – WHO, UNAIDS, USAIDS – associate it with the notion of women's reproductive rights that should be enhanced by technologies that give women more autonomy. In her work in Kenya and South Africa, Kaler (2001) observed that this etic interpretation of the concept of 'empowerment' in relation to the female condom has different meanings for different groups of people. The national-level stakeholders Kaler interviewed, interpret empowerment as autonomy from men's control over women's bodies and female condom users as individuals who believe they are entitled to sexual self-determination. At grassroots-level, however, accounts on the female condom and empowerment reveal different notions for different people. According to Kaler, one group highlighted the instrumental properties of the female condom, which enables women to minimise the injuries from heterosexual relations, jealousy or violence. This emic view on empowerment associated female condoms with the possibility to put in place up to a maximum of eight hours before sex and hence the protection from HIV and STD's in case of rape. Also, female condoms are associated with the possibility to be used secretly and thus making sensitive discussions on male condom use irrelevant. Both perspectives, whether supporting women in their autonomy or avoiding the negative consequences of asymmetrical relations, see empowerment as something good. Another emic view on empowerment presented

by Kaler focuses on the loss of power, especially that of men. In this view, the female condom is seen as a threat to men as they fear that women will use the device without their consult or knowledge. This would disempower men in their relationships with women and therefore men felt women should only use the device with their consent.

The examples mentioned above show that insiders and outsiders can have different views on HIV/AIDS-related issues. However, emic and etic should not be seen as contrasting categories but rather as being complementary. The use of both emic and etic views on AIDS impacts is important for a better understanding of people's behaviour in the context of HIV/AIDS and will provide insights in topics such as how HIV/AIDS impacts are perceived in context of other livelihood problems, household responses to impact, and how households assess their ability or inability to respond. Furthermore, HIV/AIDS programmes and interventions are more likely to succeed if they integrate both emic and etic models of AIDS. For example, understanding about the extent to which emic beliefs may be influencing people's decisions about safe sex could offer useful insights for AIDS prevention programs (Liddell *et al.*, 2005). However, understanding the emic perspective of AIDS requires detailed ethnographic studies whereas often AIDS intervention programs rely on superficial and rapid ethnographic assessments because of time and cost constraints (Farmer *et al.*, 1993).

6.7 Ethical considerations

6.7.1 Ethical issues in AIDS-impact research

Ethical dilemmas occur at all stages of research, including the selection of the research area and research subjects, deciding on the source of funding, conducting the fieldwork, the interpretation, analysis and dissemination of results and the disposal of data. Given the sensitivity of the topic, research on the impact of HIV/AIDS raises several ethical issues. For example, a study on AIDS impact is bound to ask participants sensitive questions concerning the illness and/or death of family members, which may cause people stress and fear and may have far-reaching effects that are not anticipated by the researchers.

Also, sampling within AIDS-impact research brings up ethical issues concerning people's right of non-disclosure and confidentiality, and might create stigma to those selected as they might be labelled by community members as having AIDS. Respondents knowing AIDS-related research is being undertaken in their community may wonder why they are selected. Furthermore, because AIDS tends to cluster in households, it is often difficult to find a large enough sample of affected households, especially in areas with low prevalence rates. This might lead to different efforts to identify affected households, such as working through a local health centre or service provider or the use of health care systems-based sampling. For example, the work in northern Zambia benefited much from the support of community-health workers who helped in preparing a household list that

was stratified by AIDS morbidity. While community and other local health workers have a good knowledge of the different households, these households might not have given their consent to the health centre to share their status with others or they might not know their status themselves. A similar break of confidentiality tends to occur when using health care systems-based sampling methods. Booysen and Arntz (2003) in their review on AIDS studies report that facilities that provide testing and give out names of potential respondents to researchers not always inform their patients concerned about their status.

Ethical issues also play a role when researchers are trying to improve reliability in identifying adults who suffer or died from HIV/AIDS. To do so, researchers have used a modified verbal autopsy method in which information is collected from close relatives or friends about the deceased's symptoms prior to death. These symptoms generally include chronic diarrhoea, prolonged fever, and a weight loss of over ten percent of body weight, prolonged cough, prolonged breathing difficulty, prolonged pneumonia, and rash. Especially the latter, rash, has ethical implications. I can still remember the words of one of my enumerators: *"let's interview that woman, she is HIV positive... see her face, it's full of skin rashes"*. While his words were not intended to be discriminating, enumerators need to be coached that not all HIV-related outward signs automatically imply a person to be HIV positive.

6.7.2 Existing frameworks for research ethics

During the Nuremberg War Crime Trials at the end of World War II, the Nuremberg Code, a set of ten standards, was drafted to judge permissible medical experimentation on human participants that was conducted on concentration camp prisoners. The code calls for informed consent, minimizing risk and harm, a favourable risk/benefit ratio, appropriate research designs and qualified researchers, and participant autonomy to withdraw at any time. The code became the prototype of many other codes that were drafted to ensure research on human subjects was to be carried out ethically. In 1964, the Declaration of Helsinki was drafted in follow up to the Nuremberg Code. The Helsinki Declaration, which states that the well-being of the participant should take precedence over the interests of science has since then guided the ethics of biomedical research (Ringheim, 1995). In 1978, the National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research issued the *'Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research'*. This report describes the three now commonly-accepted principles for all research involving human participants: respect for persons, beneficence and justice.

Respect for persons

The ethical principle 'respect for persons' has to do with respecting and protecting the rights of persons involved in the research. The principle sees individuals as autonomous persons that have the right to decide whether or not to participate in a

given research. It says that before a study is initiated, individual informed consent from participants must be obtained. The International Ethical Guidelines drafted by the Council for International Organizations of Medical Sciences, an affiliate of the World Health Organization that considers ethical issues in research involving human subjects, define informed consent as a permission granted by a competent individual after receiving and understanding the necessary information without subjection to any form of pressure, influence, force or intimidation (CIOMS, 2002). In order to make a well-informed decision, participants should receive information on the purpose of the study, the process of the study, his or her role in the study, whether the study offers benefits to participants or to others and the likelihood and nature of psychological or social risks in an understandable language (Ringheim, 1995). Participants should understand that they have the right to withdraw from the research at any time without any repercussions. Furthermore, participants should also be guaranteed that their data is confidential, or in case this cannot be assured, they should be informed on who has access to their record and for what reasons. In case of research involving children, the child's permission must be given in addition to the consent of the parents or legal guardians (Schenk and Williamson, 2005). It is unclear, however, at what age a minor child can give consent without the permission of the parents or guardians, which may vary by the topic of the study, culture, circumstances of the child, law and marital status (Ringheim, 1995).

Beneficence

Beneficence means that researchers are responsible to protect their participants from harm and to maximise possible benefits. While the purpose of data collection is to benefit society, research should not jeopardise the psychological well-being of individuals or put individuals at risk of social stigma and discrimination, and thus researchers must anticipate and prevent any potential negative consequences. Under this principle, research should have a valid and clearly defined purpose. In the case of HIV/AIDS-impact studies, the purpose is to understand the effects of AIDS, the determinants of household's inability to respond, and to define areas to lessen their vulnerability to AIDS impact. Research in the context of HIV/AIDS tends to involve questions that are sensitive, personal, and perhaps difficult to answer honestly, however, no questions should be imposed that are invasive, humiliating or accusatory (Ringheim, 1995). Also, under this principle research participants should be protected from negative consequences by ensuring confidentiality of the information provided. In the context of HIV/AIDS, this is of particular concern as exposure of a persons' HIV status may put an individual in danger of losing his social status, the support of kin and friends, or even employment. Also, this principle states that individuals should be interviewed in private away from curious children, neighbours or other household members in order to ensure confidentiality.

Justice

Justice means that the benefits and burdens of one's involvement in a research should be in balance and without bias. This means that research activities should not involve individuals who are unlikely ever to benefit from the findings (Schenk and Williamson, 2005). The principle of justice means that research subjects are selected fairly in relation to the research topic and that they also benefit from the research. Justice also means that less advantaged community members do not bear a greater burden of a research that benefits all community members (Ringheim, 1995).

6.7.3 Limits to ethical principals for AIDS-impact research

In the context of AIDS-impact research, no special codes of ethics have yet been drafted. UNAIDS (2000) published a guidance document on ethical considerations in HIV preventive vaccine research, but these are biomedically oriented. Most ethical principles and guidelines, as described above, were originally developed for biomedical research, but they have been applied to social and behavioural research as well, including AIDS-impact studies. While these ethical principles may sound simple, their actual application in AIDS-impact research is challenging and may cause conflicts. For example, informed consent is an important ethical code that requires that participants should receive information on the purpose of the study, his or her role, and the likelihood and nature of any psychological or social risks as a result of participating in the research. However, in the context of AIDS-impact research, obtaining informed consent is not straightforward. Firstly, because HIV/AIDS is often associated with blood, death, (commercial) sex, homosexuality and sexual violence, it is difficult to openly discuss AIDS in many societies (UNAIDS, 2002b). Secondly, in cases where AIDS-impact research has provided full information on the nature of the study, rather than presenting AIDS as part of a more general interest in chronic diseases and thus not conducting the research under true pretences (cf. Aliber *et al.*, 2004), people selected by the study may experience stigma and discrimination as they may be labelled as HIV/AIDS-affected by fellow community members. Also, respondents might worry why they were selected, causing suspicion and perhaps misleading answers. Another challenge of informed consent in the context of AIDS-impact studies is the difficulty of predicting the consequences of the research, as not much has been documented on the effect of participating in an AIDS-impact research that has obtained (full) informed consent from both the participants and the community.

A related ethical challenge is the application of the beneficence principle to AIDS-impact research. Under this principle, AIDS-impact research should not jeopardise the psychological well-being of participants or put them at risk of social stigma and discrimination. According to Warwick (1982), the possibility that participants in most social research will be harmed in the form of injuries is low, as is the likelihood of accumulating individual benefits. Benefits of social research mainly comprise contributions to science and society, which are not predictable and do not directly contribute to the livelihoods of the participants themselves. Warwick further

mentions that the major harms to participants in social research are not the result of the research procedures as such, but come from the possibility of public exposure of sensitive information about identifiable individuals or groups. This means that researchers are to ensure the confidentiality of the sample and data in order to prevent that any member of the community is labelled by other members as affected by HIV/AIDS. However, how can a sample be kept confidential in a small setting where everyone knows who is being approached by the research team? In research on HIV/AIDS, by the virtue of being interviewed one can be inferred as HIV positive.

Related to the principle of beneficence, is the issue of AIDS proxy indicators and verbal autopsy methods that are used to identify AIDS-affected households. Because the HIV status of an individual is private and all individuals have the right to control personal information or because people do not know their status, impact studies use alternative measures like proxy indicators and verbal autopsy methods to indicate whether or not someone is suspected of being HIV positive or having died from AIDS. In practice, this means researchers are attaching labels to diseases or causes of death. An ethical concern that now arises is that when AIDS is attributed to someone's name because the person fulfils the conditions set by a particular proxy indicator, are we to let this person know? Not informing someone on the likelihood of being infected causes harm to individuals as they cannot benefit from treatment, as well as to others who risk becoming innocent victims (Ringheim, 1995). However, providing this information may also harm the person, especially in situations where limited counselling and treatment support is available.

The principle of justice requires equity in the distribution of benefits and burdens among the population group(s) likely to benefit from the research and not involving individuals who are unlikely ever to benefit from the findings. While Warwick (1982) mentioned that the possibility of accumulating individual benefits is low in social research, AIDS-impact research is frequently carried out with a view of designing appropriate interventions for AIDS-affected households. This means that research findings will be used for programming support for households caring for people with AIDS, widows and households looking after orphans. Community members who do not match these criteria are not to benefit directly from the interventions. This does not have to be problematic as such, but given the attribution challenge of AIDS-impact research, these members function as a control group and are thus required to participate in these impact studies. The resulting injustice in terms of unequal sharing of benefits and burdens may lead to disbelief and manipulation among unaffected community members. For example, in the Northern Province unaffected households repeatedly stressed that they were poor too and also needed support. In addition, because many community members perceive that frequently support is provided to households that look after (AIDS) orphans, they reported orphans in the household during the household listing process whereas after examination by key informants this was often not the case.

The ethical principles of respect for persons, beneficence and justice do not solve some of the ethical dilemma's researchers face when conducting AIDS-impact research. One such a dilemma is when research participants, as a result of their involvement in the research, indicate their interest in HIV testing but the research itself is not able to provide any support to them, nor is there free counselling and treatment available in the research area. Another dilemma is that of dealing with malpractices like virgin-rape and traditional healers that are encountered as part of a research. Anthropologists are trained to *a priori* accept cultural practices as part of the culture under study, yet not all practices are positive and also misuse is being made of the HIV/AIDS epidemic, such as by traditional healers. In their desperation to be cured and to find an answer to the question "why me?", many AIDS carriers are seeking the assistance of traditional healers. According to Schoepf (2001), researching the role of traditional healers is challenging for anthropologists. She notes that whilst traditional healers focus on finding the malicious individual who is responsible for sending the sickness, the patient's situation is unattended and becomes worse. The role of traditional healers in accelerating the death of people with AIDS is something that is spoken of by anthropologists *en coulisse* but is seldom reported in the literature (Schoepf, 2001: 351). Schoepf further notes that it is unclear whether traditional healers are effective in treating opportunistic infections, while households have to pay substantially for consulting them. Consulting a traditional healer is costly and can exceed as much as a week's wages, whereas in many African countries medical consultations are free (Liddell *et al.*, 2005). In order to ward off an attack of disease such as AIDS, a family would have to pay a traditional healer for an extended course of treatment, and in addition host an ancestral feast, the total cost of which can run to several months' wages (Ashford, 2001). One can question whether it is the task of a researcher to only observe or whether not acting on behalf of the researcher is unethical? The ethical paradigm in its present form does not address the extent of ethical responsibility a researcher has in a context of AIDS, where without access to ARV, AIDS means premature death and where, in the absence of affordable biomedical care of a reasonable standard, many traditional healers abuse the situation.

While many studies exist on the impact of HIV/AIDS on people's livelihoods, little reporting has been done on the ethical aspects of the research. It is unclear from the studies whether research proposal and questionnaires were scrutinised by a (local) research ethics committee, how confidentiality was ensured and if informed consent was obtained. Booysen and Arntz (2003) report that in only one out of the 36 studies they reviewed it was explicitly stated that informed consent was (verbally) obtained from the HIV-positive people participating in the study. AIDS-impact research presents special challenges to applying ethical principles, but this does not justify any suspension of the rights of research participants to full information, informed consent, or protection of confidentiality. In fact, all ethical principles are applicable to studies relating to HIV/AIDS (CIOMS, 1991). However, the challenges inherent to AIDS-impact research requires that ethical considerations extend beyond the biomedical applications and that the ethics

debate prescribes conditions for socio-economic impact research that are relevant and applicable to the situation. This means that community sensitisation is needed before obtaining informed consent as well as careful consideration to interviewing equal numbers of affected and non-affected households or applying random-sampling techniques in order to avoid social labelling. Also, any benefits derived from impact studies in the form of livelihood interventions or in-kind and financial assistance should adopt a community-based approach that should also take into account avoiding stigmatisation and discrimination as a result of unequal distribution of benefits and burdens among community members.

6.8 Discussion and conclusions

This chapter examined some of the methodological and ethical challenges one encounters when conducting micro-level AIDS-impact research. From the various publications, a commonly agreed narrative on the effects of HIV/AIDS on rural livelihoods has emerged. However, taking a closer look at this narrative it becomes clear that the impact of the epidemic on rural livelihoods is in fact complex and that the narrative is based on many assumptions that are difficult to measure. This chapter indicated eight broad methodological challenges surrounding AIDS-impact research.

Firstly, the impact of AIDS is diverse and dependent on a wide range of factors. Ignoring the diversity of impacts can lead to the formulation of inappropriate mitigation measures that do not reflect the diverse needs among affected households. Hence, impact research should stratify its sample population according to carefully selected criteria like gender and role of the person ill or deceased and, sample size permitting, pre-death asset level in order to understand the differential impacts of AIDS.

Secondly, HIV/AIDS has prolonged effects on people's livelihoods and triggers a dynamic process of household responses, which cannot be understood by taking a snapshot but requires a longitudinal approach. However, most studies on HIV/AIDS household level impacts are cross-sectional and few longitudinal impact studies exist. The lack of longitudinal data and the limitations of cross-sectional surveys for measuring AIDS impacts calls for donors to fund revisiting study sites in order to better capture the dynamism of households responding to AIDS. It also calls for more collaboration between researchers in using each other's sampling frames to allow for follow-up research.

Thirdly, the stigma and silence surrounding AIDS make that many topics are too sensitive and often socially unacceptable to include in a standardised questionnaire. Nevertheless, survey-based methods are still the norm in AIDS-impact studies. Consequently, survey-based studies produce data that can be empirically observed and measured but by its nature do not probe more deeply into people's accounts of social life. Given the sensitivity of the research topic, an

integrated research design that sequences qualitative and quantitative research methods is essential to the success of an HIV/AIDS impact study.

Fourthly, AIDS impacts extend beyond the household. Most impact studies focus on the household as the primary unit of analysis as this is the unit where impact is most felt and decisions on responding to AIDS are made. The usefulness of household as the unit of analysis has been much debated and a cluster analysis that captures social dynamics that exist between households has been proposed. However, a cluster-based approach is no good alternative for household-level analysis since it is expensive, time-demanding, unable to capture the continuing reformation that takes place within households, and complicates longitudinal analysis as tracing clusters is challenged by dynamism inherent to clusters. Furthermore, clusters are not easy recognisable units for which standard definitions exist and households or individuals that are part of a particular cluster have different needs, making targeting clusters for livelihood interventions problematic.

Fifthly, individuals are generally not willing to admit or do not know their HIV status, thus challenging the identification of households that have members who are presently ill or died from HIV/AIDS. Most impact studies rely on proxy indicators to identify AIDS-affected households, which have several limitations: their conditions differ among studies and are subject to the researcher's interpretations; they tend to result in overlapping household categories; and bias is created as not all chronic illness or premature death is due to HIV/AIDS. To overcome the latter problem, researchers are using so-called modified verbal autopsy methods along proxy indicators to improve reliability in identifying chronically ill adults suffering from HIV/AIDS and adult deaths that were caused by HIV/AIDS. However, the verbal autopsy method too can lead to misclassification as any non-HIV malaria, tuberculosis, or pneumonia also fits the AIDS criteria set by the method. The use of proxy indicators and verbal autopsy methods means researchers are attaching labels to diseases or causes of death outside people's knowledge. This raises ethical questions concerning withholding this information, preventing the respondent from benefiting from any treatment (if available). Additionally, the respondent may become a risk to others, while providing this information to the respondent may also harm the person.

Sixth, AIDS tends to cluster in households and thus challenges sampling in terms of obtaining sufficient representation of affected households. Furthermore, the complex nature of HIV/AIDS calls for impact studies to disaggregate their data by a number of factors, which means the sample should be of adequate size to allow different types of impact analyses. Alternatively, AIDS-impact studies use non-random methods of data collection to ensure adequate representation of affected households, such as recruiting respondents through health care facilities or NGOs and CBOs that provide HIV/AIDS-related services. However, this raises ethical concerns as households might not have given their consent to the health centre to share their status with others or might not even know their status.

Seventh, AIDS impacts are highly context-specific and cannot be reduced to a simple narrative as is often done. Comparing, generalising and extrapolating findings of the various impact studies is restricted by the differences among impact studies in research design, the way data is collected, the definition of proxy indicators, the application of indicators to measure impact, and the sample design. Many impact studies adopt the livelihood framework to understand how AIDS impacts the various assets people hold. However, given the complexity of the framework, studies are challenged by what to measure and what indicators are relevant, and risk producing long lists of effects and changes that may or may not be attributed to AIDS. What is needed is a set of universal standardised indicators, methods and concepts that would allow for better comparison of study findings within and across countries and at a variety of scales.

Lastly, AIDS interacts with a complex set of environmental, socio-economical and political factors which tend to differ per location and of which the effects are hard to disentangle from the effects caused by the epidemic. This attribution problem can be partly solved by using a modified verbal autopsy method and proxy indicators to increase reliability in identifying affected households, as well by including non-affected households as a control group. Also, the attribution challenge calls for an integrated analysis that utilises data drawn from different large-scale studies that are part of an integrated national statistical system (Curry *et al.*, 2006). In such an approach, data on HIV related issues gathered from for instance demographic health surveys could be linked to data obtained from national agricultural censuses and national income and expenditures surveys. Thus, instead of limiting interest in HIV/AIDS statistics to sector-specific studies, there is an urgent need to integrate HIV/AIDS issues in national statistical systems.

7 SYNTHESIS

7.1 Introduction

This research focussed on the gender aspects and methodological and ethical issues of AIDS impacts on rural livelihoods in sub-Saharan Africa. The research concentrated on three main thematic areas. First, by drawing on household data from the Northern Province in Zambia, I sought to understand how HIV/AIDS leads to vulnerability differentiation among affected rural households and what processes make households more or less vulnerable to the impacts. Second, through the use of case studies, I tried to provide insights into the resources female heads of households mobilised over time to respond to AIDS and the factors that enabled or disabled them in their response. Last, based on the literature and personal experiences, the research aimed at getting insights into the main methodological and ethical problems relating to micro-level investigations on AIDS, gender and rural livelihood linkages. While these three research objectives have been dealt with separately in this thesis, clear linkages exist between them. This final chapter has three major sections. The first part presents a brief summary of the main findings with regard to the objectives of the study. The second part considers the linkages that exist between gender, vulnerability to AIDS, and research implications. The last part discusses policy implications and recommended approaches.

7.2 Summary of the main findings

7.2.1 Vulnerability differentiation and its underlying processes

The first objective of this research was to provide insights into how AIDS leads to vulnerability differentiation and what processes make rural households more or less vulnerable to AIDS impacts. Issues relating to differential vulnerability have been discussed in Chapter 4. This thesis describes that a generally accepted narrative has emerged from the many studies on AIDS and rural livelihoods that has been widely used to develop policies and programmes. Many of the studies that contributed to this narrative take households that are affected by a prime-aged adult death as the unit of analysis. They do not always distinguish between different types of households that emerge as a result of the AIDS epidemic, such as those headed by women, the elderly and orphans, households with orphaned

children, households with chronically ill members, and households that suffered an adult death. In the case of the Northern Province, research findings indicate a sharp decline in household food production among households affected by HIV/AIDS. These households reduced the area they cultivated, disposed of their liquid and productive assets, used fewer farm inputs, participated less in the co-operatives set up by the Government to access fertiliser at subsidised rates, received less financial support from their social network as they could no longer reciprocate the assistance, and increasingly resorted to low-profit activities such as food for work and beer brewing. The picture of an overall downward trend of a declining resource base and livelihood options available to affected households is similar to the narrative about the impacts of AIDS on rural livelihoods. However, the Northern Province study accentuates the differences in vulnerability among AIDS-affected households by disaggregating its findings according to the manner in which households are affected. The households in the study that are impacted by illness and orphans as a consequence of HIV/AIDS and are headed by men, women and the elderly are not affected by the epidemic in a uniform way, but differ in their capacity to respond. Female-headed households that take care of AIDS patients and/or orphans and elderly-headed households in particular were less able to resist or adapt to the adverse impacts of HIV/AIDS on their food security as compared to other affected household categories.

Vulnerability levels differ substantially among and within households and implicitly expose factors that enable or impede people in their responding to HIV/AIDS. In the case of the Northern Province, underlying causes that influence households' vulnerability levels include, amongst others:

- ❖ Restricted access to assets to dispose in times of need, which also hampers their capacity to build up social capital;
- ❖ Risk of property loss after the death of the husband;
- ❖ Weak ties to a social network on which households rely in times of hardship;
- ❖ Low membership in cooperatives set up by the Government to access fertilisers at subsidised rates;
- ❖ Lack of adult labour, especially male labour, needed for specific livelihood activities.

Even though findings from the Northern Province cannot be generalised to a larger population due to the way the sample was selected, the study draws attention to the general importance of vulnerability differentiation. Treating households affected by HIV/AIDS as a homogeneous group obscures differences not only in impacts and in the households' ability or inability to respond, but also in their differing needs for external assistance. Understanding these differences is thus important and can play an important policy role in designing targeted support.

7.2.2 Female headship and responding to AIDS

The second objective of the research was to provide insights into the resources female heads of households mobilised and the factors that determine women's capability to respond to AIDS through the use of case studies. Although the cases cannot be generalised to a larger population, the findings presented in Chapter 5 point out three important issues.

First, female headship cannot be automatically used as indicator for AIDS vulnerability. Throughout the AIDS literature, female-headed households are pictured as marginalized and highly vulnerable to AIDS impacts due to their disadvantage in terms of entitlements and capabilities, limited access to assets and resources, and heavy work burdens. However, female-headed households are not a unitary category but differ by factors such as composition, age and personality characteristics of the head, wealth, access to endowments and entitlements, their capabilities to use these to mobilise resources, and specific circumstances. These differences are reflected in their abilities to respond to AIDS impacts and preclude labelling of all female household heads as always most vulnerable. Research findings from the cases show that not all female household heads are equally vulnerable to AIDS impacts and different interrelated factors contribute to their capability to respond. These include: a strong resource base and economic independence at the onset of a livelihood crisis, access to strong support from kin, friends, community-based and faith-based organisations, access to ARV treatment, and access to medical insurance through the workplace.

Second, responding to AIDS impacts is complex and does not follow a linear process of coping or response strategies as described in the literature. Case study findings show a complex and diverse process of resource mobilisation, comprising a range of responses that overlap in time and are often mobilised simultaneously. Furthermore, these responses to AIDS impacts do not follow a set pattern of strategies as often described by the literature but are repeated over time, in particular with regard to the disposal of assets. Rather than HIV/AIDS initiating a slow process of resource decline, whereby each season another asset is sold or a claim is made from the social support network (Barnett and Whiteside, 2000), the case study findings show a dynamic process of resource mobilisation whereby strategies overlap in time and concentrate around major stressors such as hospitalisation. Also, for women resource mobilisation during the morbidity period tend to differ from the period of widowhood. During illness, resource mobilisation is particularly aimed at livelihood preservation and daily survival and responses adopted are more short-term. When widowed, responses appear more long-term oriented, aiming at rebuilding a livelihood as best as possible.

Third, resource mobilisation differs greatly among female heads of households in terms of the deployed range of strategies. Case study findings illustrate that the number and type of resource mobilisation strategies adopted vary greatly and depend on the household head's endowment and entitlement base and her capability to use these to mobilise resources, as well as personality characteristics

and personal circumstances. Social capital is central to the women's capability to respond to AIDS and they employ a range of claims by using various distinctive claiming systems. In particular, reciprocity support from kinship and friends is an important claiming system. Upon the death of the spouse or adult child, faith-based and local community-based organisations are important claiming systems for the female heads of households by providing food and schooling support for orphans as well as assistance with income-generating activities, small informal loans and emotional support. The female heads of households also rely much on their human capital to offset the loss of productive labour by hiring labour in exchange for beer, involving children in the household labour force, and restructuring the household by absorbing younger relatives to assist in child-care and domestic responsibilities. Paid sex as a strategy to sustain their households is another human capital-based response female-headed households fall back on, especially widows with dependent children who are not supported by their kin and have few other options to generate a livelihood. Responses to mobilise resources that are based on financial capital include income diversification, informal borrowing from friends and local women's clubs, use of savings, and receiving workplace benefits. Least adopted were responses that include the disposal of domestic and productive goods, most likely because ownership of tangible assets that can be converted into cash is low. Poorer female-headed households relied more on asset disposal, often in the form of small domestic goods, as compared to the relatively better-off female-headed households as they lacked savings, did not benefit from workplace support and received less financial assistance from their support network.

7.2.3 Methodological and ethical concerns

The third research objective was to gain insights into the principal methodological and ethical problems one encounters when conducting micro-level investigations on AIDS, gender and rural livelihood linkages. Based on existing literature and personal experiences, several methodological and ethical problems that particularly challenge the conduct of AIDS-impact research have been identified. They are discussed in Chapter 6 and include:

- ❖ The heterogeneity of AIDS impacts and households responses to AIDS;
- ❖ The prolonged effects of AIDS on people's livelihoods, which trigger a dynamic process of resource mobilisation;
- ❖ The stigma and silence surrounding the AIDS epidemic that result in underreporting of HIV/AIDS incidence as well as lead to many related research topics being very sensitive and often socially unacceptable to discuss;
- ❖ The ignorance about the actual HIV-status of respondents in the absence of testing;
- ❖ The clustering effect of AIDS and hence the difficulty in obtaining sufficient representation of affected households;
- ❖ The multiple factors that also influence people's livelihoods besides HIV/AIDS;

- ❖ The fact that AIDS impacts stretch beyond the household;
- ❖ Ethical concerns as to whether letting respondents know AIDS is attributed to their name when the respondent fulfils the particular conditions set by a proxy indicator;
- ❖ Ethical concerns arising from the use of local health workers or health care systems for selecting AIDS-affected households as these households might not have given their consent to share their status with others or might not know their status;
- ❖ Ethical concerns of creating stigma to selected respondents as they might be labelled by community members as having AIDS;
- ❖ The issue of obtaining true informed consent when in many societies it is difficult to openly discuss AIDS;
- ❖ The guaranteeing of confidentiality of a sample in a small setting where everyone knows who is being approached by the research team and where by the virtue of being interviewed one can be inferred as HIV positive;
- ❖ The issue of ensuring equality in the distribution of benefits and burdens among the research population when non-affected households are required to participate in the impact research as a control group but are unlikely to benefit directly from the AIDS mitigation interventions that often follow an AIDS-impact research.

7.3 Gendered vulnerability to AIDS and its research implications

This thesis addresses the topics of gender, vulnerability and research implications as they relate to AIDS impacts. While these three thematic areas have been discussed separately in Chapters 4 to 6, they are interrelated. This section briefly outlines some of the interfaces of vulnerability to AIDS, gender and research implications.

In this thesis I lay emphasis on the heterogeneity among households affected by AIDS. These households differ by factors such as sex and age of headship, household composition, pre-death household asset level, access to kinship support and community institutions, access to ARV treatment, and personal circumstances. Furthermore, they differ by the way HIV/AIDS impacts their household: through chronic illness, death, or by looking after orphans. These differences are reflected in their abilities to respond to AIDS impacts. The resulting vulnerability differentiation exposes several structural factors that enable or disable people to respond to HIV/AIDS and has important gender implications. The actual vulnerability of households to AIDS impact is difficult to measure in absolute terms. It is often assessed indirectly and in relative terms through comparing households by their ability to adapt to a shock, which is shaped by their extent of assets and their capacity to transform these into income and food. Gendered inequalities in access to and control over assets greatly determine differences in vulnerability to

AIDS. In the Northern Province study, asset ownership differs significantly among households, with households headed by women owning substantially fewer household items and productive assets than male heads of households. As a consequence, they are more vulnerable to HIV/AIDS impacts as they are less able to dispose liquid and productive assets to absorb the shock. For women, gender-based disparities in asset ownership are often worsened by incidences of property grabbing by relatives after their husband's death. Absence of marriage certificates or other documentation such as written wills to protect women's rights, discriminatory marital property regimes and customary practices, societal norms, the low levels of awareness among women about their rights, and the fear for reprisals when confronting their in-laws all add to the occurrence of property grabbing. Vulnerability levels are also influenced by whether a household functions in a supportive environment that reduces the likelihood of adverse impacts, such as community groups. In the Northern Province study, membership in community-based organisations and cooperatives appears significantly lower across the different households affected by HIV/AIDS, and in particular among households headed by women and elderly. Additionally, affected female and elderly-headed households in the study have, on average, less total adult labour available to assist in domestic and productive activities than do male-headed or unaffected households. In particular less access to productive male household members increases their vulnerability level, because it limits their livelihood options; some of the common livelihood activities like slash-and-burn cultivation (important for household food security when fertilisers can no longer be afforded) are largely carried out by men. To access male labour, female and elderly-headed households are dependent on beer brewing as a source of exchange but have to wait for the labourers to first finish their own fields, which delays the planting.

Vulnerability differentiation also has clear methodological implications. To obtain a better understanding of how AIDS affects different households' livelihoods, research should best stratify the sample population according to carefully selected criteria like gender and role of the person ill or deceased, the status of being AIDS-affected (chronic illness, death, or caring for orphans), and, if sample size permits, pre-death asset level. While understanding vulnerability differentiation requires disaggregation of data by various factors, this is constrained by sampling challenges. Because HIV/AIDS tends to cluster within households, random sampling is unlikely to obtain sufficient representation of affected households that would also permit disaggregation by a number of factors that influence AIDS impacts unless the sample is very large. Additionally, differences in vulnerability to AIDS impact can be due to multiple factors that are difficult to disentangle from the effects caused by the epidemic. While attribution problems might in theory be partly overcome by identifying and subsequently controlling for various factors, in practice, this becomes a difficult task as people's livelihoods are influenced by a complex set of interacting factors that impact households differently. Also, attribution problems can be partly reduced by including a non-affected control group in the sample that reside within the same social-cultural and economic context for comparison. Because it is unlikely that affected and non-affected

households were comparable before AIDS entered the household, the research sample should be stratified by socio-economic status and other determining factors in order to control for differences between affected households and the control group. Given that the potential differences among households are numerous, this would require a large sample and almost becomes a mission impossible.

Additionally, in this thesis I mainly address vulnerability to AIDS impact from an etic perspective, which does not necessarily correspond to an emic point of view. From an etic view, a household's vulnerability to AIDS impact is generally measured in terms of the extent to which household food production is maintained and physical and financial assets are safeguarded. In emic terms, other indicators might reflect the level of a household's ability to persist AIDS and adapt. These can differ between men and women and can include such things as children continuing education, food in the house, no involvement in transactional sex, and being a member of organisations and/or a social network that provide spiritual and financial support, as was indicated by the case studies. Because affected households make response choices that correspond to their emic motivations, vulnerability measurement should ideally also include an emic perspective.

This thesis draws a picture of a complex and dynamic process of resource mobilisation, that comprises a range of responses to AIDS impacts that overlap in time, are taken on simultaneously, and are often repeated over time. The actual effectiveness of household capability to respond to AIDS is often judged against whether these responses mitigated the impact of illness costs and safeguarded the household's economy and existence, or at the extreme end, whether they led to debt or damaged the asset base. Generally, such judgements are made on the basis of cross-sectional data by comparing quantitative snapshots of the household asset-base and their livelihood strategies before and after the death of a core adult member. Consequently, these assessments lack the temporal dimension required to understand the dynamic process of household responses to AIDS.

Research, on the other hand, can also increase vulnerability of its participants by virtue of its design. For example, research can create stigma to sampled respondents as they might be labelled by community members as having AIDS, especially in a small setting where everyone knows who is being approached by the research team. Also, the use of proxy indicators to indicate whether or not someone is suspected of being HIV-positive or having died from AIDS can increase one's vulnerability when this information is not shared with the respondent and thus he or she does not benefit from any treatment (if available). On the other hand, providing this information can also harm the respondent, especially in situations where limited counselling and treatment support is available.

7.4 Some policy implications and recommended approaches

I have argued that vulnerability levels to HIV/AIDS impacts differ substantially among households and implicitly expose the underlying factors that facilitate or limit people in their responding to HIV/AIDS. I have also argued that female headship cannot be automatically used as an indicator for AIDS vulnerability as households headed by women are not a unitary category but differ by factors that enable or disable them in their response. Understanding the differences in AIDS impacts across households is important as it exposes the causal conditions for people's vulnerability and as such has important policy and programme implications. These must be sensitive to differentiation of households and challenge the inequalities that drive AIDS susceptibility and vulnerability. The differences among households in their abilities to respond to AIDS impacts also cautions against blueprint mitigation interventions as one solution will not fit all the differing needs of affected households. Loevinsohn and Gillespie (2003) advocate the use of a 'HIV/AIDS lens' in programme and policy formulation, through which to view the different causal factors that lead to increased or reduced susceptibility and vulnerability levels. Using such a lens would mean reviewing how a certain situation shapes women's and men's risk to HIV and their vulnerability to impacts resulting from illness and death, and considering how the current or planned action might contribute to or prevent this. The 'HIV/AIDS' lens thus assists in clarifying possible options for prevention and mitigation initiatives (Gillespie and Kadiyala, 2005). Using such a lens would entail different steps, including: analysis of HIV/AIDS and food security interactions and existing institutional responses, review of the potential positive or negative contribution of important policies and programmes to HIV/AIDS prevention and mitigation; possible action-oriented research to support policy modification; and modification of the identified policy or programme, if required. Because households may perceive prevention and mitigation interventions and their anticipated effect differently than intended by researchers and policy-makers, the 'HIV/AIDS' lens should integrate both emic and etic perspectives of factors contributing to susceptibility and vulnerability.

In the case presented in this dissertation, applying a 'HIV/AIDS' lens would call for advancing gender equality in order to support households, especially those headed by women, in responding to AIDS impact. In particular, efforts that address strategic gender needs are required. Depending on cultural contexts, these include: securing access to assets and resources, enforcing laws relating to ownership and inheritance rights, supporting economic independence, making financial services available to women, and ensuring actual enforcement of statutory laws for gender-based rights at local level are not undermined by customary laws. Applying a 'HIV/AIDS' lens would also call for targeted social protection efforts for the most vulnerable in society to minimise asset-depletion. Targeted social protection measures should aim at reducing vulnerability levels to AIDS impact by protecting the household asset-base, ensuring continued access to education, and bridging temporary food gaps, as well as by rebuilding the asset-base for affected households who had to sell crucial assets. The design of any social protection

intervention should take a number of considerations into account. First, vulnerability differentiation among households does not only call for targeted support but also for attention being paid to the multi-faceted causes underlying vulnerability. Second, restricting eligibility of social protection measures to specific target groups might induce stigma and comes with high identification and monitoring costs. Last, social protection interventions should include a set of fiscally affordable and administratively feasible measures as many governments of high-impacted countries have a low capacity to provide social protection support (Devereux, 2003).

Application of a 'HIV/AIDS' lens is based on a comprehensive understanding of HIV/AIDS and food security interactions and the underlying causal factors. Most of our understanding, however, is based on literature reviews, or small-scale household studies that describe the economic impact in one or two communities over a short time interval. Empirical data on the impacts of HIV/AIDS is limited and their findings cannot be generalised or extrapolated to other settings as these studies differ in the definition of proxy indicators, the concept of 'affected' household, the use of indicators to measure impact, the way data is collected, the selection of research sites and the sample design. Also, much of the effects of AIDS on the rural society remain unclear. Furthermore, AIDS-impact research is challenged by a range of factors for which no magic solution exists. One could argue whether we need sound research to prove AIDS impacts or whether in an epidemic such as AIDS it may be wiser to just act and assist communities and individuals with the support they require most without the need to prove the wisdom of such intervention (Gupta, 2002b). Action is indeed more important than to approximate the truth about AIDS interactions with empirical data, however, in order for governments and donors to act beyond the predominantly medical support that is presently provided, data is needed on the scale and intensity of AIDS impacts. There is thus need for a more complete and systematic evidence-base on HIV/AIDS, gender, and rural livelihood linkages, which in turn could be used to develop supportive policies, increase advocacy and develop responsive programming.

To work towards a more systematic evidence-base, a common research framework is required that would allow for better comparison of empirical findings within and across countries and at a variety of scales rather than generalising from ad-hoc studies. Such a common research framework should comprise several issues.

First, in order to capture the complexity of AIDS impacts, a research framework should include an integrated research design that sequences qualitative and quantitative research methods. Employing a mixed-method research approach to AIDS impacts allows for a better understanding of AIDS interactions, the different causal factors, and the social dimensions of HIV/AIDS which are too sensitive and often socially unacceptable to include in a standardised questionnaire.

Second, the research framework should include a set of universal standardised indicators for measuring AIDS impact as well as develop and standardise the tools to measure these variables. Although many impact studies adopt the livelihood framework to understand AIDS and livelihood interactions, the complexity of the framework poses the challenge of finding the right indicators. The general indicators for measuring AIDS impacts developed by Stokes (2002) should be used as an entry point for such an initiative. Because affected households make response choices that correspond to their own (emic) interpretations and assessments, the set of universal standardised indicators for measuring AIDS impacts should leave space for a culture-specific emic perspective. Furthermore, universal standardised indicators should be developed for defining and identifying AIDS-affected households that make reference to the difference in impact between hosting of orphans, morbidity and mortality due to AIDS. This involves the development of standard definitions for mutually exclusive affected and non-affected households and for proxy indicators needed to identify affected households. Standardisation of modified verbal autopsy methods that are used to improve reliability in identifying chronically ill adults and adult deaths caused by AIDS can only be done on a case-to-case basis as these methods are validated through the use of small clinical samples and are thus context-specific.

Third, a common research framework for AIDS-impact studies should adopt the household as the core unit of analysis as this is the immediate context within which provision of primary needs and care takes place, resources are mobilised to respond to the impact of AIDS, and continuing reformation takes place. To capture the complex interactions that exist between households, household-level analysis should be combined with the mapping of external household relationships.

Fourth, in order to capture the prolonged effects of AIDS on people's livelihoods and the dynamic process of household responses, the research framework should call for resources and efforts to be combined to generate longitudinal data from cross-sectional studies by revisiting of study sites. Also, careful stratification of the sample and the use of a recall period to construct to a certain degree retrospective data from a single interview are required to offset the limitations inherent to cross-sectional surveys.

Fifth, because the impact of AIDS is diverse and dependent on a wide range of factors, the research framework should include stratification of the sample population according to carefully selected criteria like gender and role of the person being ill or deceased and, sample size permitting, pre-death asset in order to understand the differential impacts of AIDS. Attention should be paid to avoid creating too many household categories to allow meaningful statistical analysis.

Sixth, the common research framework for AIDS impact should include guidelines for actual application of the existing ethical principles of respect for persons, beneficence and justice that were originally developed for biomedical research. In particular, guidelines should be developed for overcoming the ethical dilemma's

researchers face when conducting AIDS-impact research that are relevant to the situation as well as applicable. Furthermore, guidelines should be developed for defining the extent of ethical responsibility a researcher has in a context of AIDS. These guidelines should address the issues of informing respondents about their possible status, selecting AIDS-affected households with the support of key informants, the possibility of creating stigma to selected respondents, assisting respondents with testing and counselling, and dealing with malpractices like virgin-rape and traditional healers that are observed as part of a research.

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SUMMARY

Several studies have described the impacts of HIV/AIDS on rural livelihoods. According to the various studies, AIDS affects all facets of people's livelihoods through illness and death and the subsequent care for orphaned children. Much of this literature uses rural households affected by HIV/AIDS as the unit of analysis and do not disaggregate data by hosting orphans, AIDS-related chronic illness and AIDS death. However, the AIDS epidemic has resulted in increased appearance of households headed by widows, elderly and orphans; households with orphaned children; households with chronically ill members; and households that recently suffered an adult death. These households are not a homogenous group but differ in their response capacities. Furthermore, the gender context in which AIDS-related impacts occur is of crucial importance but is often inadequately addressed. Also, many of the AIDS-impact studies are literature reviews or small-scale household studies conducted in a few communities over a short time interval. These studies often yield contradicting results and provide speculative inferences for the general population. Research on AIDS impacts is, in fact, complex and several methodological constraints are encountered when conducting micro-level investigations on AIDS and rural livelihood linkages.

It is for these reasons that this research focuses on the gender, methodological, and ethical issues concerning AIDS impacts on rural livelihoods in sub-Saharan Africa. It aims at providing insights in how AIDS leads to vulnerability differentiation and what processes make rural households more or less vulnerable to AIDS impacts. In this context, vulnerability refers to the likelihood of adverse impacts on livelihoods occurring at the household level due to HIV/AIDS. This research also tries to provide insights in the resources female-headed household mobilised over time to respond to AIDS and the factors that enabled them in their response. Furthermore, this research examines the methodological and ethical concerns and implications of conducting micro-level AIDS-impact research. The study combines a literature review on AIDS impacts in sub-Saharan Africa, an analytical review of methodological and ethical aspects of AIDS-impact research based on literature and personal experience, and empirical data collection in the Northern Province, Zambia. For the empirical data collection, the adopted research design sequenced the use of qualitative and quantitative methodologies to complement each other. Furthermore, the research collected 12 case studies of female-headed households, which differ by marital status, age, educational attainment and wealth.

In the case of the Northern Province, research findings indicate a sharp decline in household food production among AIDS-affected households as they reduced the area cultivated, disposed of many of their assets, adopted fewer farm inputs, participated less in the co-operatives set up by the government to access fertiliser at subsidised rates, received less financial support from their social network as they could no longer reciprocate the assistance, and increasingly resorted to low-profit activities such as food for work and beer brewing. The picture of an overall downward trend of a declining resource base and livelihood options available to households is similar to that reported by other impact studies. The Northern Province study findings, however, accentuate the differences in vulnerability among households impacted by illness and orphans that are headed by men, women and the elderly. These households are not affected by the epidemic in a uniform way, but differ in their vulnerability levels, with certain groups of households being harder hit by the epidemic than others. Especially, female-headed households with PLWHA and/or orphans and elderly-headed households were less able to adapt to the adverse impacts of HIV/AIDS as compared to other household categories. Vulnerability differentiation implicitly exposes the underlying factors that enable or disable people in their responding to HIV/AIDS. In the case of the Northern Province, these underlying causes include, amongst others: restricted access to assets to dispose in times of need, which also hinders their capacity to build up social capital; risk of property loss after the death of the husband; weak ties to a social network on which households rely in times of hardship; low membership in cooperatives set up by the government to access fertilisers at subsidised rates; and a lack of adult labour, especially male labour, needed for specific livelihood activities. Treating households affected by HIV/AIDS as a homogeneous group obscures not only differences in impacts and in the households' ability to respond, but also in their differing needs for external assistance.

Throughout the AIDS literature, female-headed households are depicted as a marginalized group who are highly vulnerable to AIDS impacts. However, female headship cannot be automatically used as an indicator for AIDS vulnerability as households headed by women are not a unitary category but differ by factors such as composition, age, wealth, access to endowments and entitlements, their capabilities to use these to mobilise resources, personality characteristics, and personal circumstances. These differences are reflected in their abilities to respond to AIDS impacts and preclude labelling of all female-headed households as most vulnerable. Research findings from the 12 cases show that not all female-headed households are equally vulnerable to AIDS impact. Different interrelated factors contribute to women's capability to respond to AIDS impacts, including: a strong resource base and economic independence at the onset of a livelihood crisis; access to a strong social network; means to access ARV treatment; access to medical insurance through the workplace, and kinship and marriage systems. Important factors that limit women in their ability to withstand AIDS impacts include: weak kinship support; high dependency ratio; timing and duration of livelihood stress; and occurring of concurrent livelihood shocks such as property grabbing and discontinuation of food and financial support from kin. While women may face

many limitations as a result of their gender-specific roles and responsibilities and gender-based access to productive resources, they are not passive but within those limits utilise their portfolio of assets to seek means to respond to AIDS impacts. Certain women are better able to respond and adapt to the changing situation caused by AIDS and important lessons should be learned from their responses and the contributing factors. Furthermore, not all female-headed households follow the linear staging of coping strategies when confronted with AIDS as described in the literature. Case study findings from the Northern Province show a complex and diverse process of resource mobilisation, comprising a range of responses that overlap and are repeated in time, are often mobilised simultaneously, and are concentrated around major stressors such as hospitalisation.

Last but not least, this research aimed at getting insights in the principal methodological and ethical issues in conducting micro-level investigations on AIDS impacts. The research identified several methodological challenges, including the heterogeneity in AIDS impacts and households responses to AIDS; the prolonged effects of AIDS on people's livelihoods which triggers a dynamic process of resource mobilisation; AIDS-related stigma that leads to underreporting of HIV/AIDS incidence as well as make that many research topics are very sensitive to discuss; the ignorance about the actual presence of HIV in the absence of testing; the clustering effect of AIDS which obstructs obtaining sufficient representation of affected households; the multiple factors that also influence people's livelihoods besides HIV/AIDS; and the fact that AIDS impacts stretch beyond the household. Identified ethical concerns related to AIDS-impact research include: questions about whether letting respondents know AIDS is attributed to their name because the respondent fulfils the conditions set by an AIDS proxy indicator; the use of local health workers for selecting affected households as these households might not have given their consent to share their status or might not know their status; the possible creation of stigma to selected respondents as they might be labelled by others as having AIDS; the issue of obtaining true informed consent when in many societies it is difficult to openly discuss AIDS; the guaranteeing of confidentiality of a sample in a small setting where everyone knows who is being approached by the research team and where by the virtue of being interviewed one can be inferred as HIV positive; and the issue of ensuring equality in the distribution of benefits and burdens among the research population when non-affected households are included as a control group but are unlikely to benefit directly from the AIDS mitigation interventions that often follow an AIDS-impact research.

This research concludes that vulnerability levels to HIV/AIDS impacts differ substantially and that understanding these differences is important as it exposes the causal conditions for people's vulnerability and as such has important policy and programme implications. These must be sensitive to differentiation of households and challenge the inequalities that drive AIDS susceptibility and vulnerability. Also, the research concludes that female headship cannot be

automatically used as an indicator for AIDS vulnerability as households headed by women are not a unitary category but differ by factors that enable them in their response.

In order to develop supportive policies and responsive programming, a more complete and systematic evidence-base on HIV/AIDS, gender and rural livelihood linkages and the underlying causal factors is needed. Given the great variation in research design among impact studies that hinder comparison of empirical findings across countries and at a variety of scales, a common research framework is needed. Such a common research framework should comprise several issues. First, an integrated research design that sequences qualitative and quantitative research methods is required to capture the complexity of AIDS-impact. Second, a set of universal standardised indicators for measuring AIDS impact should be included as well as tools to measure these variables should be developed and standardised. Furthermore, standardised indicators should be developed for defining and identifying AIDS-affected households that make reference to the difference in impact between hosting of orphans, morbidity and mortality due to AIDS. Third, a common research framework for AIDS-impact should adopt the household as the core unit of analysis as this is the immediate context within which the provision of primary needs and care takes place, resources are mobilised to respond to AIDS, and continuing reformation takes place. Fourth, to capture the prolonged effects of AIDS on people's livelihoods the research framework should call for resources to be combined to generate longitudinal data from cross-sectional studies by revisiting of study sites. Also, careful stratification of the sample and the use of a recall period to construct retrospective data from a single interview are required to offset the limitations inherent to cross-sectional surveys. Fifth, because the impact of AIDS is diverse and dependent on a wide range of factors, the research framework should include stratification of the sample population according to carefully selected criteria in order to understand the differential impacts of AIDS. Last, the research framework for AIDS impact should include guidelines for actual application of the existing ethical principles of respect for persons, beneficence and justice that were originally developed for biomedical research. In particular, guidelines should be developed for overcoming the ethical dilemmas faced when conducting AIDS-impact research and for determining the extent of ethical responsibility a researcher has in respect to informing respondents about their possible status, selecting AIDS-affected households with the support of key informants, the possibility of creating stigma to selected respondents, assisting respondents with testing and counselling, and dealing with malpractices that are observed as part of a research.

SAMENVATTING

Verscheidene studies hebben de sociaal-economische gevolgen van HIV/AIDS op rurale huishoudens beschreven. Volgens deze studies beïnvloedt AIDS alle facetten van het levensonderhoud van mensen die worden geconfronteerd met ziekte en dood en de verdere zorg van weeskinderen. Veel van de AIDS literatuur gebruikt rurale huishoudens die door HIV/AIDS worden getroffen als eenheid van analyse en maakt daarbij geen onderscheid tussen: AIDS gerelateerde chronische ziekte, dood door AIDS, en de zorg van weeskinderen. Nochtans heeft de AIDS epidemie vooral geresulteerd in een groei van huishoudens die door weduwen, ouderen en weeskinderen worden geleid; huishoudens met weeskinderen; huishoudens met chronisch zieke leden; en huishoudens waar onlangs een volwassene is overleden. Deze huishoudens kunnen niet worden behandeld als een homogene groep, daar ze verschillen in hun capaciteit om met de effecten van AIDS om te gaan. Voorts is de *gender* context waarin de effecten van AIDS plaatsvinden van essentieel belang maar wordt hier vaak onvoldoende aandacht aan besteed. Ook zijn veel van de studies naar de negatieve effecten van AIDS literatuuroverzichten of kleinschalige studies die in een paar gemeenschappen over een kort tijdsinterval zijn uitgevoerd. Deze studies leveren vaak tegenstrijdige resultaten op en genereren speculatieve conclusies voor de algemene bevolking. Het onderzoek naar de effecten van AIDS op rurale huishoudens is complex en gaat gepaard met verschillende methodologische problemen.

Op basis van deze argumenten richt dit onderzoek zich op *gender*, methodologische, en ethische kwesties betreffende de sociaaleconomische effecten van AIDS op rurale huishoudens in zuidelijk Afrika. Het streeft naar het verstrekken van inzicht in hoe AIDS tot verschil in kwetsbaarheid leidt en welke processen deze kwetsbaarheid voor de effecten van AIDS beïnvloeden. In dit geval verwijst kwetsbaarheid naar de mate dat AIDS tot negatieve gevolgen voor het levensonderhoud van huishoudens leidt. Dit onderzoek probeert ook inzicht te verstrekken in hoe vrouwelijke huishoudhoofden middelen mobiliseren tegen de effecten van AIDS en de factoren die hun kwetsbaarheid beïnvloeden. Voorts richt dit onderzoek zich op de methodologische en ethische problemen die zich voordoen bij het onderzoeken van de effecten van AIDS. De studie combineert een literatuuroverzicht naar de effecten van AIDS, een analytisch overzicht van methodologische en ethische aspecten van onderzoek naar de sociaal-economische implicaties van AIDS, en empirisch materiaal dat is verzameld in de

Northern Province van Zambia. Voor de empirische data verzameling is gebruik gemaakt van zowel kwantitatieve als kwalitatieve methoden. Voorts zijn 12 cases verzameld van vrouwelijke huishoudens die verschillen in echtelijke status, leeftijd, onderwijs en rijkdom.

In het geval van de *Northern Province* wijzen onderzoeksbevindingen op een scherpe daling in de voedselproductie van huishoudens getroffen door AIDS. Deze huishoudens verminderden het gecultiveerde gebied, verkochten veel bezittingen, konden zich geen kunstmest meer veroorloven, namen minder deel aan de coöperaties die door de overheid zijn opgezet om gesubsidieerde kunstmeststof toegankelijk te maken, ontvingen minder financiële steun van hun sociaal netwerk aangezien zij deze hulp niet meer kunnen reciproceren, en hadden zich meer gericht op weinig winstgevende activiteiten zoals het werken voor voedsel en het brouwen van lokaal bier. Dit beeld van een algemene neerwaartse spiraal in de bestaanszekerheid komt overeen met de bevindingen van de talrijke studies naar de sociaal-economische effecten van AIDS. Echter, de *Northern Province* studiebevindingen benadrukken de verschillen in kwetsbaarheid onder huishoudens geleid door mannen, vrouwen en ouderen waarvan iemand ziek is ten gevolge van AIDS of die de zorg hebben over weeskinderen. De ervaringen van deze huishoudens met de negatieve gevolgen van AIDS zijn niet gelijk en deze huishoudens verschillen in hun kwetsbaarheidsniveaus. Vooral vrouwelijke huishoudhoofden met gezinsleden met HIV/AIDS en/of de zorg voor weeskinderen als wel oudere huishoudhoofden worden zwaarder getroffen door de effecten van de epidemie in vergelijking tot andere huishoudcategorieën. Het verschil in kwetsbaarheid voor de sociaal-economische gevolgen van AIDS stelt impliciet de onderliggende factoren bloot die het aanpassingsvermogen met de effecten van AIDS faciliteren of limiteren. In het geval van de *Northern Province* omvatten deze onderliggende oorzaken, onder andere: de beperkte toegang tot bezittingen die in tijden van nood kunnen worden verkocht hetgeen ook hun capaciteit belemmert om sociaal kapitaal op te bouwen; het risico van bezitsverlies na de dood van de echtgenoot; een zwak sociaal netwerk waartoe huishoudens zich richten ten tijde van nood; een lage deelname in coöperatieve verenigingen die zijn opgezet door de overheid om kunstmest toegankelijk te maken tegen een gesubsidieerd tarief; en een gebrek aan arbeid, vooral mannelijke arbeid, die nodig is om specifieke levensonderhoudactiviteiten te verrichten. Door huishoudens die door HIV/AIDS worden getroffen te behandelen als een homogene groep verduistert men niet alleen de verschillen in effecten en aanpassingsvermogens, maar ook de verschillen in de behoeften aan externe hulp.

In de AIDS literatuur worden vrouwelijke huishoudhoofden vaak beschreven als een gemarginaliseerde groep die erg kwetsbaar zijn voor de negatieve effecten van AIDS. Toch kan vrouwelijk hoofdschap niet automatisch worden gebruikt als een indicator voor de kwetsbaarheid van AIDS aangezien vrouwelijke huishoudens onderling sterk verschillen voor wat betreft hun samenstelling, leeftijd, rijkdom, toegang tot middelen, persoonlijkheidskenmerken, en persoonlijke omstandigheden. Deze verschillen worden weerspiegeld in hun vermogen zich aan te passen

aan de negatieve effecten van AIDS en sluit etikettering van alle vrouwelijke huishoudhoofden als meest kwetsbaarst uit. De bevindingen van de 12 cases tonen aan dat niet alle vrouwelijke huishoudens even kwetsbaar zijn voor de negatieve gevolgen van AIDS. De verschillende, maar met elkaar verbonden factoren die het aanpassingsvermogen van vrouwen vergroten omvatten, onder andere: een sterke resource basis en economische onafhankelijkheid bij aanvang van een crisis zoals AIDS; toegang tot een sterk sociaal netwerk; toegang tot ARV behandeling; toegang tot een medische verzekering, verwantschap, en huwelijks-systemen. Belangrijke factoren die het aanpassingsvermogen van vrouwen beperken omvatten: gelimiteerd support van de familie; hoge afhankelijkheids-verhouding in het gezin; timing en duur van de crisis; en het voorkomen van gebeurtenissen gelijktijdig aan AIDS zoals het beslagleggen op bezit en het beëindigen van voedsel en financiële steun door verwanten. Vrouwen ondervinden vele beperkingen als resultaat van hun *gender* specifieke rollen en verantwoordelijkheden. Zij zijn echter niet passief maar proberen om binnen die beperkingen middelen aan te wenden om de negatieve gevolgen van AIDS zoveel mogelijk op te vangen. Sommige vrouwen kunnen beter omgaan met de veranderende situatie die door AIDS wordt veroorzaakt dan anderen en belangrijke lessen kunnen worden getrokken uit hun aanpassingsvermogen en de daaraan bijdragende factoren. Verder is het lineaire patroon van overlevingsstrategieën zoals die wordt beschreven in de literatuur niet voor alle vrouwelijke huishoudens die worden geconfronteerd met AIDS van toepassing. De cases van de *Northern Province* tonen een complex en divers proces van het mobiliseren van middelen waarbij verschillende middelen vaak gelijktijdig worden gemobiliseerd, zoals tijdens een ziekenhuisopname.

Tenslotte probeert dit onderzoek inzicht te verschaffen in de belangrijkste methodologische en ethische problemen en overwegingen betreffende onderzoek gericht op de negatieve effecten van AIDS. Verschillende methodologische problemen zijn geïdentificeerd, te weten: de grote verschillen in de effecten van AIDS op huishoudens; de langdurige gevolgen van AIDS voor het levensonderhoud van huishoudens het geen een dynamisch proces van het mobiliseren van middelen teweegbrengt; het stigma rondom AIDS die maakt dat mensen hun HIV status geheimhouden evenals dat vele onderzoeksonderwerpen zeer gevoelig zijn om te bespreken; de onwetendheid over de daadwerkelijke HIV status van geïnterviewden; het clusteren van AIDS binnen huishoudens wat het verkrijgen van een goede vertegenwoordiging van huishoudens met AIDS belemmert; de veelvoudige factoren die naast HIV/AIDS ook het levensonderhoud van mensen beïnvloeden; en het feit dat de effecten van AIDS op een huishouden ook andere huishoudens beïnvloedt. De geïdentificeerde ethische problemen met betrekking tot onderzoek naar de negatieve gevolgen van AIDS omvatten: het eventueel laten weten aan ondervraagden dat AIDS aan hun naam is toegeschreven omdat zij aan de voorwaarden van een *proxy indicator* voldoen; het gebruik van lokale gezondheids-werkers voor het selecteren van huishoudens met AIDS aangezien het niet duidelijk is of deze huishoudens toestemming hebben gegeven om informatie over hun HIV status te delen of dat zij zelf kennis hebben van hun status; het mogelijk

stigmatiseren van geselecteerde ondervraagden aangezien zij door anderen zouden kunnen worden geëtiketteerd als hebbende AIDS; de kwestie van het verkrijgen van geïnformeerde toestemming wanneer het in vele maatschappijen gevoelig ligt om openlijk over AIDS te praten; het waarborgen van vertrouwelijkheid van een steekproef, vooral in kleine plaatsen waar iedereen weet wie door het onderzoeksteam is benaderd en als gevolg daarvan als HIV positief kan worden geëtiketteerd; en de kwestie van gelijkheid in de verdeling van de voordelen en lasten onder de onderzoekspopulatie in het geval huishoudens zonder AIDS deelnemen aan het onderzoek om als controle groep te functioneren, maar waarschijnlijk niet direct profiteren van de hulp die volgt na een onderzoek.

Dit onderzoek concludeert dat kwetsbaarheid voor de negatieve effecten van HIV/AIDS verschilt tussen huishoudens en dat begrip voor deze verschillen belangrijk is aangezien het de onderliggende oorzaken blootlegt en zodanig belangrijke beleid en programma implicaties heeft. Beleid en programma's moeten rekening houden met de onderlinge verschillen in kwetsbaarheid van huishoudens en de daarbij horende onderliggende oorzaken. Tevens concludeert het onderzoek dat vrouwelijk huishoudhoofdschap niet automatisch als indicator voor de kwetsbaarheid van AIDS effecten kan worden gebruikt aangezien vrouwelijke huishoudens niet homogeen zijn maar verschillen in de factoren die hun kwetsbaarheid beïnvloeden.

Voor het formuleren van toegepast beleid en programmering is een vollediger en systematische basis van data op het gebied van HIV/AIDS, *gender* en levensonderhoud nodig. Gezien de grote variatie in het ontwerp van AIDS studies die het onderling vergelijken van empirische bevindingen belemmert vereist dit een gemeenschappelijk onderzoekskader. Een dergelijk gemeenschappelijke onderzoekskader zou de volgende vijf elementen moeten omvatten. Ten eerste is een geïntegreerd onderzoeksontwerp dat kwantitatieve met kwalitatieve onderzoeksmethodes afwisselt om zo de complexiteit van de effecten van AIDS beter te kunnen bestuderen. Ten tweede vraagt het meten van de effecten van AIDS om een reeks gestandaardiseerde indicatoren als wel om het ontwikkelen van methodes voor het verzamelen van data voor deze variabelen. Voorts zouden gestandaardiseerde indicatoren moeten worden ontwikkeld voor de definitie en het identificeren van huishoudens met AIDS die verwijzen naar het verschil in negatieve effecten tussen morbiditeit, mortaliteit en de zorg voor weeskinderen. Ten derde zou een gemeenschappelijk onderzoekskader het huishouden als kerneenheid van analyse moeten stellen omdat dit doorgaans de directe context is waarin de voorziening van primaire behoeften en zorg plaatsvindt, middelen worden gemobiliseerd om de effecten van AIDS tegen te gaan en voortdurende hervorming plaatsvindt. Ten vierde, zou gezien de langdurige effecten van AIDS, de onderzoekskader het combineren van middelen moeten bevorderen voor het opnieuw bestuderen van bepaalde onderzoeksgebieden om zodoende longitudinale data te genereren. Tevens moet zorgvuldige stratificatie van de steekproef en het gebruik van een rappelperiode worden bevorderd om retrospectieve gegevens te construeren van één enkel gesprek om zodoende de beperkingen te

compenseren die inherent zijn aan *cross-sectional* studies. Ten vijfde, moet omdat de effecten van AIDS divers zijn en afhankelijk van vele factoren het onderzoekskader een zorgvuldige stratificatie van de steekproefbevolking volgens zorgvuldig geselecteerde criteria omvatten om zodoende beter inzicht te krijgen in de differentiële effecten van AIDS. Ten slotte zou het onderzoekskader richtlijnen moeten opstellen voor de toepassing van bestaande ethische principes (eerbied voor personen, beneficence en rechtvaardigheid) die oorspronkelijk voor biomedisch onderzoek zijn ontwikkeld. In het bijzonder zouden richtlijnen moeten worden ontwikkeld voor de ethische dilemma's waarmee sociaal-economisch AIDS onderzoek wordt geconfronteerd zoals voor het bepalen van de ethische verantwoordelijkheid van onderzoekers wat betreft het informeren van ondervraagden over hun mogelijke status, het selecteren van huishoudens geconfronteerd met AIDS middels de steun van belangrijke informanten, de mogelijkheid om stigmatisering te bevorderen onder geselecteerde ondervraagden, het helpen van ondervraagden aan de mogelijkheid voor een HIV test en counseling, en het omgaan met negatieve culturele praktijken die in het onderzoek worden waargenomen.

CURRICULUM VITAE

Esther Wiegers was born on 29 October 1970 in Leeuwarden, The Netherlands. In 1990, she started her MSc. study 'Tropical Land Use' at Wageningen University. She conducted her thesis research on land use and erosion in Kenya and on land use change and gender in Peru. In 1996, she graduated with distinction (cum laude). After graduation, she moved to Peshawar, Pakistan, where she started her professional career as team leader of an agricultural evaluation project of DACAAR, a Danish NGO. From 1997 to 1998, she worked as Team Leader of the Monitoring and Research Unit of Afghanaid, a British NGO, where she was responsible for undertaking monitoring and evaluation, community action planning, impact studies and baseline surveys in rural Afghanistan. At the end of 1998, she returned to The Netherlands, where she worked for a small consultancy firm to conduct training on integrated flood monitoring in Bangladesh.

In 1999, she moved to Rome to work for the Food and Agriculture Organization of the United Nations. For the next eight years, she worked under various assignments in the areas of HIV/AIDS, gender and household food security with national governments and counterparts in Uganda, Kenya, Botswana, Zambia, Zimbabwe, Tanzania, Namibia and Laos. Amongst others, she worked on designing and conducting research on AIDS impact and sexual and gender-based violence, designing HIV/AIDS and mitigation strategies, formulating multi-sectoral HIV/AIDS programmes, and developing training material. In 2004, she undertook an assignment for the Canadian Interagency Coalition on AIDS and Development to produce guidelines for incorporating HIV/AIDS and gender considerations into agricultural programming for development officers within governments, bilateral donors and non-governmental agencies working in affected countries. She started her PhD in 2005 as external student at Wageningen University on a part-time basis.

From 2007 onwards, she is based in Wageningen, The Netherlands, where she completed her PhD and works as a freelance consultant.

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