

SOUTHERN AFRICAN DEVELOPMENT COMMUNITY



SADC FANR
Vulnerability
Assessment Committee

**Food, Agriculture and Natural Resources
Vulnerability Assessment Committee**

Towards Identifying Impacts of HIV/AIDS on Food Insecurity in Southern Africa and Implications for Response

Findings from Malawi, Zambia and Zimbabwe

7 May 2003

Harare

ACKNOWLEDGEMENTS

The analysis of impacts of HIV/AIDS proxy variables on food security contained in this report is based on data collected during emergency food security assessments in Malawi, Zambia, and Zimbabwe in August and December 2002. The Southern Africa Development Community—Food, Agriculture, and Natural Resources Regional Vulnerability Assessment Committee (SADC-FANR RVAC) coordinated the assessments at the regional level, while national VACs (NVACs) coordinated the assessments in each of the countries. The data used for the analysis in this report were collected through the hard work of NVAC members.

Several members of the RVAC contributed to the production of this report. Neil Marsland and Nicholas Haan developed the overall concept and structure of the report. Leila Oliveira (FEWS NET), supported by Nicholas Haan (WFP) and Neil Marsland (SC UK), conducted most of the statistical analysis, and Nicholas Haan did most of the initial drafting. Neil Marsland, undertook the subsequent and final drafting and Bruce Isaacson (FEWS NET) and Mark McGuire (FAO) were involved in the final editing of the report. Assistance from Faith Chikomo (FEWS NET) is gratefully acknowledged. All of the RVAC contributors have benefited from the helpful insights of professionals from other agencies, notably SC (UK) London, DFID, Oxfam and CARE. Any errors and omissions in this report remain the responsibility of the main authors: Neil Marsland, Nicholas Haan and Leila Oliveira.

The SADC-FANR VAC regional coordination was done in collaboration with the SADC Regional Early Warning Unit, the SADC Regional Remote Sensing Unit, the SADC Regional Food Security Database Project, WFP, FEWS NET, SC (UK), CARE, FAO, UNICEF, IFRC, with financial support from National Governments, DFID, WFP, and USAID.

We gratefully acknowledge the encouragement, assistance, and guidance from UNAIDS in producing the present report, and look forward to future collaboration.

E-mail contacts:

Chair of the RVAC: Phumzile Mdladla, REWU Senior Economist, pmdladla@fanr-sadc.co.zw

Main authors: Nicholas Haan, WFP VAM Officer, Haan_Nick@yahoo.com
Neil Marsland, SC(UK) Regional Food Security Adviser, Neil_Marsland@hotmail.com
Leila Oliveira, FEWS NET Emergency Assessment Analyst, leilouca@yahoo.com

Please cite this paper as follows:

SADC FANR Vulnerability Assessment Committee (2003). *Towards Identifying Impacts of HIV/AIDS on Food Insecurity in Southern Africa and Implications for Response: Findings from Malawi, Zambia and Zimbabwe*. Harare, Zimbabwe.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	i
LIST OF TABLES.....	iii
LIST OF GRAPHS.....	iii
EXECUTIVE SUMMARY.....	iv
1. BACKGROUND AND RATIONALE	1
1.1 PURPOSE AND STRUCTURE OF THE REPORT	1
1.2 MAGNITUDE OF THE HIV/AIDS PANDEMIC IN SOUTHERN AFRICA	1
1.3 CURRENT FOOD SECURITY SITUATION IN SOUTHERN AFRICA.....	2
1.4 GENERAL LINKAGES BETWEEN HIV/AIDS AND FOOD SECURITY	3
2. DATA ANALYSIS AND RESULTS.....	3
2.1 DESCRIPTION OF DATA SET AND METHODS	3
2.2 SOME POSSIBLE CAVEATS WITH THE DATA.....	5
2.3 EXPLANATION OF PROXY INDICATORS FOR HIV/AIDS.....	5
2.4 IMPACTS ON INCOMES AND FOOD PURCHASING POWER.....	8
2.5 IMPACTS ON HOUSEHOLD FOOD AND CASH CROP PRODUCTION.....	9
2.6 EFFECTS ON COPING STRATEGIES.....	12
2.7 FOOD SECURITY OUTCOMES	13
3. SUMMARY OF KEY FINDINGS AND CHALLENGES FOR INTERVENTIONS.....	16
3.1 SUMMARY OF KEY FINDINGS.....	16
3.1 WHAT HAPPENED IN 2002?	16
3.2 CONSUMPTION SIDE SUPPORT: FOOD AID TARGETING AND DESIGN	17
3.3 PRODUCTIVITY SUPPORT: IMPLICATIONS FOR PROGRAMMING	17
3.4 HOUSEHOLD AND COMMUNITY SAFETY NETS	18
3.5 IMPLICATIONS FOR POLICY, ADVOCACY AND FURTHER RESEARCH	20
BIBLIOGRAPHY	21

LIST OF TABLES

Table 1.1	HIV/AIDS Prevalence in Selected Southern Africa Countries.....	2
Table 1.2	Estimated Number and Percentage of People in Need of Food Aid, 2002-03.....	3
Table 2.1	Proxy Variable used in the Analysis	5
Table 2.2	Classification Scheme for Dependency Ratio	6
Table 2.3	Effects of HIV/AIDS Proxies on Household Income (Malawi)	8
Table 2.4	Effects of Chronic Illness or Recent Death on Household Income (Malawi)	8
Table 2.5	Labour Demand of Selected Crops	9
Table 2.6	Difference in Crop Production for Households with no Active Adult	10
Table 2.7	Difference in Cropping Patterns for Poor Households with and without Chronically Ill Head.....	12
Table 2.8	HIV/AIDS Proxy Indicators and Size of Cereal Gap (Zambia)	14
Table 2.9	HIV/AIDS Proxy Indicators and Presence of a Predicted Cereal Gap	14
Table 2.10	HIV/AIDS Proxy Indicators and the Consumption Index.....	15

LIST OF GRAPHS

Graph 1.1	Estimated Projections of Annual New AIDS Cases in Southern Africa, 1980-2015.....	2
Graph 1.2	Estimated Projections of Maternal Orphans as a Result of AIDS in Southern Africa, 1980-2015.....	2
Graph 2.1	Percentage of Households with Chronically Ill Members and Chronically Ill Reproductive Adults.....	6
Graph 2.2	Percentage of Households with a Recent Active Adult Death, by Socio-Economic Group (Zambia).....	6
Graph 2.3	Dependency Ratio by Gender of Household Head (Zimbabwe).....	7
Graph 2.4	Dependency Ratio Among Age Groups of Female Headed Households (Malawi).....	7
Graph 2.5	Percentage of Households with Adults, by Gender	7
Graph 2.6	Percentage of Households Caring for Orphans, by Gender of Household of Head.....	7
Graph 2.7	Percentage of Households Caring for Orphans, by Age of Household Head	7
Graph 2.8	Percentage of HH in Lowest Quartile of Purchasing Power, by Dependency Ratio (Zimbabwe).....	9
Graph 2.9	Percentage of HH in Lowest Quartile of Purchasing Power, by Presence of Active Adults/Orphans	9
Graph 2.10	Comparison of Intended Area to be Planted to Cereal, 2001-02 to 2002-03, by Presence of Adults	10
Graph 2.11	Percentage Difference in Total Area Planted, Chronically Ill Household Head (Zambia)	10
Graph 2.12	Percentage Difference in Area Planted with Chronically Ill HH Head, by Wealth Group (Zambia)	11
Graph 2.13	Percentage of Households with Seeds for Main Cash Crop, by Dependency Ratio (Zimbabwe).....	11
Graph 2.14	Percentage of Households with Adequate Seed, by Selected Proxies (Zambia).....	11
Graph 2.15	National Average Cropping Patterns, 2001-02 (Zambia).....	12

EXECUTIVE SUMMARY

It is commonly agreed that HIV and AIDS have contributed to the depth of problems faced by rural households in southern Africa in the context of the 2002 food emergency. What is much less understood is the extent of that contribution and how it varies according to the demographic structure, mortality and morbidity profile of households. The purpose of this study is to help fill this information gap and to further our understanding of the impact of HIV/AIDS on acute food insecurity in southern Africa. Data generated from emergency food security assessments conducted in Malawi and Zambia in August and December 2002 and from Zimbabwe in August 2002 were used to study the relationship between HIV/AIDS proxy variables and food security parameters.

Although the HIV/AIDS pandemic is of global concern, it is in Africa where the effects of the disease are most acutely felt. Of all global HIV infections, roughly 70% are located in Africa, where an estimated 28.5 million people live with HIV/AIDS (UNAIDS, 2002). The disease is now responsible for more annual deaths in Africa than any other cause. The southern Africa sub-region, in particular bears a disproportionate burden of HIV/AIDS cases. It is here that the world's highest rates of HIV infection are to be found: in a number of southern African counties, the adult prevalence rates are over 30% (Botswana, Lesotho, Swaziland, and Zimbabwe (UNAIDS, 2002).

Southern Africa is currently experiencing the worst food security emergency in a decade. Each of the three countries in this report has been receiving large amounts of international food aid and other humanitarian assistance since mid-2002. Since December 2002, at least 25% of their entire population have required food assistance. In Zimbabwe the food security crisis is particularly severe, with over half of the country's population requiring assistance. Current indications are that food aid will again be required in parts of the region, particularly in Zimbabwe, during the coming consumption year of April 2003 to March 2004 (SADC-FANR VAC, 2003).

It is now well recognised that household food insecurity in rural and urban southern Africa cannot be properly understood if HIV/AIDS is not factored into the analysis. Carolyn Baylies (2002) notes that HIV/AIDS can, on one hand, be treated in its own right as a shock to household food security, but on the other, it has such distinct effects that it is a shock like none other. Livelihoods-based analysis of linkages between food security and HIV/AIDS show that the impact is systemic, affecting all aspects of rural livelihoods (Haddad and Gillespie, 2001); and that effective analysis of the causes and outcomes of HIV/AIDS requires a contextual understanding of livelihoods unique to a given area and/or social groups (FEG, 2000).

The results presented in this report clearly indicate that households affected by adult morbidity, mortality and with a high demographic load are significantly more vulnerable to food security shocks than are other households. Insofar as these indicators suggest the presence of HIV and/or AIDS, this analysis strongly implies that HIV/AIDS has significantly increased the vulnerability of households to acute food insecurity in 2002-03. The analysis has shown that these households suffer from marked reductions in agricultural production and income generation, leading to earlier engagement in distress coping strategies, and, ultimately, a decline in food security. The cumulative impacts of HIV/AIDS on food availability, food access, and coping capacity are compounded, resulting in amplified negative impacts on overall household food security. The analysis further demonstrates that different morbidity, mortality and demographic profiles have different effects on food security processes and outcomes. Key differences are seen according to whether or not the household has an active adult present or a chronically ill person, whether the head of household is chronically ill, whether there is a high dependency ratio, or whether the household has taken in orphaned children. Each of these characteristics has further nuances that are affected by age and gender.

In addition, there are differences between wealth groups in the extent to which proxy indicators affect food security processes and outcomes. There is some evidence that the presence of proxy indicators has a significantly greater impact on poorer households than they do on better-off households, although this is not always the case (*vis.* the effects of chronic illness or death in adults on incomes). In this way, already vulnerable households become even more vulnerable with the affects of HIV/AIDS.

This study suggests that the impacts of HIV/AIDS on food security in the context of the 2002 food emergency are strong and negative. It also suggests that these impacts are complex and require urgent and innovative responses in the 200-04 marketing year and beyond. The critical question for programming, policy, advocacy and research is: what can be done to prevent, slow or even reverse a downward spiralling livelihood trajectory for HIV/AIDS affected households?

Implications for Programming: A “three-pronged attack” is suggested: consumption side support; productivity enhancing support; and support to household and community safety nets.

Consumption Side Support: Chronic illness of the head of household and elderly headed households, in particular those headed by women, are indicators that might be used in conjunction with food aid targeting. If these indicators are to be used it is very important that they be cross-checked with wealth group analysis. Taken in isolation from wealth status they may not be robust indicators of vulnerability.

Due to the decreased mobility of households affected by HIV/AIDS, special efforts will need to be made to reach them. Simply distributing food at a central distribution point may not be enough. Agencies will need to consider how they can work with communities to ensure that HIV/AIDS affected households receive their quota. This may involve provision of transport and/or increasing the number of distribution points.

School feeding programmes have the combined benefit of ensuring that more children consume a healthy meal at least once per day, as well as reducing the dropout rate. Keeping children in school has the obvious long-term benefit of promoting education and empowerment, as well as reducing idle/unsupervised time of children, especially young girls, who can become vulnerable to exploitation and thus increased exposure to HIV/AIDS.

Awareness of the decline in quantity and quality of labour should be an integral part of the programme design in areas with high HIV/AIDS prevalence. Food for work programmes, for example, should be designed such that the type of labour opportunity is consistent with the capacity of the elderly and/or adults that are not at their peak health. Even more appropriate would be the design of food for assets programmes that are not labour dependent, but are oriented to skill development or awareness campaigns that are accessible and appropriate for the elderly and children.

Given the fundamental decline in income and agricultural production experienced by HIV/AIDS affected households, the analysis supports the need for continued consumption-oriented assistance to these households in the form of safety net programmes, even after the immediate emergency has passed. HIV/AIDS affected households will take longer to “recover” from a shock, and may never fully do so. Accessing food will continue to be a foremost and formidable challenge of HIV/AIDS affected households long after a crisis subsides.

Productivity Enhancing Support: This needs to be purposefully tailored to household types and individuals with a focus on improving productivity of HIV/AIDS affected households in general, with a special focus on households headed by elderly women and those with a chronically ill household head. Existing productivity enhancing interventions should be adapted to make them relevant for and accessible to both adults (over and under the age of 60), and to children.

Rapid introduction of interventions with a high food access to labour ratio is recommended. These may include on-farm food production oriented, on-farm cash generating and off-farm cash generating interventions.

Household and Community Safety Nets: In order to strengthen household level safety nets, *micro-enterprise service provision* should be stepped up to help HIV/AIDS affected households to strengthen their economic resources. However, microfinance is not a panacea for mitigating the economic impact of HIV/AIDS or for alleviating poverty. It works best in areas which are well served by markets, and not in remote communities. Also, the financial service does not create the economic opportunity, the client does. Different types of service are required for households at different stages of HIV/AIDS impact. In relation to the household types investigated in this report, a tentative conclusion is that, all other things being equal, micro-finance appears most appropriate for households headed by HIV negative couples aged between 18 and 59 which have taken in older orphaned children; for households headed by elderly HIV negative couples which have taken in older orphaned children; and for households headed by HIV positive adults aged between 18 and 59, where the infected adults are in the asymptotic phase of infection (which can last 3-5 years), with or without orphans.

When households do not want to or are unable to repay debt, and when households are in remote areas or areas where income is highly unpredictable, *savings schemes or savings led credit initiatives* may be more appropriate interventions than micro-finance. Whilst they may be more appropriate than offering credit, managing them can be more complicated. The analysis in this report tentatively indicates that (all other things being equal) this type of intervention may be particularly appropriate for HIV negative households headed by elderly males (no spouse) with no other adults, but with children; and for households with a chronically ill adult who is not head of household.

The economic stress caused by HIV/AIDS can become so severe upon a household that engaging or continuing income generation activities no longer becomes an option. At this point, the community and extended family's role becomes critical. In order to create a source of funds that are sustainable over the long term, communities will need to embark on an on-going resource mobilization campaign to identify and mobilize internal resources first and then tap into external resources. There are essentially two aspects to community resource mobilization campaigns: (i) strengthening social capital through tools that strengthen community participation, awareness and empowerment and (ii) fundraising activities. From the data analysed in this report, all other things being equal, the following household types are more likely to be reliant on community support than others: households in which both the head and the spouse are chronically sick; households in which the head is chronically sick; and households headed by single elderly females

In many if not most cases, optimal support to safety net activity at community level will have both individual household and community elements. The targeting and blending of these support elements will depend on the stage that households and communities have reached in terms of HIV/AIDS impact.

Implications for Policy: A key element of response will be to view policy through an "HIV/AIDS lens". The "lens" essentially refers to an approach to viewing potential solutions to a problem (such as poverty) that derives from evolving knowledge of the important linkages with another problem (such as HIV/AIDS) (Gillespie et al, 2001). It also means that policies need to be designed, evaluated and implemented with a view to their impact on HIV/AIDS prevention or mitigation – in this way, HIV/AIDS can be "mainstreamed" in the policy process. The HIV/AIDS lens needs to be applied to all policies which have an impact on the lives of rural people.

Implications for Advocacy: The role of HIV/AIDS in the 2002 southern African food emergency highlights the fact that the disease is a critical livelihoods and rights issue, seriously compromising access to food at the household level. This fact should be amplified at the highest levels, building on the momentum generated by the UN Special Envoy's joint statement of January 2003 and the establishment of a Commission on HIV/AIDS and Governance in Africa (CHGA) by the UN Secretary General in February 2003. In addition, the question of whether or not HIV/AIDS, in its own right, warrants emergency programming even if the 2003 and subsequent harvests are good, needs to be placed squarely on the table. This is particularly important given the expected exponential growth in the disease over the next 10-12 years. The need for a "paradigm shift" in the way that development and emergency programming is implemented in the region to tackle effectively this growth is an issue that needs to be raised at all decision-making levels.

Implications for Research: This study highlights the need to differentiate between households according to the type of impact that HIV/AIDS has had or is having. The relationship between poverty and AIDS impact is a strong one, this is known already. What is less understood is the relative importance and dynamics of different AIDS related morbidity and mortality profiles within and across wealth groups in relation to household food security. This study identifies some possible relationships in this regard, but much more needs to be done in a more controlled and focussed research environment than was possible here. A key area of research will be to track HIV/AIDS infected and affected households of different types through time to see how resilient or vulnerable they are to livelihood shocks (such as the 2002 food shock) and longer-term trends – such as gradual land degradation and economic decline. Research should take into account extra-household factors, such as kinship and other forms of social capital in livelihoods trajectories.

1. BACKGROUND AND RATIONALE

The world clearly does not yet realize the immediate and long-term implications of a crisis caused by the conjunction of HIV/AIDS with chronic poverty...or the urgent need it signals for a profound shift in humanitarian and development strategies.

-- UN Special Envoy's Mission Report, 2003

The advent of a generalised HIV/AIDS epidemic in combination with drought and food crisis threatens to create 'new variant famine' across many parts of southern Africa. Unlike the issue of HIV/AIDS and the protection of rural livelihoods, there is very little literature on this subject.

-- de Waal and Tumushabe, 2003

1.1 Purpose and Structure of the Report

It is commonly agreed that HIV and AIDS have contributed to the depth of problems faced by rural households in southern Africa in the context of the 2002 food emergency. What is much less understood is the extent of that contribution and how it varies by the demographic structure and mortality and morbidity profile of households. The purpose of this study is to help fill this information gap and to further our understanding of the impact of HIV/AIDS on acute food insecurity in southern Africa. Data generated from emergency food security assessments conducted in Malawi and Zambia in August and December 2002 and from Zimbabwe in August 2002 were used to study the relationship between HIV/AIDS proxy variables and food security parameters.

The emergency assessments were not designed specifically to analyse the relationships between HIV/AIDS and household food security. It is possible however, to utilise the variables in the assessments to explore some of these relationships. Using a proxy variable approach, these data sets were analysed to explore key questions on a national level. The questions included: What is the magnitude of the difference between agricultural production and income for households that likely are affected by HIV/AIDS, compared to other households? What are specific effects on female and elderly-headed households? What are the differences if a household has not just one, but two chronically ill adults? Which social groups are more likely to take in orphans and how does this impact on their food security?

These types of questions were addressed using a conceptual framework that recognizes food security in terms of household access to available food. The key components in this approach are assets or wealth, economic access to food, physical availability of food, household coping strategies and food security (consumption) outcomes. The basic analytical approach was to take classes of households exhibiting certain demographic, morbidity and/or mortality characteristics and compare their food security status and performance against households without these characteristics. Recent literature has emphasized that the linkages between HIV/AIDS and food security are bi-directional – that is HIV/AIDS contributes to food insecurity, and food insecurity increases the risk of prevalence of, or physiological susceptibility to HIV/AIDS. However, the focus of this report is restricted to the impact of HIV/AIDS on food security.

The report has three main parts: background and rationale, data analysis and results, and challenges for the future. The background and rationale includes an overview of the magnitude of the HIV/AIDS pandemic in southern Africa, the current food security situation, and a discussion of general linkages between HIV/AIDS and food security as described in the literature. The second part, data analysis and results, begins with a review of the methodology and a description of the proxy variables used in the analysis. This is followed by results showing the impact of HIV/AIDS proxy variables on household incomes, agricultural production, coping, and overall food security outcomes. The third part of the report identifies challenges and implications of the findings for interventions, programme and policy development, advocacy and future research.

1.2 Magnitude of the HIV/AIDS Pandemic in Southern Africa

Although the HIV/AIDS pandemic is of global concern, it is in Africa where the effects of the disease are most acutely felt. Of all global HIV infections, roughly 70% are located in Africa, where an estimated 28.5 million people live with HIV/AIDS (UNAIDS, 2002). The disease is now responsible for more annual deaths in Africa than any other cause. The southern Africa sub-region, in particular, bears a disproportionate burden of HIV/AIDS cases. It is here that the world's highest rates of HIV infection are to be found: in a number of southern African counties, the adult prevalence rates are over 30% (Botswana, Lesotho, Swaziland, and

Zimbabwe (UNAIDS, 2002). Table 1.1 illustrates the magnitude of the problem for the six countries included in the current southern Africa WFP Emergency Operation¹.

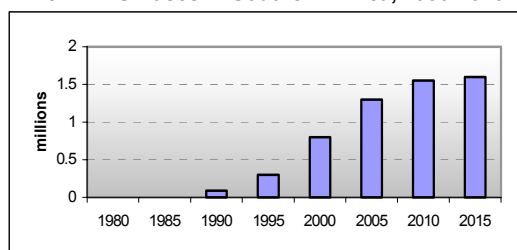
The pandemic has already reached critical levels in southern Africa and is likely to almost double in terms of the number of annual new cases within the next 15 years (Graph 1.1). This highlights the fact that the devastation already being wrought by HIV/AIDS in southern Africa will only worsen in the years ahead. The region should be bracing for a "...social calamity on a scale not witnessed before on the continent" (de Waal and Tumushabe 2003, p. 2), and indeed rarely in the history of human kind. While the HIV/AIDS pandemic is already upon us, its impending severity and duration warrants urgent calls to better understand HIV/AIDS dynamics and plan for the level of intervention it deserves.

Table 1.1 HIV/AIDS Prevalence in Selected Southern Africa Countries

	Estimated number of people living with HIV/AIDS in 2001			New AIDS orphans 2001	New AIDS deaths 2001
	Total	Adults	Adult rate		
Zimbabwe	2,300,000	2,000,000	33.7%	780,000	200,000
Zambia	1,200,000	1,000,000	21.5%	670,000	120,000
Mozambique	1,100,000	1,000,000	13.0%	420,000	60,000
Malawi	850,000	780,000	15.0%	470,000	80,000
Lesotho	360,000	330,000	31.0%	73,000	25,000
Swaziland	170,000	150,000	33.4%	35,000	12,000
TOTAL	5,980,000	5,260,000	20.4%	2,448,000	497,000

SOURCE: UNAIDS, 2002

Graph 1.1 Estimated Projections of Annual New AIDS Cases in Southern Africa, 1980-2015

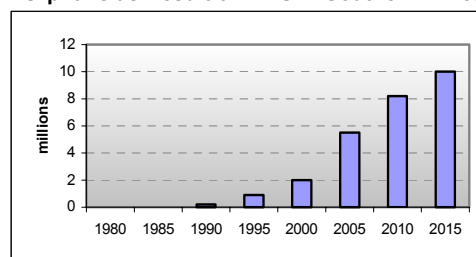


SOURCE: UNAIDS, 2002

As compared with the effects of other diseases, HIV/AIDS in southern Africa is distinguished by the fact that infections are highest amongst adults aged between 20 and 40, for example, one study estimates that adults between the ages of 20 and 40 account for roughly three-quarters of all AIDS cases (UNAIDS, 2002). This has profound implications for inter-alia household labour supply and thus incomes and food production. The burden of care on the elderly and the vulnerability of children to physical, economic and psychosocial stress and abuse.

The disease also has distinct gender impacts. Currently, the overall number of AIDS cases is roughly equal according to sex. However, in the age group of 15-30 years, women account for a greater proportion of AIDS cases than men, with men being the majority for age groups above 30 years. In the age group of 15-19 years, young women account for more than four times the number of AIDS cases as men (UNAIDS, 2002). The implications are that eventually women will account for the majority of all AIDS cases by a ratio of 1.3 infected women per infected man (UNAIDS, 2002). This is partly due to demographic trends as well as women being more prone to infection than men.

Graph 1.2 Estimated Projections of Maternal Orphans as Result of AIDS in Southern Africa



SOURCE: UNAIDS, 2002

One other negative outcome of the HIV/AIDS pandemic is the alarmingly high number of orphans that result from deaths of parents. UNAIDS (2002) estimates that within the next 15 years the number of AIDS orphans in southern Africa will reach nearly 10 million (see Graph 1.2). The long-term psychological, economic, and physiological effects of this trend will reverberate in southern Africa for generations to come.

1.3 Current Food Security Situation in Southern Africa

Southern Africa is currently experiencing the worst food security emergency in a decade. Each of the three countries in this report has been receiving large amounts of international food aid and other humanitarian assistance since mid-2002. Table 1.2 illustrates the magnitude of the emergency in terms of assessed food aid requirements. Since December 2002, each of the three countries has had at least 25% of their entire population requiring relief food aid. In Zimbabwe the food security crisis is particularly severe, with over half of the country's population requiring assistance. For the six countries combined, over 15 million people currently require food assistance, and in Zimbabwe, Malawi, and Zambia alone the combined total is over 13 million. Already, indications are that food aid will again be required in parts of the region, particularly in Zimbabwe, during the coming consumption year of April 2003 to March 2004 (SADC-FANR VAC, 2003).

¹ See www.reliefweb.int for more details on WFP's Emergency Operation and the UN Consolidated Appeal.

The immediate cause of the regional food security emergency is often cited as poor rains leading to marked reductions in agricultural production. However, this simple explanation masks a suite of underlying factors that have an impact on food security in the region. These include, inter alia, governance issues, the cumulative effect of periodic droughts since and including the 1992 drought, dietary patterns that emphasize maize, the varied impacts of structural adjustment programmes, weak government safety net programmes, government policies that inhibit free market performance, international terms of trade, chronic poverty, and HIV/AIDS.

Perhaps the biggest difference between the regional food crisis of 1992 and the current emergency is the dramatic increase of HIV/AIDS cases (WFP, 2002). Indeed, the prevalence rates of HIV/AIDS are so high, and their linkages with food security so pronounced, that some researchers have deemed the southern Africa food emergency as a “new variant famine” (de Waal, 2002), requiring whole new approaches towards understanding food security in the context of the HIV/AIDS pandemic. Given the accentuated fragility of livelihood systems brought on by HIV/AIDS, researchers are beginning to ask: has the current food emergency in southern Africa crossed a threshold and precipitated a downward cycle of food insecurity -- irrespective of climatic performance -- that will last for years to come?

1.4 General Linkages Between HIV/AIDS and Food Security

It is now well recognised that household food insecurity in rural and urban southern Africa cannot be properly understood if HIV/AIDS is not factored into the analysis. Carolyn Baylies (2002) notes that HIV/AIDS can, on one hand, be treated in its own right as a shock to household food security, but on the other, it has such distinct effects that it is a shock like none other. The epidemiology of the disease makes its effects different from other common diseases in the region, such as malaria. HIV/AIDS affected households typically engage in a suite of behavioural responses to enable them to cope (de Waal, 2002; UNAIDS, 1999). However, Rugalema (1999) argues that HIV/AIDS affected households never fully cope in the sense that they cannot simply return to some semblance of *normal* following a shock. Rather, HIV/AIDS affected households enter a downward trajectory of struggle. De Waal and Tumushabe (2003) make a similar case, arguing that HIV/AIDS affected households may escape complete demise in the face of a food security shock through various “coping strategies”, but cannot escape the longer-term downward trend in food security.

FAO (1995) identifies production effects of HIV/AIDS on farming systems including decreases in area planted, declines in crop yields, changes in cropping patterns, and loss of agricultural knowledge. Economic impacts due to declines in household labour quality and quantity are identified by Drimie (2002). Other researchers have highlighted the gender and social stigma aspects of HIV/AIDS (Hawkins and Hussein, 2002). Livelihoods-based analysis of linkages between food security and HIV/AIDS show that the impact is systemic, affecting all aspects of rural livelihoods (Haddad and Gillespie, 2001); and that effective analysis of the causes and outcomes of HIV/AIDS requires a contextual understanding of livelihoods unique to a given area and/or social groups (FEG, 2002).

2. DATA ANALYSIS AND RESULTS

2.1 Description of Data Set and Methods

In August and December 2002 the SADC-FANR RVAC coordinated emergency food security assessments in six southern African countries². In each of the countries National Vulnerability Assessment Committees (NVACs), composed of host governments, UN agencies and NGOs, took the lead in the data collection, analysis, and report write-up. The data used in this study was gathered from 2,695 households surveyed in August 2002 (835 households in Malawi, 655 in Zambia and 1,200 in Zimbabwe); and 2,562 households interviewed in December 2002 (1,631 households in Malawi and 931 in Zimbabwe).

Table 1.2 Estimated Number and Percentage of People in Need of Food Aid, 2002/03

	Number of People in Need	Percentage of Population in Need
Zimbabwe	7,180,000	52%
Malawi	3,590,000	31%
Zambia	2,770,000	28%
Lesotho	760,000	34%
Swaziland	300,000	28%
Mozambique	650,000	3%
TOTAL	15,250,000	26%

SOURCE: SADC FANR VAC, 2003

² The six countries are Malawi, Zambia, Zimbabwe, Lesotho, Swaziland, and Mozambique. An additional country, Namibia, was also included in the August assessment.

Variables: Analysis of the impacts of HIV/AIDS proxy variables on household food security in the context of the 2002 southern African food emergency draws from data from three of the six countries involved in VAC assessments: Malawi (August and December), Zambia (August and December), and Zimbabwe (August). These data sets are larger and have more consistencies concerning the type of data collected than other data sets. Each of the three data sets contains enough information to relate HIV/AIDS proxy variables to components and measures of household food security. That said, each of the country assessments has some unique information. The Malawi and Zambia assessments, for example, included questions on presence of chronically ill persons in the households, whereas the Zimbabwe assessment did not ask about chronic illness. This restricts the degree to which it is possible to make cross-country comparisons, and highlights the need for future assessments to have more standardised variables *per se*. In the analysis of this report, cross-country comparisons are made where possible or if this is not possible then specific countries are used to identify and infer impacts. More details on the proxy variables used in the analysis are contained in the next section.

Sampling: The sampling frame used for the emergency assessments was based on livelihood zones – relatively homogenous geographic areas with regards to sources of food and income. Within each livelihood zone, three types of questionnaires were administered: a district level questionnaire, a community level questionnaire and a household level questionnaire. It is the responses to the household level questionnaire that are analysed in this report. All the data sets apply to rural households only; no assessment was made of urban areas. Country specific sampling details are as follows.

Malawi: Due to criticism on the sampling methodology used in the July/August VAC assessment 2002, the methodology for the November/December assessment was revised and improved in order to have a systematic sampling frame. 136 villages were sampled from 27 districts and about 12 households interviewed (from different wealth groups) per village. The village sample was drawn from a database used by DFID for the Targeted Input Programme from which villages were randomly selected. Households were selected by the survey teams using a random selection method with a village list of households. Additionally, clustering of samples was undertaken to add more statistical rigor to the analysis.

Zambia: The sampling frame was organised around a total of 17 livelihood zones in the south and east of the country. Northern areas known to be food secure were not visited. A total of 24 districts out of 47 were visited, and within each district two sites were sampled³. Sampling of villages was purposive. Twenty households per village were sampled. The sampling was weighted according to the wealth distribution within a village. Within particular wealth groups, sampling was purposive, with households selected with the assistance of key informants at village level.

Zimbabwe: The field assessment was conducted in all 57 districts of the country. Specific wards were identified to be most representative of particular Food Economy Zones (FEZs), including the variation within the zone according to last season's rains. 12 to 16 households per village were randomly selected to collect information on access and availability of food, dietary diversity, coping strategies, availability of agricultural inputs and nutritional status of children and mothers. The fieldwork was conducted with 53 field researchers divided into 13 teams. The teams spent 13 days in the field and sampled 1,460 households, 120 communities, and 22 (of 25) FEZs.

Comparisons: It is clear that there were differences in the way in which households were selected. Zambia may be distinguished from Malawi and Zimbabwe in the sense that (a) the sampling procedure in Zambia was purposive, whereas in Malawi and Zimbabwe it was highly randomised at household level and (b) unlike Malawi and Zimbabwe, coverage in Zambia was not national – half of the districts in the country were covered. Zimbabwe may be distinguished from Malawi and Zambia in the sense that the data set used for this report was from August 2002.

Analysis: This report seeks to detect associations between HIV/AIDS proxy variables and components and measures of household food security. The main statistical techniques included descriptive statistics (mean, median, standard deviation, etc.), cross tabulation, comparison of means and limited statistical tests, using Statistical Package for Social Sciences (SPSS). The basic technique used was to derive the association of proxy households to food security components and measures and to compare these results to the association of non-proxy households. As an example, analysis was done to derive a consumption index for households with a chronically ill household head. The value of this index was then compared to households with other proxy indicators e.g. recent death of adult, presence of orphans, high dependency ratio. This was done in order to see which proxy had the most negative effect on the consumption index. The value of the index for proxy households was also compared to the index for “non-affected” households, i.e. households

³ Except Zambezi where, because of its geographical location, four sites were sampled.

exhibiting none of the proxy indicators. This was done in order to gauge the difference between a given type of proxy household and a “normal” or non-affected household.

Statistical Validity: In many cases, the standard deviations were very high in relation to means, thus obviating the possibility of statistical testing to detect significant differences. Data cleaning and the removal of outliers reduced this problem in most cases, however, in the time frame for this study it was not possible to conduct sufficient manipulation of the data to allow testing. For this reason, the conclusions from this study are suggestive and require further exploration in a more focused and controlled research environment, which would allow for more quantification of actual outcomes with increased statistical validity

2.2 Some Possible Caveats with the Data

It is important to note that the data analysed in this report are comprised of respondents’ views to questions about the future and also the past. Respondents were asked to estimate incomes and food sources from the time of the survey to March 2003. Clearly, this is a very difficult thing for respondents to do and in a questionnaire-based approach there is little opportunity for good triangulation. This influences the accuracy of aspects of the data that rely upon estimates of the future: in particular, incomes and expenditures and also the calculation of the cereal gap, (this was dealt with in the analysis of the questionnaires by developing different scenarios in some cases). Such problems do not apply with respect to those livelihood activities that took place in the past. Falling into this category would be most of the production data, coping strategies and consumption index answers.

As noted above, the analysis in this report seeks to compare the differences between food security “building blocks” (agricultural production, incomes, coping strategies) and measures (the annual “cereal gap” and a consumption index) for different types of households. The comparisons are between HIV/AIDS proxy households and non-proxy households. The question thus arises: to what extent do probable inaccuracies in some of the food security variables affect the conclusions to be drawn from this report? In fact, such inaccuracies that do exist should not affect the overall conclusions if they are randomly spread across the data set, that is if there is no consistent bias in the inaccuracies such that errors for HIV/AIDS proxy households are greater or lower than for other households. It should be noted that this analysis does not seek to make statements about absolute incomes or absolute sizes of cereal gaps, rather it simply seeks to compare these parameters against selected household characteristics. In this context, one possible source of bias would be if HIV/AIDS proxy households are consistently more pessimistic about future incomes and access to food than other households. If this is true then there will be an over estimate on the size of the cereal gap, an underestimate of incomes and an overestimate of non-food expenditures (caused by increased health expenditures) for these households. This would in turn affect the conclusions that could be drawn from the analysis that follows. Whether HIV/AIDS households are more pessimistic about the future than other vulnerable households is a subject for debate. All the authors can do is to state that this problem could exist. It will be up to the reader to decide on the likelihood of this biasing the results.

2.3 Explanation of Proxy Indicators for HIV/AIDS

The proxy variables used in the analysis fall into four categories: morbidity variables, mortality variables, “hybrid” (a combination of mortality and/or morbidity) variables and “demographic load” variables (Table 2.1).

As noted in the previous section, these proxy indicators are treated as independent variables that are then analysed with a host of food security variables such as income, agricultural production, coping strategies, and food security outcome measures.

Table 2.1 Proxy Variables used in the Analysis

A. <u>Morbidity indicators</u>	Chronically ill household head Chronically ill adult between 18 and 59 years
B. <u>Mortality indicators</u>	Recent household member death Recent death of an adult between 18 and 59 years
C. <u>“Hybrid” morbidity/mortality indicators</u>	Highly affected households (death <u>and</u> chronically ill) HIV affected households (death <u>or</u> chronically ill)
D. <u>Demographic load indicators</u>	Presence of orphans Dependency ratio Number of adults between 18 and 59 years

The data analysis uses these proxy indicators for HIV/AIDS for two main reasons: (1) exploring HIV/AIDS and food security linkages was not a primary objective of survey design, if it were, then additional, more focused proxies would have been used; and (2) ascertaining whether or not a household has HIV/AIDS infected persons or has lost someone due to HIV/AIDS is nearly impossible on a large scale survey given the sensitivity of that information⁴.

⁴ An example of the difficulty of asking about HIV/AIDS in a household interview comes from Zambia, where households were asked that question. Analysis of that data indicated that the prevalence rate was only 3%, which is in stark contrast with the nationally reported rate of over 20%.

The accuracy of these indicators is obviously a critical concern. Clearly, the estimates derived from these proxies will be prone to inclusion errors. In order to estimate accurately these errors it would be necessary to know the proportion of morbidity, mortality and demographic load accounted for by HIV/AIDS. Such estimation is outside of the scope of this report. The authors recognise that it is crucially important and assume that it would be reasonably straightforward to do. Intuitively, one would expect some variables to be less inclusive than others. For example, the authors hypothesize that the presence of orphans will include less error than the dependency ratio. In the analysis reported later on in this report, certain proxy variables are seen to have a stronger impact on food security processes and outcomes. Isolating the “HIV/AIDS component” of these proxies is thus of special importance for future research.

Presence of Chronic illness in Household

The presence of chronic illness in a household was used as a proxy indicator for HIV/AIDS infection in the household. Clearly, there will be considerable inclusion errors here - in some geographical areas more than others. These are reduced to some extent by further indicators which restricted chronic illness to adults aged under 60 and to adult heads of household aged under 60.

Recent Deaths in Household

The occurrence of deaths – irrespective of the cause – was used as a proxy to study the impact of HIV/AIDS related death in the household. The data collection specified the age group of the member that died, allowing the analysis to focus on deaths among active adults, rather than including natural old age and child deaths.

Unlike the presence of chronic illness in the household, there was a difference in the frequency of active adult deaths in well-off households compared to poor households as shown in Graph 2.2. In Zambia for example, greater proportions of households in the poor socio-economic group had suffered a recent active adult death, which highlights the susceptibility of poor households to premature deaths due to reduced access to health care, less nutritious diets, HIV/AIDS and other factors.

Dependency Ratio

The dependency ratio is used as a proxy to indicate the “demographic squeeze” caused by HIV/AIDS. This works in two ways: first by decreasing active adults, and second by increasing dependents (as when the household takes in orphans). The dependency ratio is calculated based on the number of dependents: those older than 59 years and those under 18 (or 15 depending on country) divided by the total household size. To facilitate

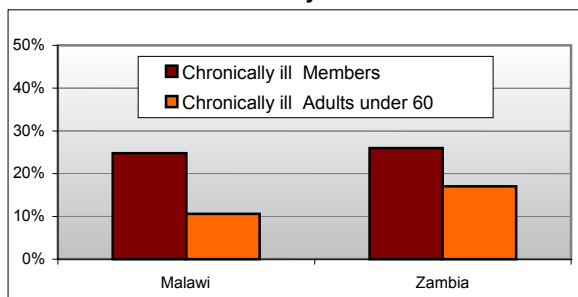
Category	Ratio	Dependents per Active Adult
Low	0 to 0.33	Less than 1
Moderate	0.34 to 0.66	1 or 2
High	0.67 to 0.99	3 or more
Extremely High	1	No active adults

SOURCE: Malawi, Zambia and Zimbabwe VAC

using what de Waal (2002) has termed the “effective dependency ratio”, whereby ill adults aged between 18 and 59 are included as dependents, although such analysis was not included in this study. On the basis of the VAC data, this could be done in the case of Malawi and Zambia, but not for Zimbabwe. The effective dependency ratio would be a more robust indicator of HIV/AIDS impact than the “normal” dependency ratio.

The frequency of high and extremely high dependency ratios varies according to socio-economic and demographic characteristics. Data from Zimbabwe illustrate differences in dependency ratios according to the gender of the household head (Graph 2.3). Male-headed households tended to have a ‘low’ or ‘moderate’

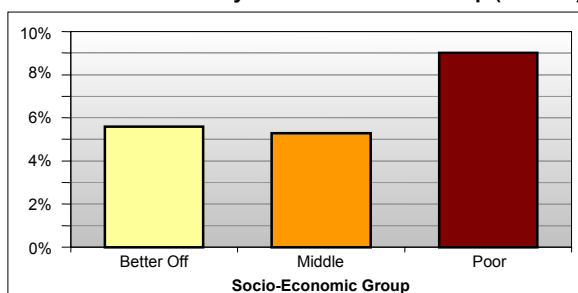
Graph 2.1 Percentage of Households with Chronically Ill Members and Chronically Ill Adults under 60 Years



SOURCE: Malawi and Zambia VAC, 2002

Graph 2.1 illustrates the proportion of households experiencing chronic illness in Malawi and Zambia. No relationship was found between chronic illness in adults under 60 years of age and socio-economic status of the household (e.g., wealth classes).

Graph 2.2 Percentage of Households with a Recent Active Adult Death by Socio-Economic Group (Zambia)



SOURCE: Zambia VAC, 2002

qualitative comparisons, the dependency ratios were divided into four categories of “low”, “moderate”, “high”, and “extremely high” dependency, as illustrated in Table 2.2.

In all three countries the dependency ratio is characterised by a normal-right skewed curve, with the occurrence of high or extremely high dependency being more prominent. The authors acknowledge the validity of

using what de Waal (2002) has termed the “effective dependency ratio”, whereby ill adults aged between 18 and 59 are included as dependents, although such analysis was not included in this study. On the basis of the VAC data, this could be done in the case of Malawi and Zambia, but not for Zimbabwe. The effective dependency ratio would be a more robust indicator of HIV/AIDS impact than the “normal” dependency ratio.

dependency ratio, while female-headed households were more likely to have 'high' or 'extremely high' dependency ratios. This cursory analysis illustrates the disproportionate burden women bear in stressed households.

The age of the head of the households also affects trends in dependency ratios. The dependency ratio among female-headed households in Malawi, for example, was 30% higher in households headed by an elderly person (Graph 2.4).

Presence of Non-Elderly Adults

As will be shown in subsequent analysis, the presence or absence of a healthy adult aged between 18 and 59 has more pronounced effects on household food security than does the dependency ratio. The presence of female adults under the age of 60 years was more common than male adults in the same age group (Graph 2.5). This is most likely due to the effects of male migration for work, and/or, formal or informal polygamy. For purposes of exploring effects on household food security, the analysis focuses on households that do not have a non-elderly adult present.

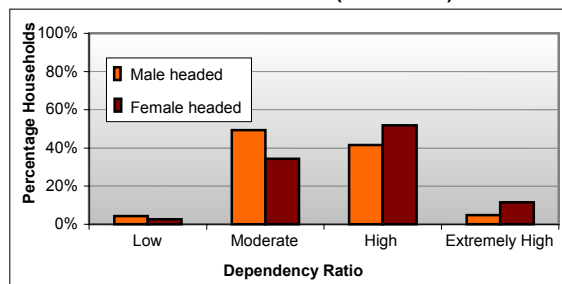
Presence of Orphans

Estimates are that within the next ten to fifteen years there will be roughly 10 million maternal orphans in southern Africa. Clearly the presence of orphans can increase food security stresses on host households and can also lead to reduced care (e.g., nutrition, education, etc.) for the orphans themselves. However, the net impact of orphans on the ratio between household production and consumption will vary according to several factors including the age and sex of the orphan and the socio-economic and demographic characteristics of the host household itself. The crude proxy: "presence of orphans" cannot detect these important nuances, and this reduces its usefulness for the purposes of analysis. In this study, between 20% (Zimbabwe) and 30% (Zambia) of households are caring for orphans. For those households caring for orphans, roughly the same percentage is caring for one orphan as are caring for more than one.

Interestingly, the gender of the household head affects the degree to which households take in orphans. Graph 2.6 illustrates the distribution of households caring for orphans by gender of the household head. In all three countries the picture is that higher proportions of female-headed households care for orphans than do male-headed households. This gender difference is most pronounced in Malawi, where nearly 40% of female-headed households indicate that they are caring for orphans, compared to 21% of male-headed households.

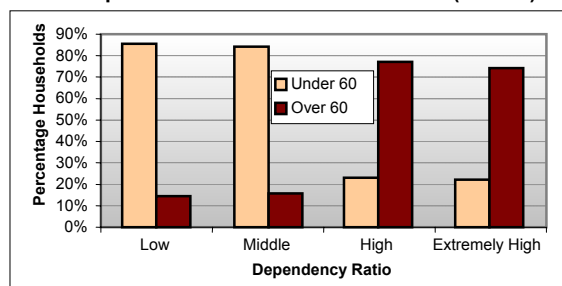
There are also age differences. Graph 2.7 illustrates that elderly headed households generally have the highest reported rates of caring for orphans, followed by households headed by adults aged between 18 (or 15) and 59. Taken together, these age and gender differences mean that elderly women are playing a major role in taking responsibility for orphan care. To the extent that households headed by women are more vulnerable to food insecurity than other households, this finding is clearly of some concern. The general hypothesis arising from this is that

Graph 2.3 Dependency Ratio by Gender of Household Head (Zimbabwe)



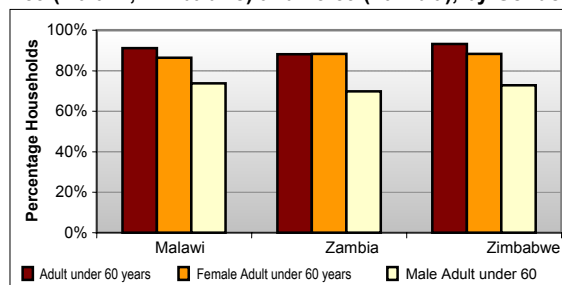
SOURCE: Malawi and Zambia VAC, 2002

Graph 2.4 Dependency Ratio among Age Groups of Female Headed Households (Malawi)



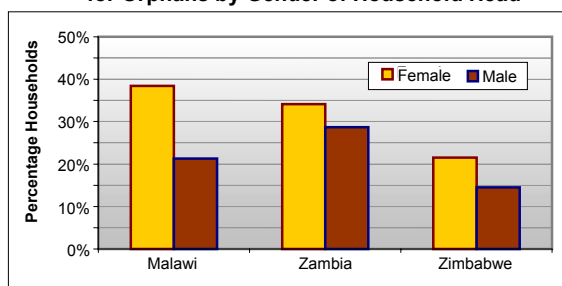
SOURCE: Malawi, 2002

Graph 2.5 Percent of Households with Adults Aged 18-59 (Malawi, Zimbabwe) and 15-59 (Zambia), by Gender



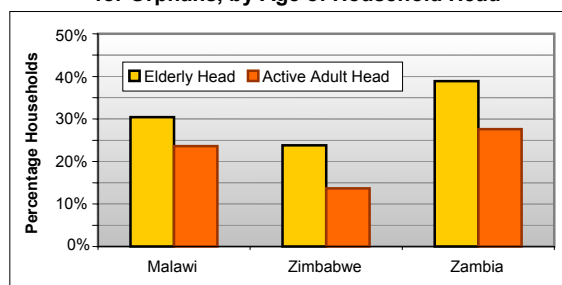
SOURCE: Malawi, Zambia and Zimbabwe VAC, 2002

Graph 2.6 Percentage of Households Caring for Orphans by Gender of Household Head



SOURCE: Malawi and Zambia VAC, 2002

Graph 2.7 Percentage of Households Caring for Orphans, by Age of Household Head



SOURCE: Malawi and Zambia VAC, 2002

households already stressed are more likely to take in orphans than less stressed households.

The heightened interest in the plight of child-headed households warrants further examination. According to this data set, the frequency of child-headed households is very small indeed for the three countries, never exceeding 1% of all households. This is most likely due to the nature of the extended family throughout the region whereby relatives, neighbours, and friends have a social responsibility to care for orphans. However, this number is likely to increase with increasing numbers of orphans and decreasing integrity of social networks as the HIV/AIDS pandemic accelerates.

2.4 Impacts on Incomes and Food Purchasing Power

This section examines impacts of HIV/AIDS proxy variables on household incomes and expenditures, which directly effect household access to food. Incomes earned from both on-farm and off-farm activities allow households to **access** food through “exchange entitlement”, as differentiated from direct food production, “production entitlement” (Sen, 1980). HIV/AIDS has direct and negative effects on households’ exchange entitlement by decreasing the quantity, quality, and stability of income earning activities. In so doing, per capita income declines (Haddad and Gillespie 2001).

Regarding **quantity**, HIV/AIDS affected households have less working members in relation to non-working members. Productive working hours among caregivers is reduced as they divert time away from income earning activities to care for ill household members (UNAIDS 1999). HIV/AIDS affected households also experience a reduction in economic returns per unit of labour, referred to as **quality** of labour. These households generally rely more on low-value-added economic activities (such as casual labour and natural resource extraction) than non-affected households. The effect of this increasing reliance on low-value-added economic activity is an overall decrease in household income, due to the smaller economic returns per unit of labour (UNAIDS 1999). **Stability** of income sources refers to the reliability of any given income source. HIV/AIDS affected households need to rely on children and elderly for a greater proportion of their income. However, children and elderly may not have as many casual labour opportunities in competitive labour markets as able-bodied adults. Another dynamic that helps explain decreased stability of income sources is reduced diversity of income sources. Generally, the more types of income sources available to a household, the more stable will be the overall income from month to month. In general, households affected by HIV/AIDS do not have as stable an income as non-affected households.

Some idea of the magnitude of these effects in the context of the 2002 food emergency can be derived from the analysis of the VAC data sets using the proxy variables discussed earlier. Table 2.3 shows results from the Malawi data set for December. Examining total household income per capita, households without active adults received 31% less income than households with active adults. Households with a chronically ill adult received a modest 4% less income than households without chronically ill adults. This difference, however, jumps significantly when the household has two chronically ill adults present—in these cases the households received 66% less income than households without chronically ill adults. Households experiencing a recent adult death had 35% less income than other households. And lastly, households with high to extreme dependency ratios received 37% less income compared to households with moderate to low dependency ratios.

Table 2.3 Effects of HIV/AIDS Proxies on Household Income (Malawi)

HIV/AIDS Proxy Present in Household	% difference in income per capita	% difference in income per household
Extremely high dependency ratio	-37%	-65%
No active adults	-31%	-55%
Recent active adult death	-35%	-24%
More than 1 chronic ill active adults	-66%	-49%
Chronic ill active adult	-4%	-3%

SOURCE: Malawi VAC

Table 2.4 Effects of Chronic Illness or Recent Death on Household Income (Malawi)

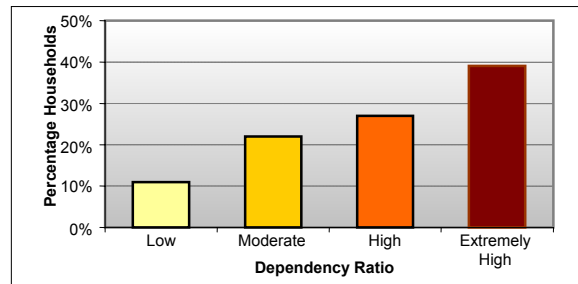
Chronically ill adult or death of adult	% difference in income per capita	% difference in income per household
Well Off	-48%	-39%
Middle	-8%	-12%
Poor	-42%	-31%

SOURCE: Malawi VAC, 2002

The Malawi VAC data illustrate differences in income between, (i) households that have either a chronically ill adult OR have experienced a recent adult death, and (ii) households in which there is neither death nor illness amongst adults aged between 18 and 59. Table 2.4 disaggregates these differences by wealth groups. Within the well-off group, households affected by HIV/AIDS have 48% less income than non-affected households. This difference is only 8% for the middle wealth group, and 42% for the poor households. The small difference for “middle” households is intriguing and merits further study.

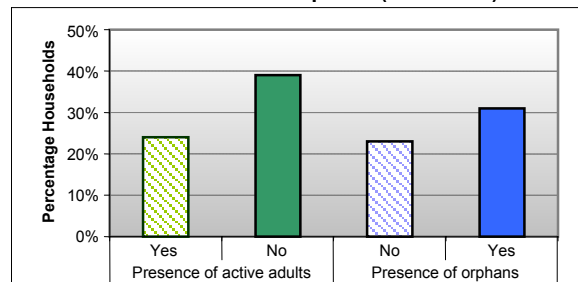
Another way of exploring the potential HIV/AIDS impact on food access is to look at household **purchasing power**. Graphs 2.8 and 2.9 illustrate the percent of households in the lowest quartile (i.e. lowest purchasing power), according to three independent variables (dependency ratio, presence of active adult, and presence of orphans). The graphs thus allow us to see the impact of these variables on purchasing power. Regarding the dependency ratio, while only 11% of the households with a low dependency ratio have the lowest purchasing power, the same is true for 39% of households with an extremely high dependency ratio. Among households with an active adult present, 24% have the lowest purchasing power; whereby among households without an active adult there is an increase to 39% having the lowest purchasing power. And lastly, the presence of orphans also affects the percentage of households in the lowest category of purchasing power. Among those without orphans, 23% are in the lowest category, rising to 31% for those households with orphans.

Graph 2.8 Percentage of Households in the Lowest Quartile of Purchasing Power, by Dependency Ratio (Zimbabwe)



SOURCE: Zimbabwe VAC, 2002

Graph 2.9 Percentage of Households in the Lowest Quartile of Purchasing Power, by Presence of Active Adults and Orphans (Zimbabwe)



SOURCE: Zimbabwe VAC, 2002

The other factor related to market accessibility concerns **household expenditures**. Households with an infected person or suffering a recent death tend, unsurprisingly, to have increased need for expenditures on health care, transportation, and funerals (Baylies, 2002). In addition, households that take in orphans may have increased expenditures requirements for school fees and other needs for children. It is thus of particular concern that despite these increased needs, HIV/AIDS proxy households appear to have reduced non-food expenditures more than other households⁵. In Zambia, 49% of all households reported that they had reduced expenditure on non-food items in the two months preceding the survey. In contrast, households that had experienced death or illness of an adult member in the past 12 months reduced expenditure by 67%. In Zimbabwe, households with a higher dependency ratio were more likely to reduce expenditures on non-food items than households with a low dependency ratio.

The combined effect of reduced incomes and increased expenditures on non-food items is less economic access to food.

2.5 Impacts on Household Food and Cash Crop Production

HIV/AIDS affected households generally experience a decline in agricultural production as compared to non-affected households (FAO, 2002). This decline is due to decreases in both area planted and yields. At the core of the HIV/AIDS impact on area planted is the loss of potential able-bodied adult labour, loss of labour quality, time diverted from agricultural activities for care-giving and/or attending funerals, and decreased financial capital to hire casual labour when needed (FAO; 2002; Ngwira et al, 2001; FAO, 1995).

HIV/AIDS affected households generally experience reduced crop yield due to: (1) a gradual decline in soil fertility due to the reluctance of farmers to take long-term soil conservation measures, (2) increased pests and plant diseases due to decreased management and application of pesticides, (3) inadequate labour to manage crops according to optimal agronomic practices, and (4) decreased application of agricultural inputs that require financial capital (FAO, 2002; Ngwira et al, 2001; FAO 1995).

High Labour Intensive Farming	Low Labour Intensive Farming
Vegetables	Cassava
Sesame	Sweet Potato
Groundnuts	Pulses
Cotton	Yams
Tobacco	Sorghum

SOURCE: Compiled from Drimie, 2002 and Ngwiral, 2001

HIV/AIDS affected households also tend to change their cropping patterns, shifting to crops that are less labour demanding, have shorter lengths of time for returns, and require less capital inputs, (Table 2.5) (Drimie, 2002; FAO, 2002; Ngwira et al, 2001; FAO, 1995).

Regarding livestock holdings, HIV/AIDS affected households tend to have fewer livestock than non-affected households, due either to divestment or loss. Increased financial pressures can force HIV/AIDS affected

⁵ This may be partly due to the fact that proxy households are in general poorer than other households.

households to sell livestock to meet immediate cash needs. In addition, without ample financial resources, HIV/AIDS affected households have less money available to pay for livestock care (including pesticides, feed, etc.) and lose more livestock due to illness. Finally, HIV/AIDS affected households that do not have active adults (particularly males) have less ability to protect their livestock from theft (Haslwimmer, 1999).

Overall Effects on Production

Table 2.6 shows the percent difference in cash crop income, tuber production (kg), and cereal production (kg) according to whether or not there was at least one active adult in the household. In all three countries there is a reduction in income from production of cash crops, and from tubers and cereals. A more thorough understanding of these overall negative effects on production and incomes is gained by examining specific effects on area planted and input use, according to various proxy indicators of HIV/AIDS.

Table 2.6 Difference in Crop Production for Households with no Active Adult

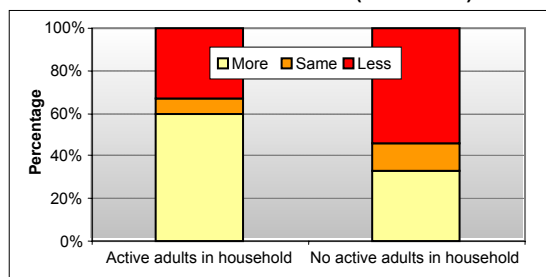
	Cash Crop Income	Tuber production	Cereal production
Malawi	-51%	-26%	-53%
Zambia	-85%	-69%	-57%
Zimbabwe	-77%	*	-24%

* No statistically valid cases
 SOURCE: Malawi, Zambia and Zimbabwe VACs, 2002

Effects on Area Planted

Effects on area planted are examined in two ways: (1) for a given household, differences in area planted from one year to the next, and (2) difference between households in area planted for the current year.

Graph 2.10 Comparison of Intended Area to be Planted to Cereal, 2001-02 to 2002-03, by Presence of Active Adults (Zimbabwe)



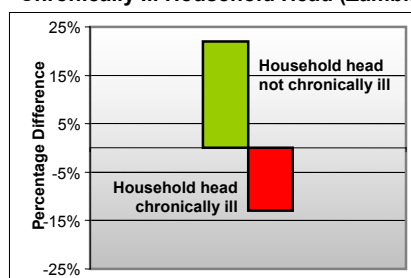
SOURCE: Zimbabwe VAC, 2002

Data from Zimbabwe illustrate intended changes in the area planted from 2001-02 to 2002-03 based on the presence of an active adult. In August 2002, households were asked if they planned on planting more or less area to cereal crops in the 2002-03 season than the previous year. Graph 2.10 shows that with the presence of active adults, 33% of the households stated that they would plant less and 60% stated that they would plant more area. In contrast, for households without active adults present 54% stated they would plant less, while only 32% stated they would plant more. This indicates a significant difference between planting expectations according to the presence or absence of an active adult.

In line with this, high dependency ratio households in Zimbabwe were also more likely to plant less area than low dependency ratio households: 55% of households with an extremely high dependency ratio intended to plant less area, compared to 30% of households in the low dependency ratio category.

Data from the December VAC assessment in Zambia show a similar picture using actual area planted in 2002-03 compared with 2001-02. Graph 2.11 illustrates that households without a chronically ill head of household planted on average 22% more area in 2002-03 than the previous year, while households with a chronically ill head of household actually planted 13% less area. In addition, households in which the head of household is chronically ill had planted 53% less area in 2002-03 than households without a chronically ill person.

Graph 2.11 Percentage Difference in Total Area Planted 2001-02 to 2002-03, Chronically Ill Household Head (Zambia)



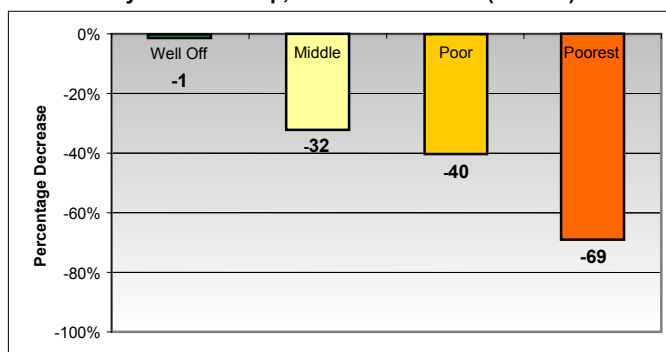
SOURCE: Zambia VAC, 2002

Data from Malawi illustrate the gender aspects of an adult death. Households that have experienced a recent male active adult death have 32% less area planted than do households that have experienced a recent female adult death. This is in line with the observation that land preparation is heavy work and is normally the primary responsibility of men. The actual planting may be shared between men and women but actual preparation is characteristically a man's responsibility.

Data from Zambia show some interesting features when disaggregated by wealth group. Chronic illness appears to make much less difference on the area planted amongst the well-off compared to poor households: those with the head chronically ill have 3% less area cultivated, while this difference jumps to 69% less for households in the poor wealth group (Graph 2.12).

In the absence of increased yields, decreased area planted will decrease “production entitlement” to food for the household. This has worrisome implications for the longer-term trajectory of rural farming systems and land tenure (Drimie 2002). By only farming a portion of the household’s normally cultivated land area, it is possible that the un-utilised portions will come under increasing pressure to be farmed or claimed by other local or “outsider” farmers. In the short-term this may not make much difference, as the land would not otherwise be cultivated; but in the longer-term, HIV/AIDS affected households are susceptible to losing land tenure rights (either formal or non-formal) that their offspring would normally claim.

Graph 2.12 Percentage Difference in Cereal Area Planted with Household Head Chronically Ill, by Wealth Group, 2001/02 to 2002/03 (Zambia)

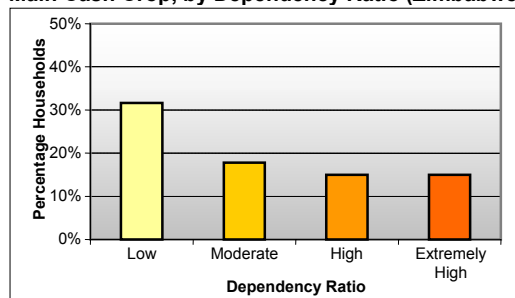


Source: Zambia VAC

Effects on Agricultural Input Use

Access to agricultural inputs such as seed and fertilizer directly affect crop yield and thus production and harvest for households.

Graph 2.13 Percentage Households with Seeds for Main Cash Crop, by Dependency Ratio (Zimbabwe)



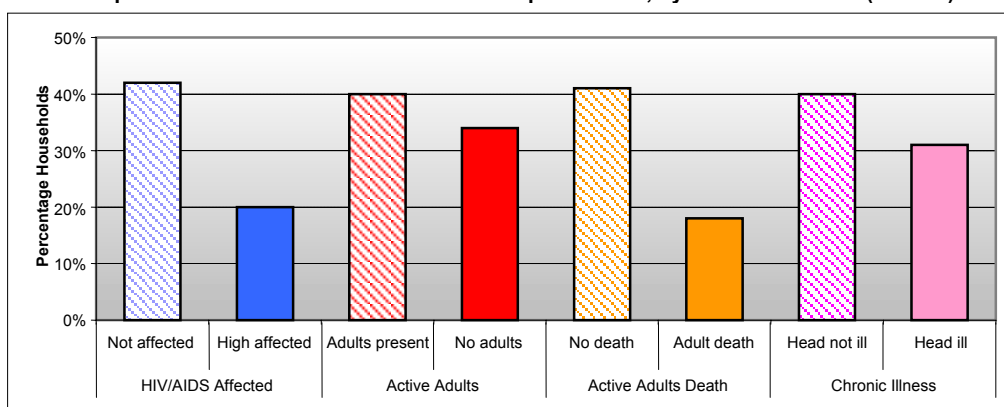
Source: Zimbabwe VAC

Graph 2.13 illustrates the negative association between a high dependency ratio and household access to seed using August data from Zimbabwe. At the extremes, 31% of households with a low dependency ratio stated that they had adequate seed for the planting season, while the same was true for only 15% of households with an extremely high dependency ratio.

Data from the December VAC assessment in Zambia further illustrate how illness and/or death relate to households’ ability to acquire seed and fertilizer. Graph 2.14 shows the percentage of households that had adequate seed for the then forthcoming planting season, according to selected proxy

variables in Zambia. Generally, 40% of non-affected households had adequate seed at that time, while for affected households this was true for a range of 18-34% of households. Only 18% of households that had suffered a recent adult death had adequate seed for the coming season.

Graph 2.14 Percent of Households with Adequate Seeds, by Selected Proxies (Zambia)



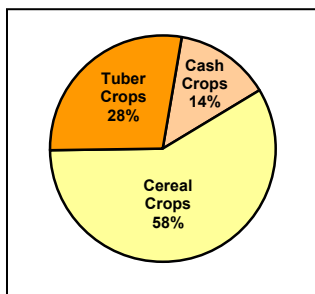
SOURCE: Zambia VAC, 2002

The data also indicate that a greater percentage of households with adult illness, death or high demographic load rely on seed purchases as a source than do other households. The same is true for fertilizer sources. This is important as in the context of market supply constraints and high prices commonly found in input markets in southern Africa, access to inputs is more difficult for households relying on purchases.

Changes in Cropping Patterns

What is the effect of morbidity, mortality and demographic load on cropping patterns? These questions can be addressed by comparing the different proportions of crop production for cash, cereal, and tuber crops for proxy and non-proxy households. The analysis uses kilograms of production for each of these crop types; this allows us to detect changes in cropping patterns.

Graph 2.15 National Average Cropping Patterns, 2001-02 (Zambia)



SOURCE: Zambia VAC, 2002

Taking the entire December household data set from Zambia into consideration, the general distribution of cropping pattern is cash (14%), cereal (58%), and tubers (28%), as illustrated in Graph 2.15. Certainly, this general picture masks tremendous variation in cropping patterns according to agro-ecological and livelihood zones. Ideally, further exploration of HIV/AIDS proxy variables should be done according to each zone, but the current data sets do not have an adequate sample size. That said, general trends emerge even with the national level picture.

There is very little difference between the “general” cropping pattern illustrated in Graph 2.15, and cropping patterns of households with one chronically ill adult. However, when the chronically ill adult is the head of household, the differences become more pronounced. In this case the

cropping proportions are cash (5%), cereal (42%), and tubers (53%). With greater stress on household resources, cereal crops decline dramatically, and the proportion of tubers increases. Tuber production is generally less labour intensive, more labour flexible, and requires less capital inputs than cash and cereal crops.

Table 2.7 Difference of Household Cropping Pattern in Poor Households with and without Chronically Ill Head

Morbidity profile	Cash crops	Tuber crops	Cereal crops
Head of household not chronically ill	17%	10%	73%
Head of household chronically ill	1%	10%	89%

SOURCE: Zambia VAC

If the data are disaggregated by wealth group, the main impact of chronic illness on the poor is to reduce cash crop production and increase cereal production. Tuber production remains unchanged (Table 2.7). Intuitively, one might expect that there would be an increase in tuber production relative to cereals, but this does not seem to be the case with this data set.

Implications of changing cropping patterns are significant for both dietary intake, and the amount of available income for necessary purchases including health care and education. Households with a chronically ill household head generally rely less on cash crops, which further reduces their available income. This means that not only are these households more pressed in meeting necessary expenditures, but also are likely to have less dietary diversity through the decreased ability to purchase food items such as meat, milk, eggs, sugar, etc. To some extent, this hypothesis is explored later on in this report by relating proxy variables to a consumption index.

2.6 Effects on Coping Strategies

The literature on the impact of adult illness and death on household coping strategies suggests that individuals and households go through processes of experimentation and adaptation as they attempt to cope with immediate and long-term household demographic changes (see for example Donahue 1998, White and Robinson 2000). Although HIV/AIDS affected households are faced with particular and severe challenges, various studies indicate that the actual sequencing of coping behaviour is similar to that undertaken by rural households in response to acute food insecurity caused by crop failure⁶. In the current situation in southern Africa, one might expect “classic” coping behaviour in response to food shortages to be “overlaid” on top of underlying coping and adaptation already being undertaken by HIV/AIDS affected households. All other things being equal, one might expect that:

- HIV/AIDS affected households will be more likely to engage in “classic” coping strategies than other households; and
- While pursuing a combination of coping strategies, there will be a greater likelihood of strategies that damage household resilience to other, future shocks, which will increase the likelihood of these households spiralling into increased poverty.

Cross-tabulations have been carried out on VAC data to see if it is possible to detect consistent trends in how households have responded to the 2002-03 food emergency. There are several ways to categorise coping strategies. One way is to divide responses into consumption reducing, expenditure switching and income generating strategies. Another way is to classify strategies according to whether they are “erosive” or “non-erosive”. Non-erosive strategies are those which are easily reversible, that is they do not result in permanent damage to a household’s ability to cope. Erosive strategies on the other hand are those that deplete assets in such a way or to such a point that the household’s resilience to future shocks is

⁶ Compare for example Table 3 in Donahue (1999) with the sequencing described by Davies (1995) and Maxwell and Smith (1992).

permanently weakened. The distinction between erosive and non-erosive strategies depends crucially on a household's assets. These can be categorised into different "capitals". DFID, UNDP, CARE and other agencies have identified natural, physical, financial, social and economic as different types of capital which the household can draw upon to make a livelihood. As an example of the distinction between erosive and non-erosive coping strategies, consider livestock sales. Sales of chickens, goats or cattle are classic coping strategies that households all over sub-Saharan Africa engage in every year. Some level of livestock sales is normal and does not result in increased poverty. At a certain point however, household livestock holdings reduce to the level where they are no longer sustainable. At this point, livestock sales become erosive.

Analysis undertaken on the data is sufficient to allow some firm inferences to be drawn about the relationship between HIV/AIDS proxy variables and "classic" coping strategies. It is however, insufficient at this point to allow anything other than tentative conclusions to be reached about the association of HIV/AIDS with erosive execution of those strategies.

Consumption reducing and switching strategies are generally the household's first line of defense against a food shortage. The analysis indicates that in Malawi, Zimbabwe and Zambia, households with adult mortality or morbidity or high demographic load are consistently more likely to reduce consumption and switch to less preferred foods and wild foods than other households. In Zambia for example, 63% of households in which there was, (i) chronic illness, and, (ii) death within the 12 months preceding the survey had increased consumption of wild foods in response to food shortages, compared to just 36% of households where there had been neither chronic illness nor death. In Malawi, 57% of households in which there was a chronically ill adult had skipped entire days without eating in the two months preceding the survey, compared to 46% of households in which adults were healthy.

Marked differences were also observed in relation to expenditure changes. Higher reductions in expenditure on non-food items were consistent in HIV/AIDS proxy households compared to non-proxy households. In Zambia, 49% of all households reported that they had reduced expenditure on non-food items in the two months preceding the survey. In contrast, 67% of households that had experienced death or illness of an adult member in the past 12 months had reduced expenditure.

Migration in search of food is often seen as a more extreme response to food insecurity in southern Africa. It can result in the break up of households and migration itself can sometimes increase the chance of HIV infection. It is thus of some concern that members of proxy households were found to be more likely to migrate in search of food than members of other households. This trend was observed in relation to households in which an adult member had died; households in which there was a chronically ill adult, child and elderly headed households, and households in which there was a high dependency ratio.

Overall, the analysis indicates that households with adult mortality, adult morbidity and/or high demographic load have been more commonly involved in strategies designed to cope with the effects of acute food shortage than other households. This includes some strategies that may be erosive.

2.7 Food Security Outcomes

Overview of Food Security Outcomes

Previous sections have analysed three key components leading to food security outcomes: household access to food, availability of food, and coping strategies. For each of these components the data indicate that HIV/AIDS proxy households have reduced access, reduced food availability, and more readily employ potentially damaging coping strategies than do non-affected households. This section reveals the compounded impact of these factors on household food security outcomes.

WFP notes "food consumption has been shown to drop by as much as 40% in households affected by HIV/AIDS" (WFP 2002). Indeed, it is to be expected that the multiple impacts of HIV/AIDS on the different building blocks of household food security will be reflected in food consumption indicators. Within the limitations of the data sets and the proxies used in this study, food security outcomes were investigated using three indicators: the household cereal gap, food aid needs, and a household consumption index.

Per Capita Cereal Gap: The household cereal gap is a measure of food aid needs used in the VAC surveys. It can be defined as unmet annual household grain needs after all actual and predicted availability and access to food has been exhausted.

Cereal Gap (yes or no): This is a simple measure of whether or not a household is predicted to have a cereal gap or not. In the VAC surveys, this was used to decide as to whether or not a household needed food aid.

Food Consumption Index: A food consumption index was calculated from answers to questions about dietary diversity. Respondents were asked to list the number of days in which different types of food had been consumed in the household over the 7 days preceding the survey. Each type of food was given a certain weight, and then all weighted totals were summed and averaged to give the final index. The index is thus a summary measure of dietary quality as well as dietary quantity.

General Findings

Table 2.8 shows the difference in the average size of the per capita cereal gap comparing households with and without proxy indicators in Zambia. The analysis clearly shows that the cereal gap is larger for households with morbidity, mortality and demographic load indicators compared to other households. The only exception is households with orphans (discussed below). The largest difference is for households with a chronically ill household head: the mean per capita cereal gap for these households was 26% larger than for other households. It can be seen that households in which there was chronic illness had larger cereal gaps than households where there was a recent death or no adults.

Indicator	Difference in size of per capita cereal gap with proxy
A. Morbidity indicators	
Chronically ill household head	+ 26 %
Chronically ill adult aged between 15 and 59	+ 21 %
B. Mortality indicators	
Household member died in the last 6 months	+ 8 %
Adult aged between 15 and 59 died in the last 6 months	+ 9 %
C. "Hybrid" morbidity/mortality indicators	
Affected households	+ 16%
Highly affected households	+ 26 %
D. Demographic load indicators	
Presence of orphans	- 3.5 %
No adults aged between 15 and 59	+ 15%

SOURCE: Zambia VAC, 2002

In the light of these findings, it is not surprising that proxy households in Zambia were more likely to be in need of food aid than non-proxy households were (again with the exception of households with orphans). This finding is also supported by analysing the presence of a cereal gap. The results reported in Table 2.9 show the percentage of households with a predicted cereal gap.

Table 2.9: HIV/AIDS Proxy Indicators and Presence of a Predicted Cereal Gap: Percentage of Households for which a Cereal Gap is Predicted

	With proxy			Without Proxy			Difference		
	Zam.	Zim.	Mal.	Zam.	Zim.	Mal.	Zam.	Zim.	Mal.
A. Morbidity indicators									
Chronically ill household head	87%	-	-	69%	-	-	+18%	-	-
Chronically ill adult aged under 60	82%	-	44%	68%	-	37%	+14%	-	+7%
B. Mortality indicators									
Household member died	75%	-	50%	69%	-	39%	+6%	-	+11%
Adult member died	75%	-	-	70%	-	-	+6%	-	-
C. "Hybrid" morbidity/mortality indicators									
Affected households	68%	-	-	58%	-	-	+10%	-	-
Highly affected households	78%	-	-	68%	-	-	+10%	-	-
D. Demographic load indicators									
Presence of orphans	67%	77%	-	72%	69%	-	-4.5%	+8%	-
No adults aged under 60	79%	71%	49%	69%	67%	40%	+10%	+5%	+9%

A single dash (-) in an otherwise empty cell indicates no data
SOURCE: Malawi, Zambia and Zimbabwe VACs, 2002

The general picture that emerges from the cereal gap and food aid need tables is that access to cereals was lower in proxy households than in other households during the 2002 food emergency. Intuitively, one would expect this finding to be repeated with respect to the consumption index, which is at once a broader measure of access deficit (as it includes non-cereals) and a narrower measure (as it relates only to the seven days preceding the survey). Table 2.10 below confirms intuition.

What comes out clearly from all the data sets is that households exhibiting proxy indicators for HIV/AIDS have larger cereal gaps, are more likely to require food aid, and have a lower consumption index than other households. Notwithstanding the inclusion errors introduced by the proxies, this broad finding supports the general hypothesis that HIV/AIDS affected households are more likely to be food insecure in the current food emergency than other households. The only

exception to this is households with orphans in Zambia and Malawi. Whereas in common with other proxy indicators in Zimbabwe, presence of orphans was associated with lower food security outcome indicators, while in Zambia and Malawi the reverse was true.

Table 2.10 HIV/AIDS Proxy Indicators and the Consumption Index

	Difference in per capita Consumption Index with Proxy		
	Zambia	Zim.	Malawi
A. Morbidity indicators			
Chronically ill household head	-28%	-	-
Chronically ill adult aged between 15 and 59	-16%	-	-9%
B. Mortality indicators			
Household member died in the last 6 months	-15%	-	-
Adult aged between 15 and 59 died in the last 6 months	-22%	-	-30%
C. "Hybrid" Morbidity/mortality indicators			
Affected households	-17%	-	-
Highly affected households	-28%	-	-
D. Demographic load indicators			
Presence of orphans	+1.5%	-5%	+8%
No adults aged between 15 and 59	-25%	-13%	-10%

A single dash (-) in an otherwise empty cell indicates no data
 SOURCE: Malawi, Zambia and Zimbabwe VACs, 2002

This question regarding the relationship between the presence of orphans and food security outcome indicators merits further investigation. It may be entirely due to difficulties in establishing orphan status, resulting in biases and errors in the data collection. It is interesting to note that research conducted elsewhere in Africa has indicated that orphans may be better cared for and nourished than children in HIV/AIDS households (Gilborn et al. 2001). This then raises the question of the underlying food security status of households that receive orphans: are they in general more food secure than other households and therefore more able to bear the extra burden of care for orphans? Analysis conducted earlier in this paper suggests that a proportion of the households with orphans, specifically those headed by elderly women, would not intuitively fall into this category. Or is it that while orphans may be cared for, other members of the household are less food secure as a result? Answers to these questions are important indeed, however, they are outside the scope of this report.

Socio-Economic Groups, HIV/AIDS Proxies and Food Security Outcome Indicators

Analysis was carried out to see if there were any meaningful interactions between the proxies, wealth status and gender and food security outcomes. The analysis was informed by two key hypotheses, which assumed the impact of HIV/AIDS on food security outcomes is greater:

- for poor households than it is for better off households;
- if an adult woman aged under 60 dies than it is if an adult man aged under 60 dies; and

Wealth differences: Exploration of variation in impact according to wealth status revealed a mixed pattern when applied to the Zambia data set for December. The impact of some proxies on food security outcome indicators (such as the presence of a chronically ill adult) did appear to be higher for the poor than for the better off, whereas for others there was no clear trend. These contrasting pictures merit further, deeper investigation. Irrespective of this, however, poorer households, because they have fewer assets are clearly much less able to absorb a given impact (i.e. they are more sensitive and less resilient to impact).

Gender: Data from Malawi were analysed to see whether the food gap was greater in households where an adult woman aged under 60 had died as compared to those where an adult man aged under 60 had died. The data reveal that 87.5% of households in which under 60 females had died were expected to experience a food gap, whereas only 38% of households in which under 60 males had died were expecting a gap. This interesting finding demands further investigation in a more focused research environment. In addition, both the frequency and the impact of HIV/AIDS proxies on female elderly headed households appear to be greater than for male elderly headed households.

3. Summary of KEY FINDINGS AND challenges FOR INTERVENTIONS

3.1 Summary of Key Findings

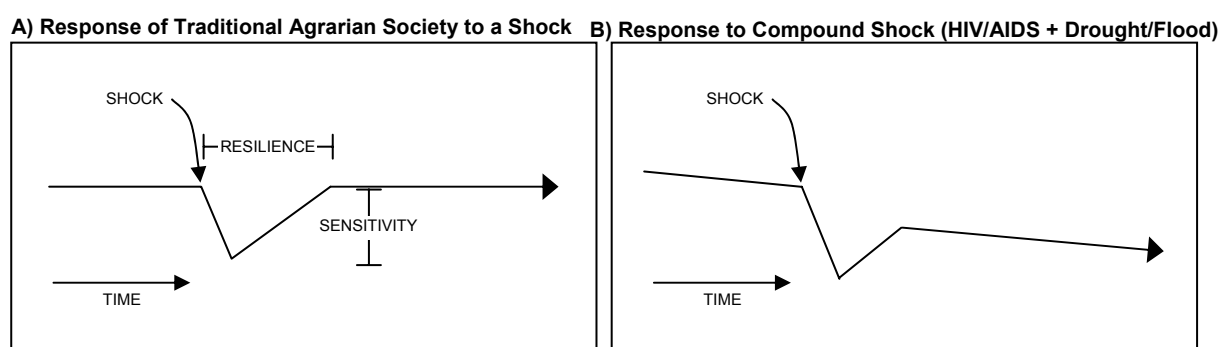
The results presented in this report clearly indicate that households affected by adult morbidity, mortality and with a high demographic load are significantly more vulnerable to food security shocks than are other households. Insofar as these indicators suggest the presence of HIV and/or AIDS this analysis strongly implies that HIV/AIDS has significantly increased the vulnerability of households to food insecurity. The analysis has shown that these households are likely to have marked reductions in agricultural production and off-farm income generation, leading to earlier engagement in distress coping strategies, and, ultimately, a decline in food security outcomes. The cumulative impacts of HIV/AIDS on availability, access, and coping are compounded, resulting in amplified negative impacts on overall food security outcomes. The analysis further demonstrates that different morbidity, mortality and demographic profiles have different effects on food security process and outcomes. Key differences were seen according to whether or not the household has an active adult or a chronically ill person present, whether the head of household is chronically ill, whether there is a high dependency ratio, or orphans. Each of these characteristics has further nuances that are affected by age and gender.

In addition, there are differences between wealth groups in the extent to which proxy indicators affect food security process and outcomes. In general, the presence of proxy indicators has a significantly greater impact on poorer households than they do on better-off households, although this is not always the case (vis the effects of chronic illness or death in adults on incomes). In this way, already vulnerable households become even more vulnerable with the affects of HIV/AIDS.

This study suggests that the impacts of HIV/AIDS on food security in the context of the 2002 food emergency are strong and negative. It also suggests that these impacts are complex and require urgent and innovative responses in the 2003-04 marketing year and beyond. Some guidelines for programme design, policy, advocacy and future research are presented in the next and final section.

3.2 What Happened in 2002?

The analysis in this report indicates that, *ceteris paribus*, households in which there is mortality, morbidity and a high demographic load have been hit harder than other households by the 2002 food emergency. These households, because of their demographic characteristics, are less able to cope with, or recover from the food shock. What does this imply? The following diagrams, taken from de Waal and Tumashabe (2003), indicate how these households may differ from other households in 2003-04.



SOURCE: de Waal and Tumashabe (2003), adapted from Davies, 1995, page 26

It would appear that the food security status of “proxy” households studied in this report have indeed been affected in a way consistent with the first part of Diagram B. It is not possible to say conclusively that the relative impact of HIV/AIDS proxies is greater for the poor than it is for the better off. Some of the analysis undertaken implies that the impact is greater for the poor, whilst other analysis is inconclusive. What can be said, however, is that irrespective of wealth group, the impact of the proxies is indeed negative to some degree.

The critical question now becomes: what can be done immediately to prevent, slow or even reverse the predicted livelihood trajectory in the second part of the diagram? A key element of response will be to view intervention options through a “HIV/AIDS lens”.

“New interventions to address HIV/AIDS mitigation should only be developed if existing agriculture, food and nutrition intervention areas cannot be effective by adapting them through the use of an HIV/AIDS “lens”. Public policy should not be blind to HIV/AIDS but neither should it be blinded by it”. (Haddad and Gillespie, 2001)

How can this be operationalised? We suggest a “three-pronged attack”: consumption side support, productivity enhancing support, and support to household and community safety nets.

3.3 Consumption Side Support: Food Aid Targeting and Design

One finding of this study is that the specific manifestation of HIV/AIDS on the household (morbidity, mortality and/or demography) will have a significant bearing on food security outcomes. For example, the presence of a chronically ill person in the household does not have a strong negative affect on food security, whereas if the head of household is chronically ill the impact is much stronger. *What does this imply for food aid targeting?* Could or should the proxies used in this analysis be used for targeting? It is felt that at least two of the proxies should be considered by agencies interested in reducing HIV/AIDS related vulnerability: chronic illness of head of household and elderly headed households, in particular those headed by women. If these indicators are to be used it is very important that they be cross-checked with wealth group analysis i.e. taken in isolation from wealth status they may not be robust indicators of vulnerability. This has implications for geographic as well as socio-economic targeting. It would be a mistake to allow concern for high rates of HIV/AIDS to overly bias decisions concerning geographic targeting of emergency and recovery interventions after a shock that affects both high and low HIV/AIDS prevalence areas. Areas of a country that do not necessarily have high HIV/AIDS prevalence rates can in fact be the most food insecure and in greater need of food aid (Haan et al, 2001).

Due to the decreased mobility of households affected by HIV/AIDS, special efforts will need to be made to reach them. Simply distributing food at a central distribution point may not be enough. Agencies will need to consider how they can work with communities to ensure that HIV/AIDS affected households receive their quota. This may involve provision of transport and/or increasing the number of distribution points.

School feeding programmes have the combined benefit of ensuring that more children consume a healthy meal at least once per day as well as reducing the dropout rate. Keeping children in school has the obvious long-term benefit of promoting education and empowerment, as well as reducing idle/unsupervised time of children, especially young girls, who can become vulnerable to exploitation and thus increased exposure to HIV/AIDS.

Awareness of the decline in quantity and quality of labour should be an integral part of the programme design in areas with high HIV/AIDS prevalence. Food for work programmes, for example, should be designed such that the type of labour opportunity is within the capacity of the elderly and/or adults that are not at their peak health. Even more appropriate would be the design of food for assets programmes that are not labour dependent, but are oriented to skills development or awareness campaigns that are accessible to the elderly and children.

Given the fundamental decline in income and agricultural production experienced by HIV/AIDS affected households, the analysis supports continued assistance to HIV/AIDS affected households in the form of safety net programmes, even after the immediate emergency has subsided. As depicted in Diagram B above, HIV/AIDS affected households will take longer to “recover” from a shock, and may never fully do so. Accessing food will continue to be a foremost challenge of HIV/AIDS affected households long after a crisis subsides.

3.4 Productivity Support: Implications for Programming

The analysis in this report suggests that support to economic productivity should focus on the following:

Household Level: Improving productivity of HIV/AIDS affected households in general, with a special focus perhaps on households headed by elderly women and those with a chronically ill household head.

Individual Level: Adapting existing productivity enhancing interventions to make them relevant for and accessible to HIV positive adults under 60, women and men over 60 and children.

Operationalising this focus will require rapid introduction of interventions with a high food access to labour ratio. These may be on-farm food production oriented, on-farm cash generating and/or off-farm cash generating interventions.

As an example, take the case of on-farm food production. Agricultural extension efforts need to be accessible to the elderly and to children, both with regards to outreach and content. This could be done in the following ways:

- Integrating agricultural extension into school curricula: breaking down the barrier between schooling and support to economically productive activities by children.
- Focussing on techniques, tools and crops that are less labour intensive. As an example lighter ploughs for the elderly and children.
- Modifying the selection criteria for seeds, tools and fertiliser programmes, such as Malawi's Targeted Inputs Programme, to maximise outreach to these groups.
- Promotion of low labour crops which are also nutritious. Cassava promotion can be one element of this, but it should be recognised that whilst cassava is high in carbohydrate and the leaves contain reasonable levels of micronutrients it is low in protein and also has low value as a cash crop.
- Support/revive traditional practices of communal labour to assist labour constrained households. Explore possibility of introducing incentive systems at the community level.

More generally, there is need for a "paradigm shift" from traditional and also participatory agricultural extension and farmer field schools to extension activities that seek to integrate agricultural productivity into a broader understanding of livelihoods and HIV/AIDS in order to empower rural people. An example of this type of approach is the "Farmer Life School" (FLS), pioneered in South East Asia through collaboration between UNDP, FAO and the Integrated Pest Management (IPM) programme. "The innovative FLS approach translates farmer's analytical thinking from plant ecosystem-base into analysing an individual's life as a human ecosystem – with factors that strengthen or weaken his / her resilience to adversities, including HIV" (du Guerny et al, 2002). It is only through mobilising and empowering communities through approaches like these that productivity enhancement, reduced HIV vulnerability and improved HIV mitigation can go hand in hand.

3.5 Household and Community Safety Nets

Enhancing Household Level Safety Nets⁷

The distinction between productivity enhancing interventions and safety net interventions is a subtle one. In practice they may have similar results. One type of household level safety net is **micro-finance**. This can help HIV/AIDS affected households to strengthen their economic resources by enabling households to:

- Plan for future crisis (i.e., anticipate needs for lump sums of cash).
- Improve and maintain income flows to the household.
- Enhance profitability of economic activities.
- Avoid selling productive assets, which undermine future income earning capacity.

An obvious but critical point here is that micro-finance is suitable only for HIV affected households with productive capacity. In addition, micro-finance works best where households have access to markets, thus it is not normally appropriate for remote communities. On the basis of the analysis conducted in this report - and all other things being equal - households falling into this category could include⁸:

- Households headed by HIV negative couples aged between 18 and 59 which have taken in older orphaned children
- Households headed by elderly HIV negative couples which have taken in older orphaned children
- Households headed by HIV positive adults aged between 18 and 59, where the infected adults are in the asymptomatic phase of infection (which can last 3 – 5 years), with or without orphans.

⁷ This section draws from Donahue (2002).

⁸ It should be noted that these are tentative suggestions only, which would need to be verified more rigorously than is possible in this report.

Targeting considerations are important. Whilst micro-finance projects have proven effective in communities severely affected by AIDS, impacts are less if targeting is based on whether clients are infected or affected by HIV/AIDS. This is due to reduced economic viability, increased stigma and resentment amongst those who are not targeted.

Another type of household safety net is **savings mobilisation**. When households do not want to or are unable to repay debt, and when households are in remote areas or areas where income is highly unpredictable, savings schemes or savings-led credit initiatives may be a more appropriate intervention than micro-finance. Tentatively, this study implies that, all other things being equal, the types of households suited to this form of support would include HIV negative households headed by elderly males (no spouse) with no other adults, but with children; and households with a chronically ill adult who is not head of household⁹.

Such schemes may be formally introduced into communities by external agencies or they may build on existing informal schemes or revive traditional practices that have fallen away. Such traditional mechanisms exist all over southern Africa. Examples include *chilembas* in Zambia and *stockveldt* in South Africa (Rutherford, 2000). In some cases these may operate by pooling savings and making interest free loans, whilst in other cases, interest is charged. In either case, support can usefully be given to strengthen existing practices so that they may function more effectively in AIDS affected communities.

Whilst savings programmes may be more appropriate than offering credit for some communities and households, managing them can be more complicated (Christen et al, 1995). Some microfinance institutions appear to offer savings and loans, but more often than not, the savings are in reality a buffer against defaults and are not available on demand, limiting their effectiveness as risk-reduction and loss-management strategies.

Strengthening Community Level Safety Nets

When the ability to sustain a livelihood becomes impossible, then community safety nets become critical. The analysis undertaken in this report suggests that all other things being equal, households which both the head and the spouse are chronically sick, in which the head is chronically sick, and households headed by single elderly females are more likely to be in this category than other types of household.

Traditional communal safety nets do exist, however, their activities are neither continuous (usually) and normally are not sufficiently robust to cope with the needs of large numbers of AIDS affected households. Sustainable sources of funds require strengthened social capital through community participation. This is essentially a precursor to any successful community mobilisation campaign. There are several well-known and tested community mobilisation and empowerment techniques, including Training for Transformation, Stepping Stones, Community Asset Mapping and a whole plethora of Participatory Learning and Action (PLA) and Participatory Rural Appraisal (PRA) tools. These can be used to excellent effect in generating and strengthening the ability and willingness of communities to take action to improve their situations collectively.

Once the confidence of the community is raised to the extent that it becomes clear that it can make important improvements in people's lives by taking actions, several activities become possible. For example, in Malawi, village AIDS committees organised "big-walks", where walkers were sponsored by businesses or individuals and proceeds went towards the community fund; they approached Muslim and Christian communities to donate offerings collected during their respective religious services; they created links with an agricultural research project to get free, improved variety cassava and sweet potato cuttings for their community garden; and they collected membership fees from people joining their AIDS committee¹⁰.

Blending Individual Household and Community Safety Nets

In practice, optimal support to safety net activities will probably have both individual household and community elements. A strong household safety net helps families maintain assets and remain economically productive. It thereby allows them to play a crucial role in strengthening community safety nets. By the same token there will be some families in any community that are unable to participate in micro-finance or savings schemes and will therefore require community safety net support. This suggests the need for an integrated approach to safety net implementation. The targeting and blending of support elements will depend on the stage that households and communities have reached in terms of the HIV/AIDS impact.

⁹ As for micro-finance these are tentative suggestions only.

¹⁰ More details of this can be found in Williamson et. al. (2001)

3.6 Implications for Policy, Advocacy and Further Research

Policy: A key element of response will be to view policy through an “HIV/AIDS lens”. The “lens” essentially refers to an approach to view potential solutions to a problem (such as poverty) that derives from evolving knowledge of the important linkages with another problem (such as HIV/AIDS) (Gillespie, et al, 2001). It also means that policies need to be designed and evaluated with a view to their impact on HIV/AIDS prevention or mitigation – in this way, HIV/AIDS can be “mainstreamed” in the policy process. The HIV/AIDS lens needs to be applied to all policies which have an impact on the lives of rural people. This will include, but is not restricted to, the following areas:

- Agricultural Policy: Agriculture extension and training (see earlier section on productivity enhancement), inputs, credit, livestock, crops, irrigation, farm mechanisation, and land tenure.
- Health Policy: Funeral insurance, home based care, ARV therapy.
- Nutrition Policy: Targeting of micro-nutrients
- Food Aid Policy: Targeting of food aid, ration size and content (see earlier section on consumption side support)
- Rural Finance Policy (see earlier section): Micro-finance, saving schemes, community safety nets.

Advocacy: The 2002 food security emergency in Southern Africa has precipitated heightened awareness among host governments and the international community of the HIV/AIDS pandemic and its multi-sectoral implications. As such, it is an excellent opportunity to develop advocacy strategies. One such example is the high profile statement made by the UN Special Envoy regarding the severity of the HIV/AIDS crisis and the need to fundamentally rethink relief and development interventions. This is also an opportunity for advocacy oriented agencies to highlight that the negative effects of HIV/AIDS cross-cut almost all sectors of society, and is best thought of as a livelihoods issue and a rights issue as opposed to only a health issue.

The negative impacts on food security through declines in household access to and availability of food open the question of whether or not HIV/AIDS, in its own right, warrants an emergency operation. This may include the level of resources, institutional commitment, and professional intensity that is mobilized for other acute food security emergencies such as floods, cyclones, and droughts.

Another, more specific advocacy issue that was mentioned earlier in this report concerns the protection of land tenure rights. This is of particular concern, given that widowed women, the elderly, and children are susceptible to loss of such rights. In addition, land left fallow for several years due to household labour shortages is susceptible to take-over by fellow villagers or outsiders. This process will have dramatic long-term effects on farming systems in the next generation and quite possibly could lead to a wide-scale transition from small-scale producers working their own land to contract labourers. The rights of women and children to land will be a key area for advocacy in the years ahead.

Further Research: This study highlights the need to differentiate between households according to the type of impact that HIV/AIDS has had or is having. The relationship between poverty and AIDS impact is a strong one, this is known already. What is much less well known is the relative importance and dynamics of different AIDS related morbidity and mortality profiles within and across wealth groups in relation to household food security. This study identifies some possible relationships in this regard, but much more needs to be done in a more controlled and focussed research environment than was possible here. A key area of research will be to track HIV/AIDS infected and affected households of different types through time to see how resilient or vulnerable they are to livelihood shocks (such as the 2002 food shock) and longer-term trends – such as gradual land degradation and economic decline. Research should take into account extra-household factors, including kinship and other forms of social capital in livelihoods trajectories. This type of analysis was not possible given the household-level focus of this report.

BIBLIOGRAPHY

- Ainsworth M and I Semali, (no date). *The Impact of Adult Deaths on Children's Health in Northwestern Tanzania*.
- Ayieko. M. A. (no date). *From Single Parents to Child-Headed Households: The Case of Children Orphaned by AIDS in Kisumu and Siaya Districts*. HIV and Development Programme UNDP. Study Paper 7.
- Baier, E, G. (1997). *The Impact of HIV/AIDS on Rural Household/Communities and the need for Multisectoral Prevention and Mitigation Strategies to Combat the Epidemic in Rural Areas*. FAO, Rome.
- Baylies, C. (2002). *The Impact of Aids on Rural Households in Africa: A Shock Like Any Other*. Institute of Social Studies, US and UK.
- Bonnard, P. (2002). *HIV/AIDS Mitigation: Using What We Already Know*. Food and Nutrition Technical Assistance. Technical Notes No. 5.
- Cohen, D. (no date) *The Economic Impact of the HIV Epidemic*. HIV and Development Programme. Issues Paper No. 2. UNDP.
- Davies, S. (1995). *Adaptable Livelihoods: Coping with Food Insecurity in the Malian Sahel*: Basingstoke, Macmillan.
- De Waal, A. (2002). *New Variant Famine in Southern Africa*. Presentation for SADC VAC meeting, 17-18 October 2002, Victoria Falls.
- De Waal, A. and J. Tumushabe. (2003). *HIV/AIDS and Food Security in Africa*. DFID.
- Donahue J. (1998). *Community-Based Responses to the Economic Impact of AIDS on Children and the Families*. Paper presented at the meeting on Developing International Collaborative Ties among Practitioners and Researchers Working with Children and Families Affected by HIV/AIDS, Yulee, Florida (unpublished).
- Donahue, J. (1999). *Microfinance and Community Mobilization as HIV/AIDS Mitigation Tools* (unpublished)
- Donahue, J. (2002) *Children, HIV/AIDS and Poverty in Southern Africa*. Paper presented at Southern African Regional Poverty Network (SARPN) Conference Pretoria, South Africa April 9th – 10th 2002.
- Drimie, S. (2002). *The Impact of HIV/AIDS on Rural Households and Land Issues in Southern and Eastern Africa*. A Background Paper prepared for the Food and Agricultural Organisation, Sub-Regional Office for Southern and Eastern Africa. South Africa.
- Du Guerny, J. (2002). *The Elderly, HIV/AIDS and Sustainable Rural Development*. Paper presented at a Seminar on Aging and Rural Development. Sustainable Development Department (SD), FAO.
- Du Guerny, J., Lee-Nah Hsu and Sin Chitna. (2002). *A Development Strategy to Empower Rural Farmers and Prevent HIV*. UNDP South East Asia HIV and Development Project, January 2002.
- Food and Agricultural Organization of the UN. (2002). *HIV/AIDS, Agriculture and Food Security in Mainland and Small Island Countries of Africa*. Twenty-Second Regional Conference for Africa, Cairo, Egypt, 4-8 February 2002.
- Food and Agricultural Organization of the UN. (1995). *The Effects of HIV/AIDS on Farming Systems In eastern Africa*. Rome.
- Food and Agricultural Organization of the UN. (no date). *HIV/AIDS, Food Security and Rural Livelihoods*.
- Food Economy Group. (2002). *The Links between Food Security and HIV/AIDS in Southern Africa: Combating the Cause and Effect Relationship*. A Concept Paper.
- Food and Nutrition Technical Assistance. (2000). *Potential Uses of Food Aid to Support HIV/AIDS Mitigation Activities in Sub-Saharan Africa (Draft)*. Washington, DC.
- Gilborn, L.Z., R. Nyonyintono, R. Kabumbuli, and G. Jagwe-Wadda. (2001). *Making a Difference for Children Affected by AIDS: Baseline Findings from Operations Research in Uganda*. USAID / Population Council.
- Gillespie S., L. Haddad and R. Jackson. (2001). *HIV/AIDS, Food and Nutrition Security: Impacts and Actions*. Initially prepared for the 28th Session of ACC/SCN Symposium on Nutrition and HIV/AIDS.
- Haan, N., G. Farmer and R. Wheeler. (2001). *Chronic Vulnerability to Food Insecurity in Kenya: A WFP Pilot for Improving Vulnerability Analysis*. WFP.

- Haddad, L. and S. Gillespie. (2001). *Effective Food and Nutrition Policy Responses to HIV/AIDS: What we Know and what we Need to Know*. International Food Policy Research Institute, Washington, D.C. United States of America.
- Haslwimmer, M. (1999). *Is HIV/AIDS a Threat to Livestock production?* The example of Rakai, Uganda.
- Hawkins, K. and K. Hussein. (2002). *Impact of HIV/AIDS on Food Security*. ODI Food Security Briefings.
- Jackson, R. (2001). *Food Security and HIV/AIDS Information Notes Executive Board Third Regular Session*. WFP.
- Lesotho Vulnerability Assessment Committee. (2002). *Emergency Food Security Assessment Report*. Maseru.
- Loevinsohn M and D Bigman. (2001). *Targeting Agricultural R&D for Poverty Reduction HIV/AIDS in sub-Saharan Africa*. International Service for National Agricultural Research (ISNAR), The Hague.
- Long, S. and N. Marsland. (2003). *Relationships Between HIV/AIDS, Food Insecurity and Human Insecurity*. Paper for ISS publication, African Security Review.
- Long, S. and N. Marsland. (2002). *Links between HIV/AIDS, Food Security and Nutrition for Children: Programming Implications for SC UK in Southern Africa*.
- Malawi Vulnerability Assessment Committee. 2002. *Emergency Food Security Assessment Report*. Lilongwe.
- Maxwell S and S Smith (1992). *Household Food Security: a Conceptual Review* in "Household Food Security: Concepts, Indicators, Measurements" eds. S. Maxwell and T. Frankenburger. IFAD and UNICEF: Rome and New York.
- Mozambique Vulnerability Assessment Committee. (2002). *Emergency Food Security Assessment Report*. Maputo.
- Mutangadura G. (2000). *Household Welfare Impacts of Mortality of Adult Females in Zimbabwe: Implications for Policy and Program Development*. Paper presented at The AIDS and Economics Symposium, Organised by the IAEN Network Held in Durban 7-8th July 2000.
- Ngwira, N., S. Bota and M. Loevinsohn. (2001). *HIV/AIDS, Agriculture and Food Security in Malawi*. Lilongwe and the Hague.
- Parker, J., I. Singh and K. Hattel. (2000). *The Role of Microfinance in the Fight against HIV/AIDS*. UNAIDS Best Practice Collection, September 2000.
- Policy Project for Bureau for Africa Office of Sustainable Development US Agency for International Development. (2001). *HIV/AIDS in Southern Africa-Background, Projections, Impacts and Interventions*.
- Rugalema, G. (1999). *AIDS and African Rural Livelihoods – from Knowledge to Action*. Keynote address at the conference on AIDS, Livelihood and Social Change in Africa, Wageningen University.
- SADC FANR Vulnerability Assessment Committee. (2002). *Regional Emergency Food Security Assessment Report*. Harare.
- SADC FANR Vulnerability Assessment Committee. (2003). *Regional Emergency Food Security Assessment Report*. Harare.
- Shapouri, S. and S. Rosen. (2001). *Toll on Agriculture from HIV/AIDS in Sub-Saharan Africa*. Issues in Food Security. United States Department of Agriculture.
- Shumba, P.S. (2003). *HIV/AIDS and Food Security SADC-FANR-RVAC*. Final Draft Analysis Report, based on August 2002 Vulnerability Assessments.
- Smith, A. (2002). *HIV/AIDS and Emergencies: Analysis and Recommendations for Practice*. Humanitarian Practice Network paper 38. United Kingdom.
- Swaziland Vulnerability Assessment Committee. (2002). *Emergency Food Security Assessment Report*. Manzini.
- Topouzis, D. and J. du Guerny. (1999). *Sustainable Agricultural/Rural Development and Vulnerability to the AIDS Epidemic*. FAO and UNAIDS joint publication.
- Topouzis, D. (1994). *Uganda - The Socio-Economic Impact of HIV/AIDS on Rural Families with an emphasis on Youth*. FAO, Rome.

- UN Special Envoy's Mission Report. (2003). *Southern Africa's Humanitarian Crisis: Heads of the Major Humanitarian Agencies Call for Action*. Statement Attributable to the Inter-Agency Standing Committee (IASC) and UNAIDS on the Worsening Impact of HIV/AIDS on Food Security and Human Survival in Southern Africa.
- UN Special Session on HIV/AIDS. (2001). *HIV/AIDS, Food Security and Rural Development*. New York.
- UNAIDS. (2002). *Report on the Global HIV/AIDS Epidemic*. Geneva, Switzerland. UNAIDS. 2001. Annual report January 2001-January 2002, UNAIDS inter-country Team for Eastern and Southern Africa (ICT ESA).
- UNAIDS. (1999). *A Review of Household and Community Responses to the HIV/AIDS Epidemic in the Rural Areas of sub-Saharan Africa*. Geneva, Switzerland.
- Van Liere, M.J. (2002). *HIV/AIDS and Food Security in Sub-Saharan Africa*. Presentation at the 7th Annual ECOWAS Nutrition Forum. Banjul, the Gambia, 2-6 September 2002.
- World Food Programme. (no date). *A Front-line Defence. Food Aid's Role in fighting HIV/AIDS*.
- World Food Programme. (2001). *Food Security and HIV/AIDS*. Information notes. WFP/EB.3/2001/INF/18. Rome.
- White, J. and E. Robinson. (2000). *HIV/AIDS and Rural Livelihoods in Sub-Saharan Africa*. NRI Policy Series, Number 6. University of Greenwich, UK.
- Yamano, T. and T.S. Jayne. (2002). *Measuring the Impacts of Prime-age Adult Death on Rural Households in Kenya*. JEL classification code: 012; J10; Q12.
- Zambia Vulnerability Assessment Committee. (2002). *Emergency Food Security Assessment Report*. Lusaka.
- Zimbabwe Vulnerability Assessment Committee. (2002). *Emergency Food Security Assessment Report*. Harare.