

## CHAPTER 4: FINDINGS - TOWARDS IDENTIFYING THE IMPACT OF HIV/AIDS ON LIVELIHOODS

### INTRODUCTION

This part of the study begins to explore some of the relationships between indicators of HIV/AIDS infection and household's livelihoods and food security. The conceptual basis of the analysis draws on Amartya Sen's entitlement approach to understanding food access. Briefly, Sen (1980) argued that there are five ways of accessing food: production, monetary exchange, non-monetary exchange (barter), gifts, and illegal means such as theft. The analysis that follows explores the extent to which households in rural Swaziland have utilised these food access strategies (apart from theft) in the 12 months leading up to the time of the survey.

Chapter 4 is divided into five sections: introduction, analytical method, results, conclusions and recommendations. The results section is split into sub-sections dealing with (i) national level and (ii) agro-ecological zone level and food economy / livelihood zone level findings respectively.

### HIV/AIDS and Agriculture

The results of a recent HIV/AIDS study conducted by the Ministry of Agriculture and Co-operatives, the Federation of Swaziland Employers and UNAIDS reveals the stark reality of the epidemic in Swaziland (MoAC et al 2003). The impact of prolonged morbidity and increased mortality on households and productivity on farms through HIV/AIDS has severe ramifications for the subsistence agriculture sector in Swaziland. Data from the subsistence agriculture component of the MoAC study has been stratified according to whether there was any (i) death in the household, (ii) death but not related to HIV/AIDS and (iii) HIV/AIDS-related death. This was done to control for confounding factors like climate, changes in income and the local labour market that operates within communities. Measures of impact have been computed using non-AIDS related death as the reference. The impacts on the household and farm are shown in Table 15 and discussed further below.

**Table 15: Impact of AIDS related death on the household and farm**

	No deaths (n = 230) (Control) Cases (%)	Non-AIDS related deaths (n = 122) Cases (%)	AIDS-related deaths (n = 104) Cases (%)	OR	95% Confidence Interval	P-value
Reduction in area under cultivation	18(7.8%)	22(18%)	40(38.5%)	2.84	1.48-5.46	0.00060
Increase in healthcare costs	23(10%)	17(13.9%)	23(22.1%)	1.75	0.83-3.70	0.10903
Reduction in crop yield	34(14.8%)	26(21.3%)	49(47.1%)	3.29	1.37-2.34	0.00004
Change in cropping pattern	46(20%)	37(30.3%)	44(42.3%)	1.68	0.94-3.03	0.06180
Children dropout of school due to a lack of fees	37(16.1%)	31(25.4%)	46(44.2%)	2.33	1.28-4.25	0.00298
Death of head of household	-	28(23%)	30(28.8%)	1.40	0.74-2.66	0.27269
Diversion of labour to care for sick member of HH	-	28(23%)	32(30.8%)	1.49	0.79-2.82	0.18561
Loss of remittances due to death of member of household	-	24(19.7%)	40(38.5%)	2.55	1.35-4.84	0.00182

Source: MOAC *et al*, 2003: 17 Household Demographics

**Morbidity:** During the terminal stages of the illness, household members spend time taking care of sick member (s). This diversion of labour may have a serious impact on agricultural production, particularly if the produce is labour intensive. The MoAC et al study did not find a significant increase in diversion of labour to take care of a patient with AIDS in comparison to other causes of morbidity. It is, however, important to note that HIV/AIDS is associated with a prolonged morbidity meaning that diversion of labour for care giving is over a longer period of time compared to non-AIDS illness. The resultant impact on the household is therefore greater in AIDS-related illnesses.

**Mortality:** The study found that male heads of households were dying more than women - in the ratio 3:2. Under Swazi communal tenure, this has ramifications for food security in terms of security of tenure of female-headed households and the loss of agricultural knowledge in terms of gender-based task differences, as women take over as head of household. The importance of power relations and access to resources and ability to leverage resources is an important consideration in food security.

**Orphans:** The death of adult members who have children leads to orphans, if the mother or both parents die and if the child is under 15 years (UNAIDS definition). The MoAC et al study found that 17% of households were caring for AIDS orphans. From this study, the estimated total number of AIDS orphans in Swaziland was 29,379. This is about 20% lower than the UNAIDS estimated figure of 35,000 orphans at the end of 2001. Chapter 3 of this report has shown that there are 19,206 orphans in rural Swaziland.

**Sources of income:** Most households (88%) sell their farm produce to raise income. The impact of mortality and morbidity through HIV/AIDS has serious implications for households' livelihoods systems. The second largest source of income was remittances (50%) used to meet the daily needs of the household and to maintain the farm. Many households (44%) also raise income from supplying services and labour to other households within the community. Historically, remittances particularly from South Africa have been an important source of income for many Swazi families. The death of a household member invariably leads to a loss of remittances and increases in expenditure due to funeral costs. The study found that there was indeed a significant loss of remittances in 38.5% of households that experienced an AIDS-related death (see Table 16). The fact that over half of the households depend on remittances for household expenditure and maintaining the farm means that this loss has wide ramifications for the household and the farm.

**Table 16: Sources of income for households**

<b>Source of Income</b>	<b>Households (%) n = 456</b>
Remittances from household heads and relatives working away from home	228 (50%)
Household members and heads – self-employed or work within community	184 (40.3%)
Sale of farm produce (cash crops)	406 (87.7%)
Borrow	44 (9.6%)

Source: MOAC et al, 2003: 13

**Area under cultivation:** The MoAC study found that there was a significant reduction in area under cultivation in households that experienced AIDS-related deaths (see table 17). The average reduction in land under cultivation was 51% compared to 15.8% in households that experienced a non-AIDS related death. The reduction in land area under cultivation attributable to HIV for this study was 34.2%.

**Table 17: Land cultivation**

	Average household land under cultivation		Percent reduced due to AIDS
	Non-AIDS deaths	AIDS deaths	
% land cultivated	84.2%	50%	34.2%

Source: MOAC *et al*, 2003: 18

**Crop production:** In the absence of increased productivity, the result of reduction in land area under cultivation is a decrease in overall crop production. In order to verify this in Swaziland, the MoAC study analysed maize production to determine the impact on crop production. The study found a significant reduction in crop production in households that had experienced an AIDS related death (see table 18). The reduction in maize production due to AIDS was 54.2%.

**Table 18: Farm production for households**

Produce	Average per year	Production	Reduction in production due to AIDS	Percent reduction in production due to AIDS
	Non-AIDS deaths	AIDS deaths	-	-
Maize	35.06 bags	16.05 bags	19.01 bags	<b>54.2%</b>
Cattle	13.610 herds	9.583 herds	4.027 herds	<b>29.6%</b>

Source: MOAC *et al*, 2003: 18

**Cropping patterns:** Of the households that experienced AIDS deaths, 42.3% showed changes in cropping patterns. Such changes include the substitution of labour intensive crops like cotton with less labour intensive crops like maize, and moving from cash crops to purely subsistence crops. However, the change in cropping patterns was not significant.

**Livestock:** The study also found a 29.6% reduction in the number of cattle kept by households with an AIDS death as opposed to non-AIDS deaths. These cattle were sold to cater for the increased costs of healthcare and funerals.

**Household expenditure:** the study found a significant increase in children dropping out of school due to lack of fees in 46% of households that experienced AIDS deaths. This is a measure that households take to reduce expenditure. HIV/AIDS normally increases the costs and reduces the incomes of households: falling income or a loss of remittances as members of the household become increasingly or terminally sick and ultimately die. However, children may be an additional source of labour for the farm - although this could not be established for certain within the MoAC study.

## HIV/AIDS and Livelihoods

**The current study builds on this useful piece of work in the following ways:**

### Levels of analysis

Due to limitations of sample size, the MoAC study was able to generate conclusions at the national level only. With a sample size of over 18,000 households, the current study is able to explore relationships down to the Food Economy / Livelihood Zone (FE / L Zone) level. There are 8 FE / L Zones in Swaziland. The relationship between these Zones and the four Regions of the country is mapped in figure 1 (see chapter one).

### Wealth breakdown

The MoAC study did not disaggregate impacts of HIV/AIDS according to socio-economic status. It is important to analyse according to socio-economic status because a household's stock of wealth or assets and social capital (informing their livelihood strategy) play an important role in determining the severity and type of impact of HIV/AIDS on food security.

### Proxy variables

The MoAC study used one variable to measure HIV/AIDS impact: "AIDS related death". The technique used was to take this measure and compare it against "non-AIDS related death" and "no deaths" in relation to various income, expenditure, time allocation and crop production variables. This approach, whilst powerful, cannot capture a number of important facets of HIV/AIDS related morbidity and the broader demographic aspects of disease impact. Thus, in order to build on the MoAC study, analysis during the VAC study was carried out on a number of "proxy" variables (57 variables in all). These fall into four categories: mortality, morbidity, social and demographic (see Chapter 2 and annex 2 for further details).

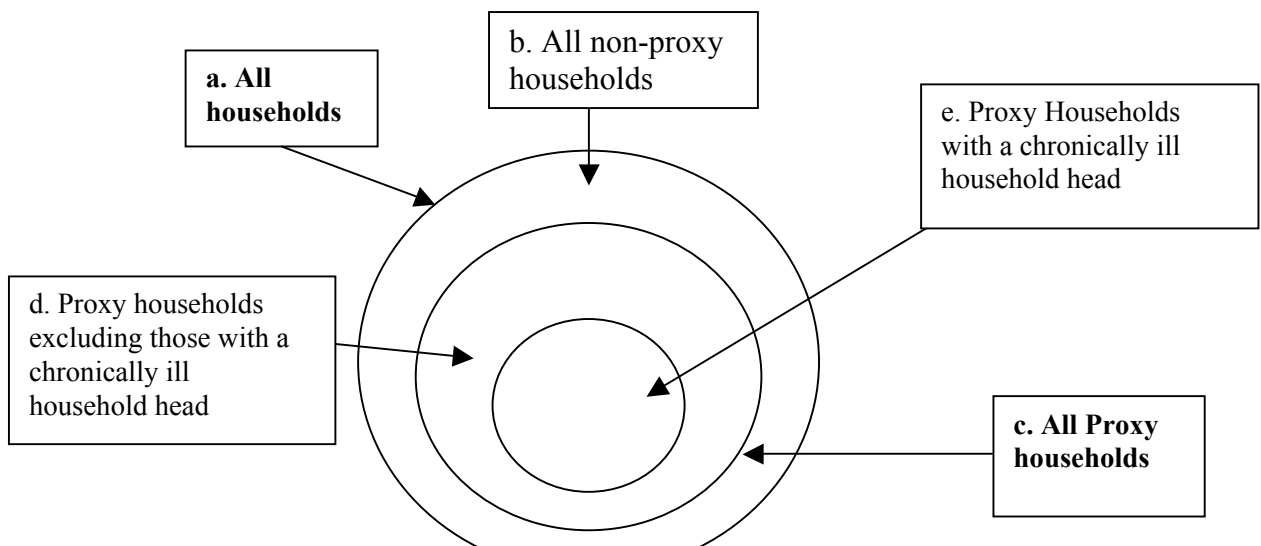
## ANALYTICAL METHOD

### Proxy variables

In this chapter, **two** key proxy variables for HIV/AIDS are used. The **first** is a composite variable consisting of several dimensions of impact. It is comprised of all the indicators listed in chapter 2 under the "mortality", "morbidity" and "social" headings and also the "absence of adults" indicator under the "demographic" heading. This variable was chosen to explore whether there were any consistent differences between households affected in some way by HIV/AIDS and households where there was no HIV/AIDS impact.

**Second** is a variable which measures the incidence of chronic illness of heads of households in the sample. This is defined as heads of households aged between 15 and 49 years of age who have either been continuously ill for more than 3 months in the 12 months preceding the survey or have suffered several bouts of illness in the 12 months preceding the survey. This variable was chosen for two reasons: first, it is relatively common in Swaziland to come across a household head that is or has been chronically ill in the recent past: at national level, the proportion of household heads ill according to this measure was found to be 20.8% in this study. Second, recent work conducted elsewhere in the Southern African region has strongly suggested that chronic illness in heads of households has a larger impact on household food security than other variables such as chronic illness of adults in general (i.e. irrespective of position in the household) and presence or absence of orphans (SADC VAC: 2003). The following diagram illustrates the relationship between the proxies and "non-proxy" households.

Figure 21: Proxy and non-proxy households



### **Food security variables**

Sources of food, sources of income and crop production were used to measure impact of HIV/AIDS proxies on household food security. Households were asked to rank sources of food and income over the year preceding the survey in order of importance. They were also asked to indicate whether area planted / quantity of seed / planting material and yield of cereals, cash crops and tubers had increased, decreased or stayed the same as previous years in the 2002/3 cropping season.

### **Wealth groups**

These were derived from responses given to field enumerators at the start of each interview. A simplified form of the wealth criteria used by the Swazi VAC in the recent third round VAC assessments was used to judge whether households fell into better-off, middle, poor and poorest wealth categories (see page 1 of annex 1).

### **Approach**

The basic approach was to compare associations between each of the proxy variables and measures of food security at national, AEZ and FE / L Zones and by wealth group at national level. This was done in three ways:

- By comparing “proxy” households in total (“all proxies” both 1 and 2) against non-proxy households or unaffected households (area c against area b in figure 21)
- By comparing households with a chronically ill household head “CIHHH” against non proxy households or unaffected households (area e against b in figure 21)
- By comparing “all proxies” against “CIHHH” (areas c and e in figure 21)

Data outputs were scanned to detect percentage differences between variables of above 5% where the number of observations was greater than 30. For example, if both 30% of households with chronically ill heads of household and 34% of non proxy households stated that the yield of cereals had increased last year in comparison to the previous year, then this was not defined as a difference. If the respective figures were 30% and 40%, however, then this was taken to be a difference. Similarly, if the total number of observations for either of these percentages was below 30, then any differences, no matter how large, were ignored for the purposes of analysis.

This decision rule was adopted to increase the chances of detecting statistically significant differences. It has not been possible to conduct statistical analysis for the purposes of this chapter, however, by weeding out obviously insignificant differences the subsequent testing process can be focussed on “best bets”.

### **Caveats with the data**

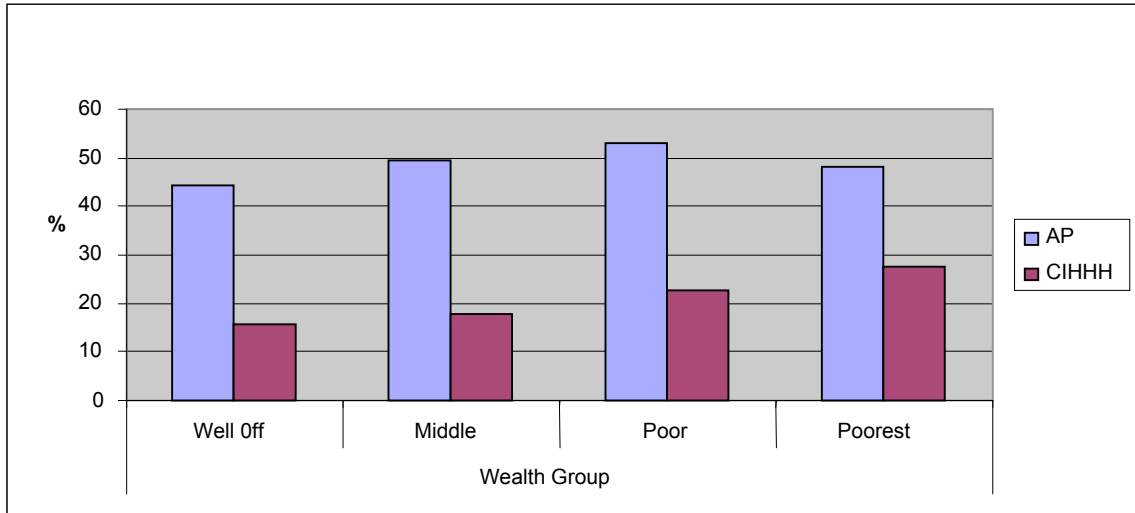
Both proxy variables have inclusion errors i.e. they will include non-HIV/AIDS related influences. Short of actual HIV/AIDS testing, some level of inclusion error is inevitable. Given the high rates of HIV/AIDS in rural Swaziland, however, the proxies can plausibly be trusted to give at least a general picture of HIV/AIDS impact with respect to food security. In addition to the proxy variables, the food security variables used in the analysis also have shortcomings. One issue is to do with scope: the range of variables used in the survey is not extensive enough to give a full picture of food security impact. For example, there are no outcome variables such as size of harvest or quantities of food purchased relative to household size. The second issue is to do with the data collection process. Enumerators encountered problems with the ranking data required for income and food source questions. Instead of getting a ranked set of answers, only the most important answers were recorded. Thus a considerable amount of information was missed. Nevertheless, the data that has been captured does serve to give a picture of some important food security variables.

## RESULTS

### Incidence of key variables

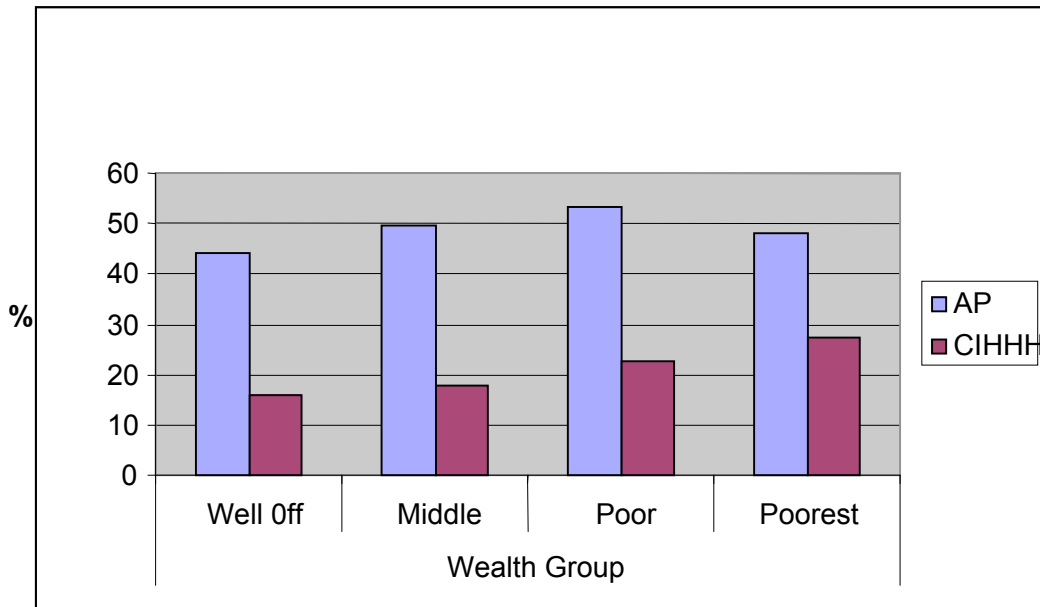
The total number of the “all proxy” and “chronically ill head of household” variables at national, regional, AEZ, and FEZ levels, and the incidence of the wealth group variable at national and AEZ level are shown in the following figures.

**Figure 22: Proxy variables at national level**



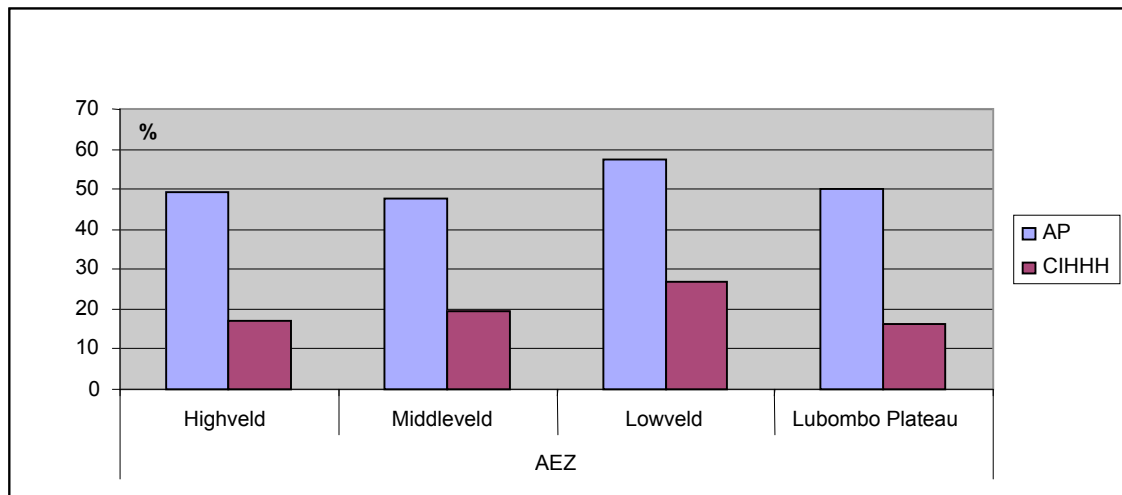
Key: AP = All-Proxy households  
CIHHH = Chronically Ill Head of Households

**Figure 23: Incidence of proxies by wealth group at national level**



The all proxy households (AP) variable is spread fairly evenly across all wealth groups, illustrating the fact that HIV/AIDS touches all parts of rural Swazi society. In contrast, the chronically ill head of household variable occurs disproportionately amongst the poor and poorest groups, suggesting the link between HIV/AIDS and poverty.

Figure 24: Proxy variables by agro-ecological zone



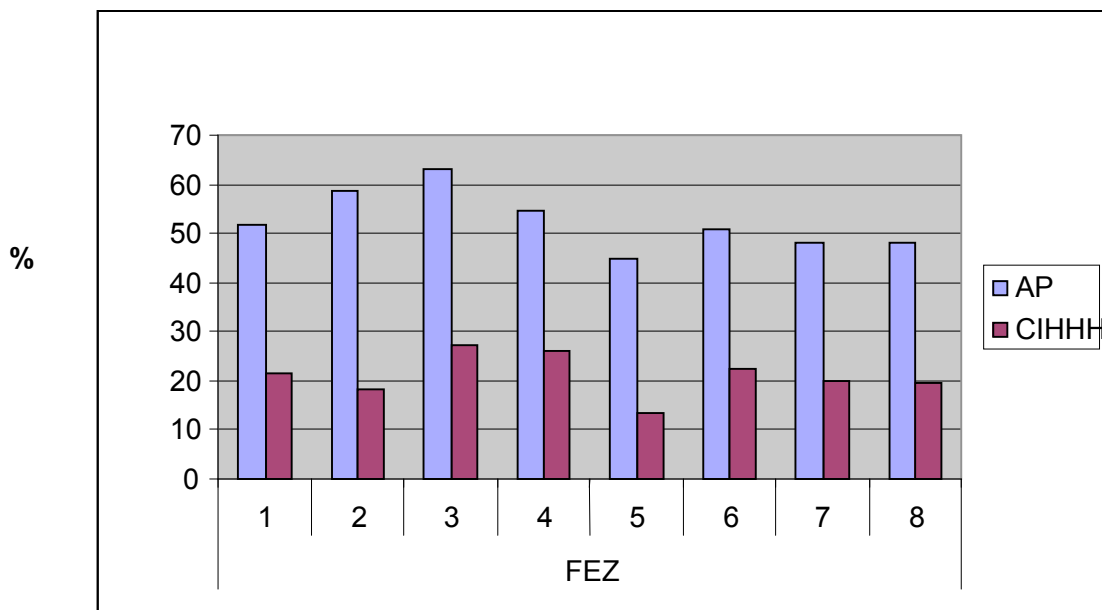
Both all proxy and chronically ill household head proxy measures occur most frequently in the Lowveld. The differences in incidence between the other three regions are small.

Table 19: Incidence of wealth group by agro-ecological zone

Region	Wealth Group			
	Well off	Middle	Poor	Poorest
Highveld	18.3 (n = 5,495)	38.8 (n = 11,634)	36.7 (n = 10,999)	6.0 (n = 1,804)
Middleveld	9.0 (n = 4,175)	32.0 (n = 14,749)	51.7 (n = 23,804)	7.0 (n = 3,220)
Lowveld	6.6 (n = 1,944)	24.1 (n = 7,065)	59.3 (n = 17,426)	9.5 (n = 2,796)
Lubombo Plateau	14.0 (n = 1,245)	16.5 (n = 1,466)	60.3 (n = 5,349)	6.8 (n = 604)
<b>National</b>	<b>11.3 (n =12,859)</b>	<b>30.7 (n =34,914)</b>	<b>50.6 (n =57,578)</b>	<b>7.4 (n =8,424)</b>

It is in the Highveld that wealth groups are spread most evenly. In all but the Highveld, the largest population group is the poor group. In percentage terms, the highest concentrations of poor and poorest groups are in the Lowveld and the Lubombo Plateau, whilst in terms of numbers, the highest concentrations of these wealth groups are found in the Middleveld.

Figure 25: Incidence of proxy variables by food economy / livelihood zone



Key: 1= Highveld Maize and Cattle; 2= Lomahasha Trading and Arable; 3= Lowveld Cotton and Cattle; 4= Lowveld Cotton, Cattle and Maize; 5= Lubombo Plateau; 6= Middleveld Maize and Cotton; 7= Timber Highlands; 8= Peri-Urban Corridor.

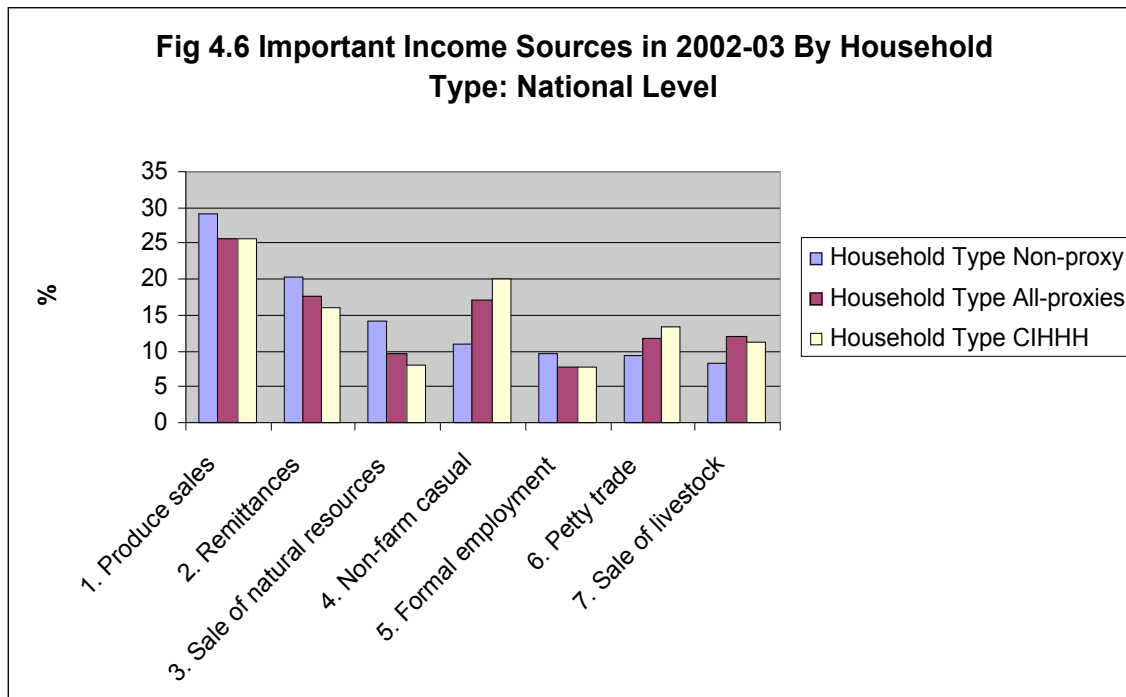
The highest percentages of both proxies occur in FE/L Zone 3 (Lowveld Cotton and Cattle), whilst the lowest are found in FEZ 5 (Lubombo Plateau).

## Associations between proxy variables and food security indicators at national level

### Income sources

Households were asked what their main income sources had been over the past year. Figure 26 shows how frequently households mentioned an income source as being the most important.

Figure 26: Important income sources in 2002/3 by household type at national level



At first glance, the figures are quite similar. There is however some notable variation that will be reflected later on in this chapter as the analysis proceeds to AEZ and FEZ levels. Produce sales was the most popular answer for each household type, slightly fewer 'all proxy' and 'chronically ill head of household' highlighted this than 'non-proxy' households. Likewise, remittances were less likely to be mentioned by 'all proxy' households and 'chronically ill head of household' groups compared to 'non proxy' households. Larger differences are found in the case of sale of natural resources and non-farm casual labour i.e. proxy households are more likely than non-proxy households to cite non-farm labour as the most important income source and less likely to cite the sale of natural resources. Sales of livestock are higher for the 'all proxy' and 'chronically ill head of household' groups also.

The hypothesis here is that 'all proxy' and households with a chronically ill head are relying on non-farm casual labour and to some extent livestock sales to meet the losses of income from reduced remittances, produce and natural resource sales caused by ill-health and death. In general, households with a chronically ill head show a larger divergence from 'non proxy' households than do 'all proxy' households.

Wealth group breakdowns of income sources last year throw up some interesting issues (see figures below).



Figure 27: Important income sources in 2002/3 in well off wealth group

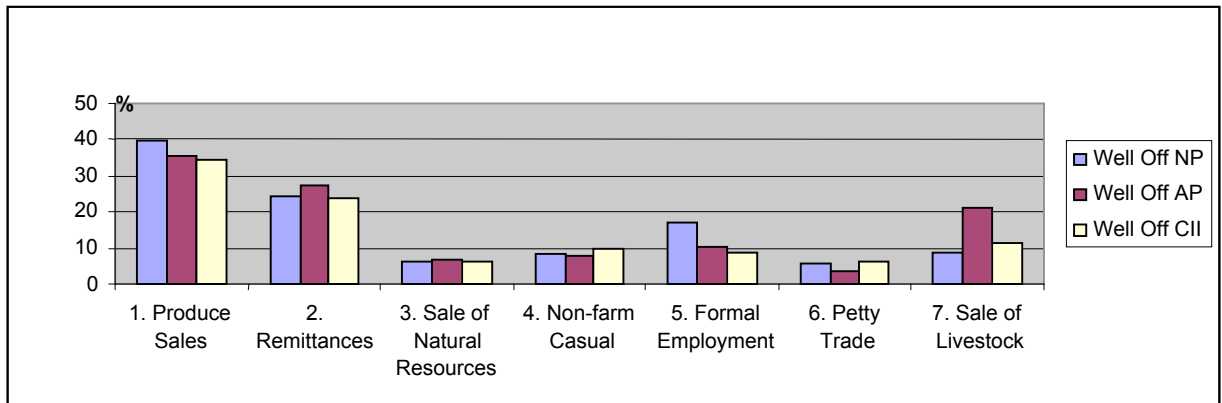


Figure 28: Important income sources in 2002/3 in middle wealth group

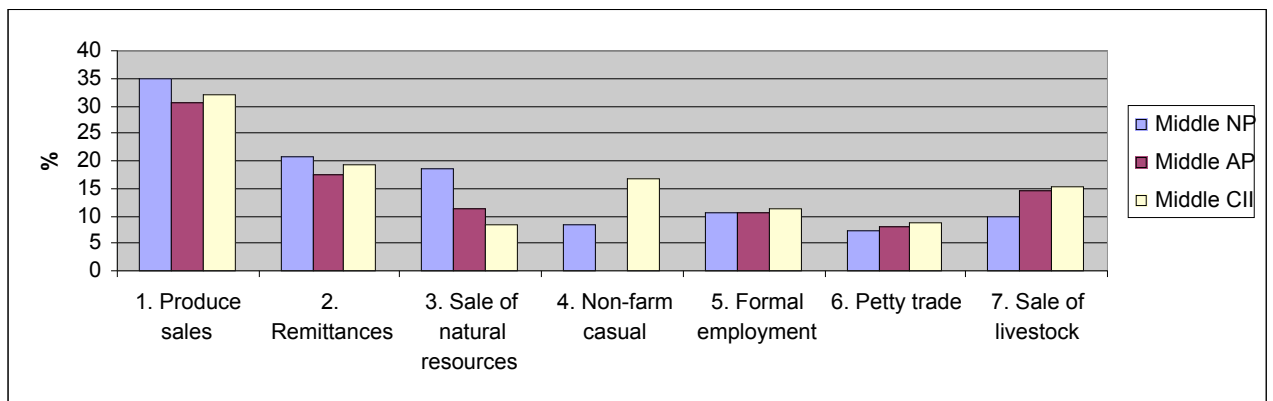


Figure 29: Important income sources in 2002/3 in poor wealth group

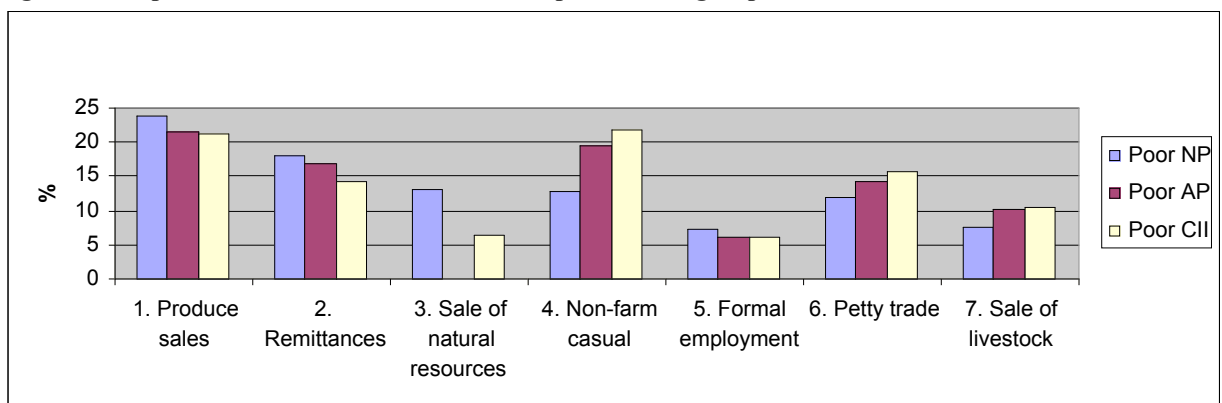
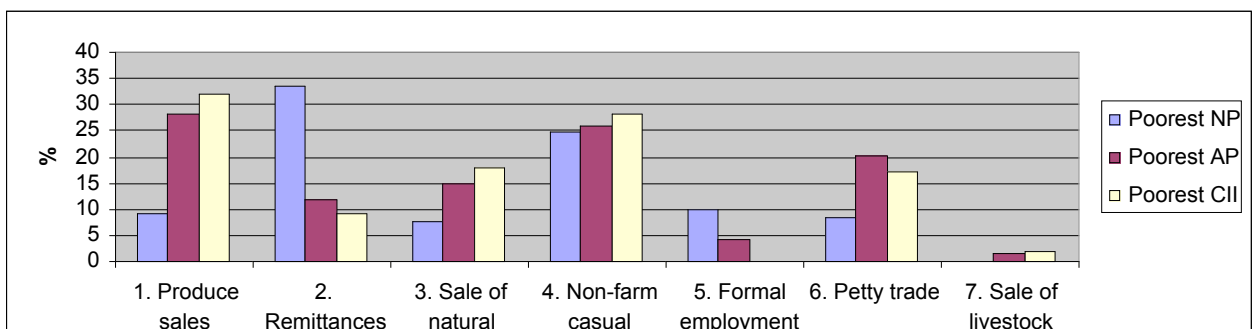


Figure 30: Important income sources in 2002/3 in poorest wealth group



➤ Well-off

There appears to be little difference between proxy and non-proxy households with the exception of formal employment and sale of livestock. One possible explanation of this is that well-off households affected by illness and death are compensating for the loss of income from formal employment (because of HIV/AIDS) through livestock sales. This can result in asset depletion.

➤ Middle

Notable divergences between proxy and non-proxy households are with respect to non-farm casual labour, sales of natural resources and sales of livestock. One hypothesis here is that livestock sales and non-farm income are being used by 'all proxy' and households with a chronically household head to make up for income losses from reduced remittances and produce sales.

➤ Poor

Non-farm casual labour is mentioned appreciably more frequently for all-proxy and households with a chronically ill head than for non-proxy households, indeed for households with a chronically ill head it is the most frequently mentioned important income source. Livestock sales are higher and sales of natural resources lower for all proxy and chronically ill head of household groups in comparison with the non-proxy group.

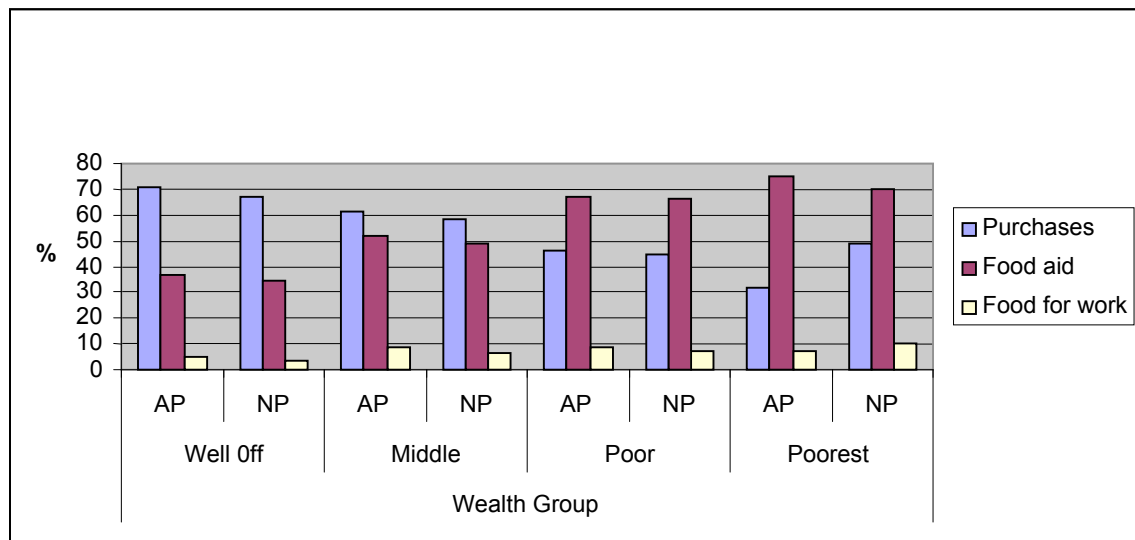
➤ Poorest

Of all the wealth groups, the differences between non proxy and other households are most marked. Compared to non-proxy households, the importance of produce sales is much greater for all proxy and chronically head of household groups and the importance of remittances much lower. Sales of natural resources are more important for these proxy than households than for non-proxy (the opposite is true for the middle and poor groups), as is petty trade.

**Food sources**

In contrast to income sources last year, food sources show a remarkable degree of similarity across household types (i.e. all proxy, non-proxy and chronically ill head of households). This is also true for the most part if wealth groups are considered, as the following chart shows:

**Figure 31: Important food sources in 2002/3 by wealth group at national level**



Key: AP = All Proxy households, NP = non-proxy households

As households get poorer, the ratio between purchases and food aid changes in favour of the latter. This is what would be expected in a year like 2002/3 when there was crop failure in the Lowveld and much of the Middleveld particularly among middle, poor and poorest income groups. As a result there were large scale food aid distributions. The differences between all proxy and non-proxy households are small, with the exception of purchases for the poorest group. Here, it appears that considerably fewer all proxy households regarded purchases as an important food source compared to non-proxy households. It should be noted that this table masks important regional differences between the Highveld and the rest of the country. These are highlighted later on in this chapter

### Crop production

Responses to questions about area, seed and yields for cereal, cash and tuber crops show up a few differences between household types but these are not many and not large. The following table shows this by recording only those instances where area, input and yield data for all proxy households compared to non-proxy households differed by more than 5%. Within this sub-set, the figures in the table represent the percentage of respondents in each wealth group saying that area, inputs or yield had **decreased** in comparison to previous years (hence the minus signs).<sup>15</sup>

**Table 20: Crop production in 2002/3 compared to 2001/2 at national level by wealth group, all proxy HHs vs. non-proxy HHs**

Production variable	Wealth Group							
	Well Off		Middle		Poor		Poorest	
	AP	NP	AP	NP	AP	NP	AP	NP
Area								
➤ Cereal	-	-	-	-	-25.3	-19.1	-	-
➤ Cash	-	-	-	-	-28.1	-19.8	-	-
➤ Tubers	-	-	-	-	-	-	-	-
Inputs								
➤ Cereal	-	-	-	-	-	-	-	-
➤ Cash	-	-	-18.3	-11.8	-	-	-	-
➤ Tubers	-	-	-26.5	-34.6	-	-	-	-
Yield								
➤ Cereal	-	-	-	-				
➤ Cash	-70.2	-63.4	-	-	-75.8	-62.3	-55.2	-77.1
➤ Tubers			-	-	-73.0	-65.1	-68.4	-51.7

In a minority of cases where there were differences between all proxy and non-proxy households, in most cases more all proxy households than no proxy households stated that a negative change had occurred. For example, whereas 70.2% of well-off all proxy households said that yields of cash crops had fallen, the corresponding figure for non proxy households was 63.4%. In general, however, it is difficult to infer anything conclusive from the crop production data because differences between all proxy and non proxy households are too small and too few.

### Proxy variables and food security indicators at AEZ and FEZ levels

This section takes a look at the associations between the HIV/AIDS proxy variables and income, food and crop production at AEZ and FE/L Zone levels. As noted earlier, there are

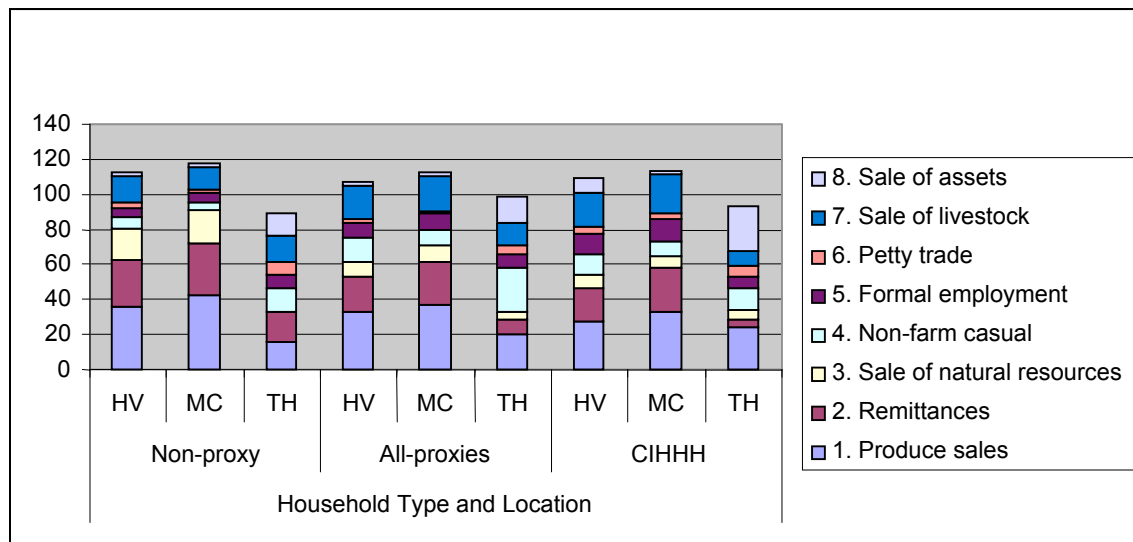
<sup>15</sup> Note: Some households in all groups said that area, inputs and yields had either increased or stayed the same in comparison to the previous year. These data are not reported in the table.

four AEZs in the country and the FE/L Zones are, with one exception, subdivisions of these AEZs.

### Highveld

In the Highveld there are two FEZs: the Highveld Maize and Cattle and the Highveld Timber. Figure 32 shows the differences and similarities in **income sources** between these, with respect to all proxy households and non proxy households.

**Figure 32: Important income sources in 2002/3 in Highveld\***



Key: HV = Highveld; MC = Highveld Maize and Cattle; TH = Timber Highlands

\*Note: This chart shows the percentage of households who stated that a particular income source was the most important source. Total percentages are over 100% in those cases where a household stated more than one “most important source” and are under 100% in those cases where there is missing data. i.e. where some households did not respond and/or the data was not recorded.

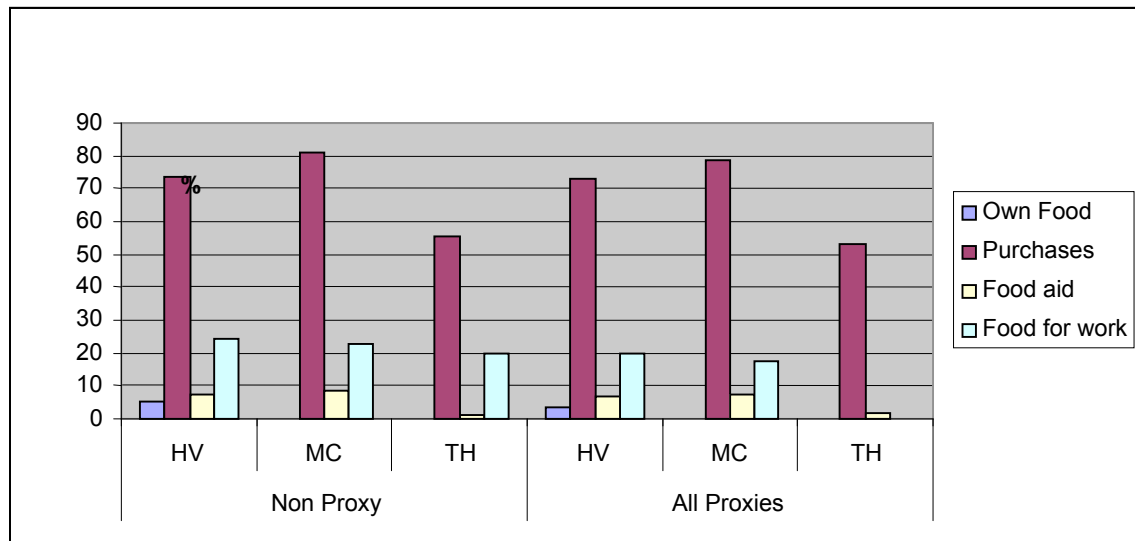
Quite significant differences according to FE/L Zone are apparent, as is the case if the FE/L Zone is compared to the broader AEZ. Indeed, the differences between the same household type in different geographical areas is often greater than the gap between different household types in the same geographical area. For example there is greater difference in produce sales between non proxy households in the Middleveld Maize and Cattle FE/L Zone versus Timber Highlands FE/L Zone than there is for non-proxy households versus households with a chronically ill head within the Middleveld Maize and Cotton FE/L Zone. This fact underlines the importance of a FE/L Zone level analysis wherever possible.

Overall, chronically ill head of household groups differ in livelihood more from non proxy groups than do all proxy groups together. This illustrates the point that the choice of proxy variable for analysis of the impact of HIV/AIDS on food security is important. In the Highveld as a whole, the largest differences in percentages are in relation to remittances and sales of natural resources where HIV/AIDS proxy households (both groups) have lower readings than non-proxy households. The ‘gaps’ between these households (i.e. non-proxy households and the rest) are of the order of 6 – 10%. Proxy households are more likely to list non-farm casual employment than non-proxy households. These same points apply broadly within both FE/L Zones. There is no consistent pattern with respect to livestock sales.

Turning to **food sources**, the following figure reflects the finding at national level. There is a high degree of similarity between household types with respect to food sources last year. Within a particular FE/L Zone there are no real differences between proxy and non-proxy

households. There are, however, some major differences between FE/L Zones in terms of purchases. Households in the Timber highland relied much less on purchases and were much more dependent on gifts (not shown in the chart).

**Figure 33: Important food sources 2002/3 in Highveld**



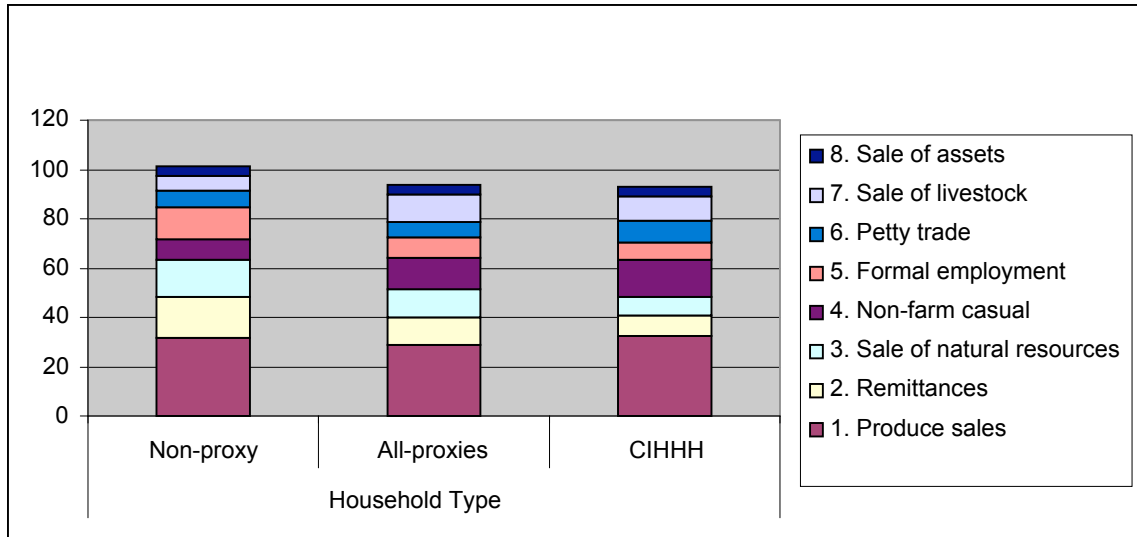
Key: HV = Highveld; MC = Highveld Maize and Cattle; TH = Timber Highlands

In relation to **crop production**, as is the case at the national level, there are not many obvious differences between proxy and non-proxy households. The only discernable pattern is that all proxy households were less likely than non-proxy households to say that they had less area under cultivation, planting material and yield of tubers in comparison to previous years. This may imply that all proxy households are placing more attention on lower labour requirement root crops.

**Middleveld**

One Food Economy / Livelihood Zone covers the Middleveld called the Middleveld Maize and Cattle zone. For this reason, both the AEZ and the FEZ can be treated as one unit for the purposes of analysis. Similar to the Highveld, the main **income source** differences between HIV/AIDS proxy households and non-proxies household are that (a) remittances and sales of natural resources are mentioned less frequently by the proxy households and (b) non-farm casual labour is mentioned more frequently as the main source of income. Livestock sales are also mentioned more frequently.

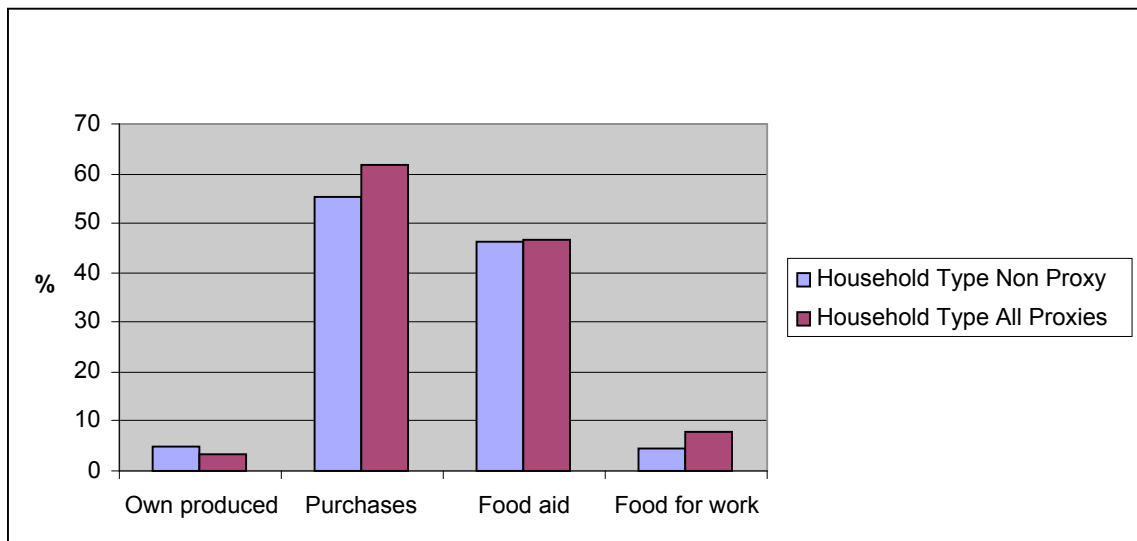
**Figure 34: Important income sources in 2002/3 in Middleveld**



Key: CIHHH = chronically ill household head

Similar to the Highveld and at national level, there were no significant differences between household types in terms of **food sources**, as shown in figure 35. In relation to crop production, it has not been possible to draw any inferences from the available data.

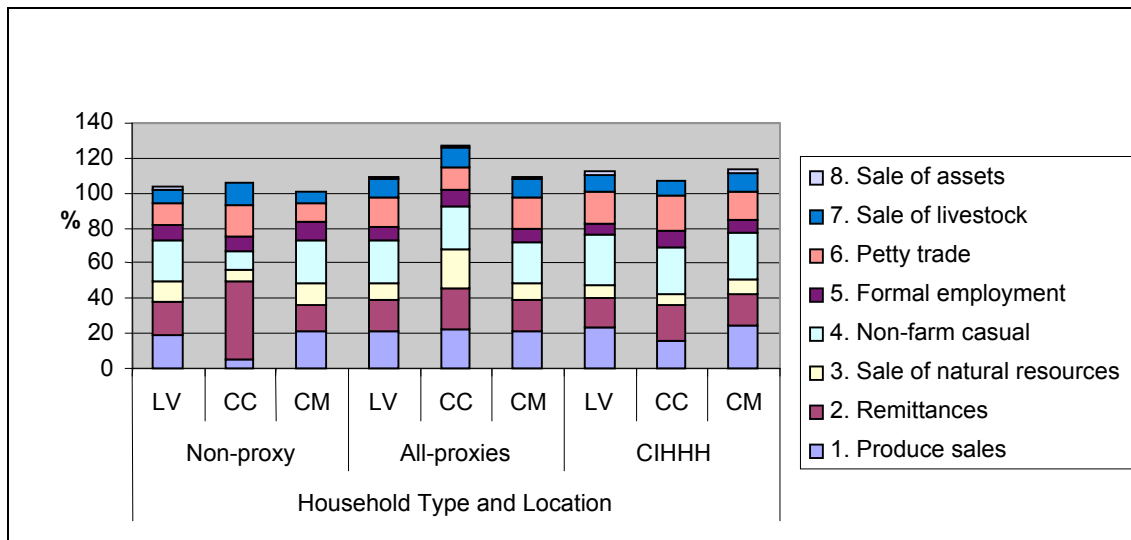
**Figure 35: Important food sources 2002/3 in Middleveld**



### Lowveld

Within the Lowveld, there are two Food Economy / Livelihood Zones: the Lowveld Cattle and Cotton and the Lowveld Cattle, Cotton and Maize (see figure 1). However, taking the Lowveld as a whole, there are very few disparities between the different household types in terms of important income sources last year. In the Cattle, Cotton and Maize FEZ, the variations between household types are also small, and drawing firm inferences is difficult. In the Cattle and Cotton FEZ on the other hand, there are major differences with respect to remittances – non-proxy households were over twice as likely to mention this as an important income source compared to both households with a chronically head and all proxy households. In addition the figures for produce sales and for non-farm casual employment are much lower for NP households.

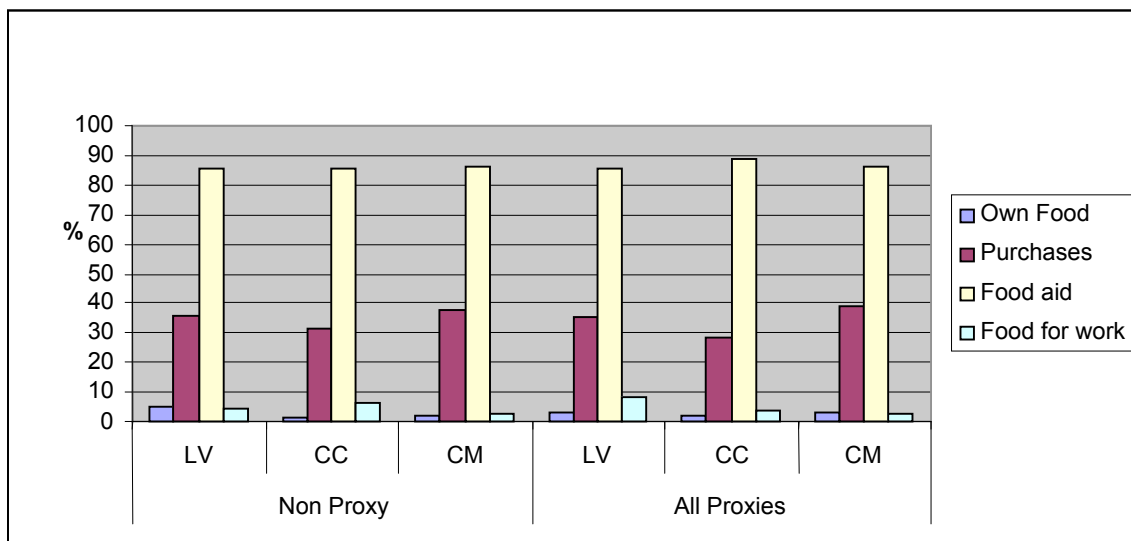
**Figure 36: Important income sources in 2002/3 in Lowveld**



Key: LV = Lowveld AEZ; CC = Lowveld Cotton and Cattle FE/L Zone; CM = Lowveld Cattle, Cotton and Maize FE/L Zone

As for all other AEZs and FE/L Zones the differences between non-proxy and all proxy households in terms of important sources of food last year are small. In addition, differences between FE/L Zones are slight also.

Figure 37: Important food sources in 2002/3 in Lowveld



In common with other parts of the country, the crop production data does not give any indication of significantly different behaviour as between proxy and non-proxy households.

### Lubombo Plateau

Unfortunately, the number of observations in the Lubombo Plateau FE/L Zone was too small to make inferences about income sources, as the table below shows. Focusing on the Lubombo Plateau AEZ, there are some differences between household types. In both the Lubombo Plateau AEZ and the Lomahasha Trading FE/L Zone, in comparison to non proxy households, 10–15% more all proxy and households with a chronically head said that remittances were an important income source. This is in contrast to all other AEZs and FE/L Zones. All proxy households and households with a chronically ill head in the Lomahasha

Trading FE/L Zone were much less likely than non-proxy households to say that petty trade was an important income source.

**Table 21: Important income sources in the Lubombo Plateau 2002/3**

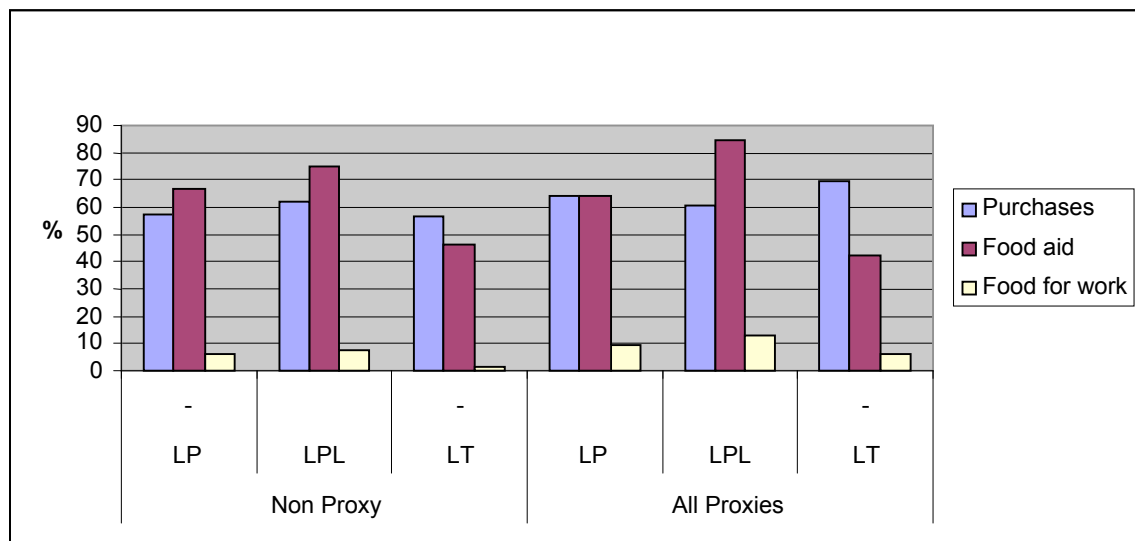
Income source	Household Type and Location								
	Non-proxy			All-proxies			CIHHH		
	LP	LPL	LT	LP	LPL	LT	LP	LPL	LT
1. Produce sales	20.7	N*	13.1	17.8	N*	16.8	12.3	N*	N*
2. Remittances	20.7	N*	21.1	30.9	N*	31.5	35.7	N*	34.8
3. Sale of natural resources	11.3	N*	1.6	8.2	N*	5.5	7.2	N*	N*
4. Non-farm casual	4.6	N*	7.4	8.9	N*	8.3	10.4	N*	N*
5. Formal employment	3.4	N*	5.2	4.0	N*	3.6	2.7	N*	-
6. Petty trade	33.6	N*	51.5	31.8	N*	37.6	26.5	N*	34.6
7. Sale of livestock	2.2	N*	-	2.9	N*	2.7	4.8	N*	N*
8. Sale of assets	0.6	N*	-	0.9	N*	-	3.0	N*	-

Key: LP = Lubombo Plateau AEZ; LPL = Lubombo Plateau FE/L Zone; LT = Lomahasha Trading FE/L Zone

Note: N\* indicates that the number of observations is below 30 and thus too small to make inferences from.

When looking at food sources, it appears that food aid has been more important in the Lubombo Plateau FE/L Zone than the Lomahasha Trading FE/L Zone

**Figure 38: Important food sources in 2002/3 in Lubombo Plateau**



In relation to **crop production**, the available data indicates that non-proxy households were more likely than all proxy households to say that area and inputs devoted to tubers had fallen, although the proportion stating that yield of tubers had fallen was roughly the same.

#### Peri-Urban Corridor

Income source data is interesting in that both types of proxy household were **more** likely than non-proxy households to say that remittances, petty trade and sales of produce were most important (see Table 22). As has been described earlier, in other FE/L Zones, remittances and produce sales are usually **less** frequently cited as being important by proxy households.



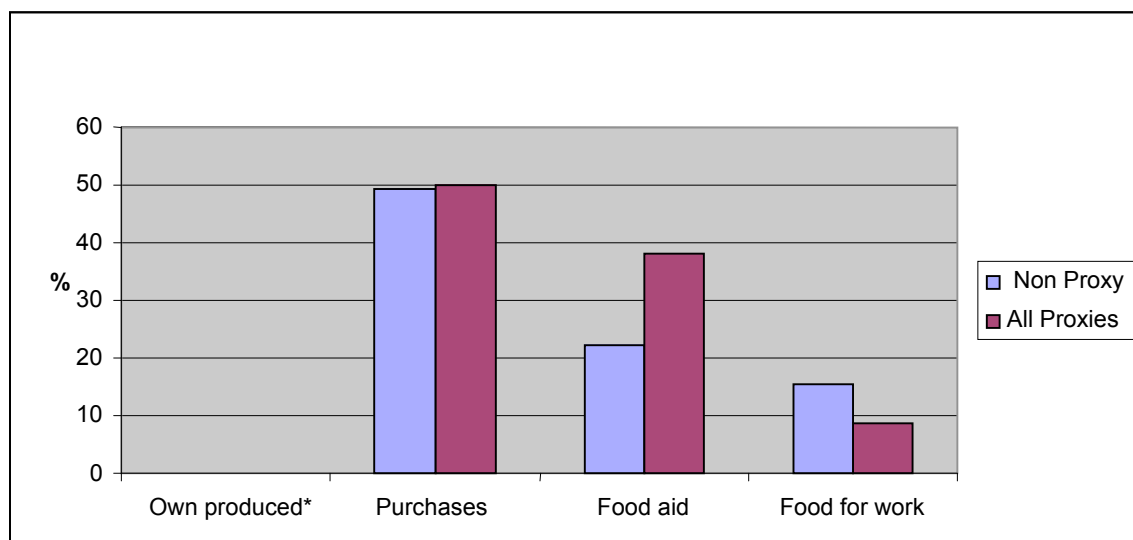
**Table 22: Important income sources in 2002/3 in the Peri-Urban Corridor**

Income source	Household Type <sup>16</sup>		
	Non-proxy	All-proxies	CIHHH
1. Produce sales	19.5	24.1	38.8
2. Remittances	12.3	23.6	16.4
3. Sale of natural resources	-	-	-
4. Non-farm casual	11.3	2.4	N*
5. Formal employment	11.0	5.6	N*
6. Petty trade	16.3	30.3	35.0
7. Sale of livestock	6.1	6.2	N*
8. Sale of assets	18.4	11.7	N*

Key: CIHHH = Chronically ill head of household

Regarding **food sources**, it appears that proxy households were more likely to have benefited from food aid than non-proxy households. Non-proxy households were more likely than all proxy households to have cited food for work as an important food source.

**Figure 39: Important food sources in 2002/3 in Peri-Urban Corridor**



\* **Note:** This does not mean that there was no 'own' production, but rather that respondents thought it was not an important food source in 2002/3.

Turning to crop production, the data that is available indicates that non-proxy households were less likely to have cited reductions in area cultivated, inputs or yield of cash and cereal crops and were more likely to have cited increases in yield of cereal crops and tubers.

## CONCLUSIONS

This chapter has used simple qualitative analysis to search for relationships between HIV/AIDS proxy variables and important aspects of household food security. The analysis is a tentative first step on what could be a much more detailed and extensive process. Owing to the simplicity of the analysis and the small number of proxy variables used (because of time/funding limitations) it is only possible to draw some tentative conclusions at this stage. The key points are as follows:

<sup>16</sup> figures represent number of households stating that a particular income source was important

## **Uniformity vs. Heterogeneity**

Whilst the prevalence of HIV/AIDS infection across the country is reported to be fairly uniform, the incidence of key indicators associated with infection is not. The initial analysis conducted in this chapter shows that incidence of chronic illness in heads of household varies across the country and across wealth groups. It is likely that different indicators of HIV/AIDS impact will show different patterns with respect to geography and socio-economic status. It is important to analyse and document this.

### **Proxy variables and income sources**

Certain common patterns emerge across wealth groups and geographical areas. In general terms, income from agricultural produce, remittances and sale of natural resources was less important to proxy households than to non-proxy households. The converse is true for non-farm casual income and livestock sales. These findings imply that there is a qualitative shift going on whereby households affected by HIV/AIDS are changing their income sources to compensate for losses of income from crop sales and remittances. The next steps in analytical terms would be (i) to conduct statistical testing on the estimates to see if there are any statistically significant differences and (ii) look at a greater range of proxy variables. More details on this are contained in a draft proposal<sup>17</sup>. As a caveat, it should be noted that with the current data set it is only possible to detect changes in the relative importance of different income sources not their actual monetary value. The same point applies to food sources and crop production.

### **Proxy variables and food sources**

In contrast to income sources, proxy status appears to have no bearing on most important food sources. Intuitively, this finding is challenging as one would have expected there to be differences. It might be argued that the drought "evened-out" any differences in food sources, however, this does not explain the results for the Highveld which escaped the worst of the weather in the past 2 years. Further exploration with a wider range of variables is recommended.

### **Proxy variables and crop production**

It was difficult to detect any strong consistency in relationships between proxy and non-proxy households in relation to areas cultivated, input used or yields achieved. One tentative conclusion is that proxy households were in general more "protective" of tubers than non-proxy households and less concerned (or able) to preserve or increase cash crop and cereal production. This suggestion is in line with the widely observed phenomenon of HIV/AIDS households focussing on low labour input tuber crops at the expense of more labour intensive crops. Again, it is important to conduct some more rigorous testing and to use a broader range of proxy variables to explore this issue further.

## **Recommendations for further analysis**

Given the large volume of data generated by this survey and the difficulty of analysing it fully at the current time, it is recommended that a proposal be written to analyse more proxy variables with greater rigour than has been possible here. The proposal could be submitted to relevant UN agencies (and other interested donors) for funding.

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