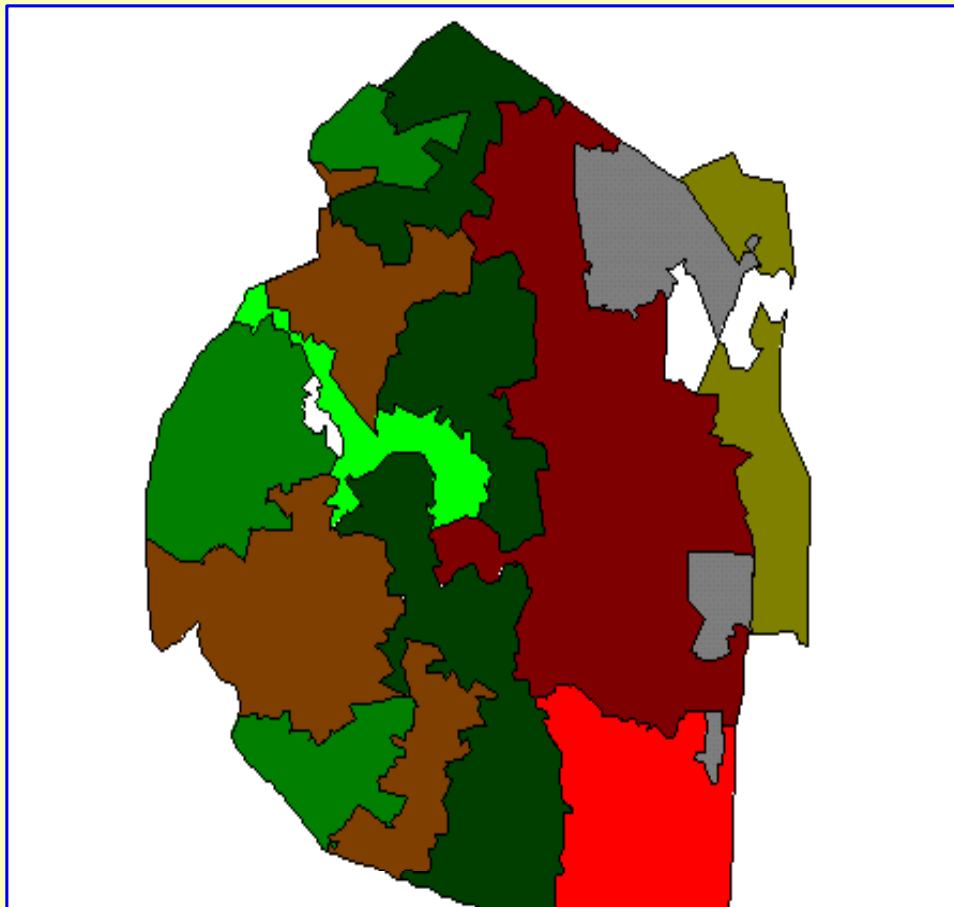
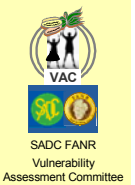
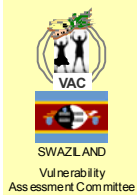


Swaziland National Vulnerability Assessment Committee  
in collaboration with the  
SADC FANR Vulnerability Assessment Committee

**SWAZILAND**  
**April-May 2003 Livelihoods Based Vulnerability Assessment**



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June 2003  
Mbabane

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Mr. George Ndlangamandla  
**Swazi VAC Chairperson**

## ACRONYMS

AIDS	:	Acquired Immuno-Deficiency Syndrome
CSO	:	Central Office of Statistics
CFSAM	:	Crop & Food Supply Assessment Mission
DFID	:	Department for International Development
EMOP	:	Emergency Operations
FANR	:	Food, Agriculture & Natural Resources Department
FAO	:	Food and Agriculture Organization
FEZ	:	Food Economy Zone
GOS	:	Government of Swaziland
HH	:	Households
HIV	:	Human Immuno-Deficiency Virus
Kcal	:	Kilo Calories
SVAC	:	Swaziland Vulnerability Assessment Committee
KG	:	Kilograms
MOAC	:	Ministry of Agriculture & Cooperatives
MT	:	Metric Tonnes
NEWU	:	National Early Warning Unit
NGO	:	Non-Government Organization
NVAC	:	National Vulnerability Assessment Committee
SADC	:	Southern African Development Community
UNAIDS	:	Joint United Nations Programme on HIV/AIDS
UNICEF	:	United Nations Children's Fund
VAC	:	Vulnerability Assessment Committee
WFP	:	World Food Programme

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# 1. EXECUTIVE SUMMARY

## 1.1 Context and Current Situation

Swaziland has experienced two years of erratic weather conditions (2000–2002) and the current economic slowdown is proving to be exceptionally deep and broad. There is little evidence that the economy is recovering from the downward spiral that began two-to-three years ago. Gross Domestic Product (GDP) growth declined 1.5% in 2001 from 2.2% and 3.7% in 2000 and 1999 respectively. Inflationary pressures, as from November 2001, moved into double figures registering 10.8% and 11.5% in January and April 2002. It reached a high of 12.9% in October 2002. Agricultural production prospects in the current year (2002–2003) are only marginally different from the ‘poor’ performance last year. This signals yet another year of reduced output and processing for the national economy and reduced incomes in the small farm sector.

Both spatial and temporal distribution of rainfall over the cropping season was generally poor and particularly bad in the Lowveld and dryer parts of the Middleveld. In these areas, widespread crop failure has been reported. At the national level NEWU forecasts suggests 62% of normal production – i.e. 38,000 MT below the six-year average. While the Highveld has experienced almost normal levels of production, the Lowveld has experienced widespread crop failure. Only 232 MT of maize are forecast against the six-year average of 21,360 MT. This event is almost unprecedented. Due to poor distribution of rainfall up to 14,000 Ha of land were not cultivated in the Lowveld and Plateau. Other factors may well be involved in this dismal performance. Two years of poor harvests and reduced or stressed incomes plus the impacts of HIV/AIDS may have seriously increased household vulnerability. Perhaps household capacity to mobilize resources (labour and inputs) for the 2002-2003 agricultural season had been seriously undermined. The Middleveld is projected to obtain a harvest of 62% of normal and the Plateau 80% of normal. However, observations from latest VAC assessment suggest that the estimates for the Plateau may be a bit too high.

Consumer maize meal prices in urban areas increased by 15-20% and by anything from 20-30% in rural areas (depending on location) during 2002–2003 marketing year, up to March 2003.<sup>2</sup> This has been a major shock for many whose food access is largely dependent on purchases of staple foods<sup>3</sup> (See Appendix 1). During the first quarter of 2003 overall inflation dropped to 9.3%. Considerably lower prices for maize imports from South Africa are expected in the 2003-2004 consumption period. Lower prices will ease the overall burden of financing the necessary levels of imports. They should have positive impacts on overall welfare 2003-2004. While, major relief and rehabilitation programmes benefited large numbers of people in 2002-2003, it should be noted that straight after the harvest period, the WFP EMOP extended its support in April, May and June 2003 to 152,000 beneficiaries. This points toward a high degree of residual vulnerability in the EMOP areas at this point in time.

The latest estimates presented below indicate that significant numbers of people are likely to remain vulnerable in 2003–2004. The levels of income/food deficits vary widely across Food Economy Zones (FEZs) and wealth groups. This is a function of location, high levels of chronic poverty,<sup>4</sup> the cumulative effects of three-years of depressed food production and incomes, plus the growing cumulative negative impacts of HIV/AIDS on livelihoods.

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<sup>1</sup> Maize grain and maize meals markets are very segmented between the national, regional and local levels. Households at the rural level may well have experienced much higher levels of inflation as suggested in the earlier two rounds of assessments. The CSO CPI figures for urban areas refer to all cereal products and not maize grain and meal.

<sup>2</sup> Maize grain and maize meals markets are very segmented between the National, regional and local levels. Households at the rural level may well have experienced much higher levels of inflation as suggested in the earlier two rounds of assessments. The CSO CPI figures for urban areas refer to all cereal products.

<sup>3</sup> Nation-wide, the ‘poor’ normally secure 30-60% of their total food access through purchases. The other wealth groups also secure a surprisingly large proportion of their total food access via purchases.

<sup>4</sup> Swaziland is a lower middle country with a per capita income of US\$1 360. However the per capita income of the poorest 40% is only US\$230. It is estimated that 66% of the population live below the poverty line. Source FAO & WFP CFSAM May 2002.

## **1.2 The Purpose and Approach** adopted in this assessment has been to:

- Review food security situation & response in 2002 – 2003 marketing year & develop projections for food security from April 2003 – March 2004
- Examine linkages between food security & HIV/AIDS
- Identify appropriate food & non-food interventions

The priority for this Third Round country assessment has been a nation-wide current year hazard assessment and a Household Economy/RiskMap scenario analysis (See section 3).

## **1.3 Key Findings**

### **1.3.1 *Domestic Cereal Availability is down by 38% in the 2002-2003 Production Year***

NEWU estimates (as a June 2003) indicate that domestic availability (opening stocks and gross harvest) will be down to 62% of the previous six-year average. This places an additional demand of 38,000 MT of cereals on to the long run average level of commercial imports and possible components of food aid.

### **1.3.2 The Economy and Employment Stagnates in 2002-2003**

Poor growth in the Swaziland economy was directly influenced by the poor growth in the regional and world economy especially in South Africa, the US, the Euro-Zone and Japan. In South Africa, economic indicators exhibited both deterioration and resilience, as inflation and interest rates went up. There were four interest increases in the year raising the prime-lending rate to 17% and the average inflation rate was 10.1% – double that in 2001. The SA economy however managed to grow at 3% and the Rand regained all the earlier losses against the major world currencies by the end of December 2002.

Latest official figures on employment trends in Swaziland end in 2000. Estimates suggest that formal sector employment declined by 0.8% in 2002.<sup>5</sup> Current levels of national employment are assumed to be stagnant. The deterioration of the once thriving (labour intensive) cotton industry of the Lowveld appears to be unstoppable. Production levels of nearly 15,000 MT from 28,000 Ha in 1998/99 have collapsed to probably zero in 2002/03. This has dramatically affected access to seasonal and casual employment opportunities that have been critically important to the livelihoods of the poor in the Lowveld.

### **1.3.3 *Wide-ranging Economic and Social Impacts of HIV/AIDS are now Beginning to Accelerate Rapidly***

Preliminary analyses suggest that the HIV/AIDS epidemic is having a major impact on nutrition, food security and agricultural production in Swaziland. All dimensions of food security - availability, stability, access and use of food - are affected where the prevalence of HIV/AIDS is high. Swaziland has one of the highest prevalence rates of HIV/AIDS in the world, with latest estimates emanating from antenatal clinic (ANC) trails indicating that 38.6 percent of the population among the ages 15 to 49 are positive in 2002 (Millennium Development Goals Report, 2003).

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<sup>5</sup> Central Bank of Swaziland Annual Report April 2001 to March 2002.

### 1.3.4 Worst Affected Areas Have Incurred A Six-month Income/Food Deficit – Less Affected Areas Have Incurred One-Month Income/Food Deficit

The Middleveld, Lowveld and Lubombo Plateau Agro-Eco zones will be the most vulnerable to food and income insecurity in the 2003-2004 consumption period. Across the entire country the scenario indicates a total Crude Income/Food deficit (before coping strategies) of 33,150 MT, and Final Deficit (after coping strategies) somewhere between 22,000 to 32,000 MT.<sup>6</sup> It is important to note that the WFP immediately extended the EMOP in the period April-May and June 2003 giving support to 152,000 people.

### 1.3.5 Poverty and Declining Livelihoods

As observed in the earlier assessments, the current humanitarian crisis in Swaziland is not just a consequence of severe climatic variability over the past three years. Chronic and worsening levels of poverty and declining livelihoods are a major factor in the crisis. Many underlying causal and structural problems need to be addressed to reduce the levels of poverty and halt the decline in livelihoods. The impact of HIV/AIDS is creating rapidly growing and chronically vulnerable population that will require recurrent support well beyond 2003-2004.

### 1.3.6 Cumulative Impacts Over Time Need to be Taken Into Account in the Relief Response 2003-2004

Currently, vulnerable populations have to deal with the consequences of three years of poor agricultural production plus the growing consequences of HIV/AIDS. For many within the poorer groups, it is logical to assume that their stocks of food, livestock and cash savings are likely to be low or depleted. This situation needs to be taken into account in the relief response and other support planned for 2003-2004.

## 1.4 Food Security Situation & Response in 2002 – 2003 Marketing Year

Latest reviews of the opening and closing food balance statements for 2001-2002 plus the monitoring of commercial imports and food aid 2002-2003 indicate:

**Table 1: Cereal Balance as at April 2002**

	Total Cereals – Maize Wheat & Sorghum MT 000s
Total Domestic Availability	72,3
Opening Stocks	2,5
Domestic production	68,8
Total Utilization	205,8
Import Requirements	95,0
Anticipated commercial imports	95,0
Food Aid	0

Actual imports (up to the 31<sup>st</sup> March 2003) have been made up of: food aid 23,100 + commercial imports of 105,700 tonnes = a total of 128,800 tonnes. There was there an overall unsatisfied gap of 300 tonnes recorded for the consumption year 2002-2003.

<sup>6</sup> The 10,000 MT range comes from assuming that (a) normal food stocks and cash savings are available - highly unlikely, and (b) an alternative scenario where they are 100% depleted in the Lowveld and the Lubombo. The reality probably falls somewhere in between.

## 1.5 Review of Responses at the Household-Level

The response and relief partnership of the WFP and the Consortium of Swazi NGOs has gone a long way toward offsetting the worst of the impacts in the most affected Emergency Operational Plan (EMOP) areas. However, a very large proportion of the Swaziland population has been affected by the three years of depressed agricultural production and lower incomes. Much of this hardship has been at levels below that which would justify the establishment of food aid pipelines. They have therefore fallen outside of any official assistance programmes. Many 'modestly' or 'slightly' affected households have therefore had to rely on their own coping strategies. However, over three years the effects accumulate. Many such affected households have almost certainly eroded levels of cash savings, food stocks and livestock holdings. Livelihoods have been in decline and vulnerability levels have increased.

## 1.6 National Level Food Security Outlook for April 2003–March 2004

The latest NEWU figures indicate that:

- Domestic cereal availability is estimated a 79,400 tonnes;
- Total National requirement is estimated at 215,500 tonnes;
- Domestic Shortfall/Surplus is –136,100 tonnes; and
- The Uncovered Gap (taking into account planned imports) is – 62,100 tonnes.

As at June 2003 there have been some commitments of food aid in Swaziland. The WFP has stated that it will support up to 100,000 people for the period July-December 2003 increasing to 150,000 during the period January-March 2004. The Government of Swaziland has 3,000 MT of purchased maize in store and other resources that can be used for the disaster relief programme. With the support of donor financing, the Government is expected to play an expanded role in responding to higher levels of necessary imports/food aid 2003-2004.

## 1.7 FEZ and Household Level Outlook for April 2003–March 2004

At the food economy zone level, the net effects of adverse weather conditions, food price inflation, depressed market access and increased levels of household vulnerability indicate a range of household income/food deficits. These are very much affected by location and wealth status:

The current Third-Round assessment indicates that:

The worst affected area is the Lowveld Cattle-Cotton & Maize FEZ where 90% of the population may face a 58% deficit in their annual food needs. The second most affected area is the Lomahasha Trading & Arable where 80% of the population may face a 48% deficit in their annual food needs. This has come about as a consequence of crop failure (food and cash crops) highly depressed employment opportunities and a year on year food price inflation of at least 20%. The third most affected area is the Lowveld Cattle & Cotton FEZ where 80% of the population may face a 43% deficit in their annual food needs. The fourth most affected area is the Lubombo Plateau where 80% of the population may face a 31% deficit in their annual food needs. The fifth most affected area is the Middleveld where 80% of the population may face a 12% deficit in their annual food needs. The least affected areas are the Highveld Maize and Cattle and the Timber Highlands FEZs where 0-10% of the population may face a 0-7% deficit in their annual Income/food needs.

## 1.8 Linkages Between Food Security & HIV/AIDS

The Swaziland VAC recognises that HIV/AIDS cannot be considered only as a 'health sector' problem and is committed to addressing the social, economic and broader institutional consequences of the

pandemic. While poorly understood at this stage, it is clear that the epidemic is having major impacts on nutrition, food security and agricultural production. The Swaziland VAC is planning a major follow-up on the impact of HIV/AIDS on livelihoods and food security in the second half of 2003.

## **1.9 Appropriate Food & Non-Food Interventions**

Revised ways of addressing the major food and income deficits need to be put in place. The numbers of people involved and the estimated levels of income/food deficit will require expanded levels of commercial imports/food aid, targeted general food distribution, support for school feeding schemes as well as programmes of support for agricultural rehabilitation including seed, fertiliser input distribution plus tillage services. Broader based livelihood recovery programmes need to be identified.

In tackling the issues of targeting assistance for the most vulnerable and the HIV/AIDS affected, there are three broad areas of support that could be considered.

These are:

- Consumption support initiatives: food aid for the chronically ill, elderly and vulnerable female-headed households – moreover this should be done in recognition of the likely decreased mobility of affected households; continued support for school feeding programmes; appropriately targeted food for work programmes that includes work that is consistent with the capacity and health status of those likely to be involved;
- Productivity enhancing support for the livelihoods of the most vulnerable (here a range of possibilities need to be explored and developed out of the main elements and activities that currently make up peoples livelihoods);
- Household and community safety net initiatives including micro-enterprise developments; support programmes aimed at strengthening local social capital through support to extended family and community initiatives, thirdly fundraising activities.

## **2. INTRODUCTION**

### **2.1 Background - Country Context and Current Situation**

This is the third in a series of rolling assessments planned under the UN WFP Southern Africa Crisis Response Implementation Strategy. It coincides with end of the 2002-2003 Swaziland marketing year and the beginning of the outlook-consumption-year 2003-2004. This is a time when annual food security reviews normally take place.

The current national economic slowdown is proving to be exceptionally deep and broad. The structural context constraining livelihood options remain little changed over the past two-to-three years. Depressed employment opportunities, poor agricultural production, plus rising staple food prices and the effects of HIV/AIDS have undermined livelihoods. The formerly important cotton industry of the Lowveld has more or less collapsed over the past 4-5 years. High levels of household vulnerability combined with the shocks of two years of erratic weather patterns and an economic slow-down (2000-2002) precipitated a crisis for many Swazi communities. Poverty is endemic on Swazi National Land (SNL) where 70% of the population contribute to the agricultural sector's modest 10% share of GDP.

By July 2002 Swaziland had been incorporated as a beneficiary under a WFP Regional Emergency Operational Plan (EMOP). A total of 144,000 people were targeted for a general food distribution (GFD). A total of 13,500 MT of cereal food aid was budgeted for the programme of assistance. The WFP and a consortium of national NGOs formed a partnership to distribute food aid to the most affected areas. As part of a regionally coordinated monitoring programme three rolling assessments were anticipated to provide sub-national food aid targeting details, to inform and guide on-going food security monitoring at the sub-national level and to reassess estimated needs in the light of new events and the actual outcome of critical assumptions underlying CFSAM conclusions. The first two assessments looked at the facts and assumptions underlying estimated effects on the 2001-2002 production-year and 2002-2003 consumption-year.

In the first round assessment, and under the guidance of the WFP reporting formats, it was generally assumed that the numbers of people in need would tend to go up toward the "hungry season" – just before the next harvest. The July-August Swaziland Vulnerability Assessment Committee (SVAC) first-round assessment therefore provided new scenarios suggesting that the proportion of rural population requiring food assistance would rise from 144,000 to 153,000 for the September – November period and from 231,000 to 265,000 for December to March 2003. The total cereal requirement for food aid was therefore increased from 13,500 MT to 19,500 MT.

The second-round November-December 2002 Swazi VAC assessment, using the updated national Household Economy Analysis (HEA) baseline, defined yet a further overall increase in the total numbers of people in need of food aid. The figure for the core EMOP areas rose yet again to an estimate of 297,000 'affected' people. This assessment confirmed that the worst affected areas were the Lowveld, the Lubombo Plateau and parts of the Middleveld. However it also indicated that the other five FEZs had all experienced between 7-10% mean income/food deficits and that the total 'affected' population was as large as 450,000., i.e. there were an additional 150,000 affected people, but lower priority.

The total food aid delivered to Swaziland within the 2002-2003 marketing year was 23,100 tonnes and is equivalent to 12.7% of domestic consumption requirement. The actual number of EMOP food aid beneficiaries peaked at 265,000 people.

A four-day rapid-update exercise in March 2003 was commissioned by the WFP to look at the estimated impacts on the 2002-2003 production-year and likely consequences for consumption in 2003-2004. The ongoing WFP programme had been set up to run from July 2002 to June 2003. It was

therefore urgent to provide some estimates to guide the last three months of the programme that overlapped the immediate post-harvest period. Providing a first early-warning for this year, the rapid-update exercise suggested that the core-affected areas would be the Lowveld Cattle & Cotton and Lowveld Cattle-Cotton-Maize, Lubombo Plateau and Lomahasha Trading & Arable areas and that up to 190,000 people could be affected by food shortages of up to 4.5-6.5 month duration. It also acknowledged that parts of the southern 'dry' Middleveld might be adversely affected. Between April and June 2003 the extension of the WFP EMOP benefited 152,000 people in the Lowveld, Lubombo and 'Dry' Middleveld. Food-Aid delivery in April was 1,768 MT.

The above overview indicates that while the EMOP has benefited the core-affected areas and communities with consumption support, many other non-beneficiaries, outside of core-affected areas, have probably incurred the cumulative consequence to 2-3 years of income/food deficits. Their overall levels of vulnerability have probably increased. Moreover, rather than the EMOP being accompanied by an agricultural rehabilitation/revival in the core affected areas, the 2002-2003 year has turned out to be one of agricultural collapse. It is with a sense of disbelief that the CSO has estimated a 14,000 Ha reduction in cultivated maize in the Lowveld and Plateau areas for 2002-2003. It is indeed a rare event that one encounters a complete crop failure. Added to this is the effective collapse of the cotton industry. Despite the food aid and assistance the depth of the deficits incurred this year are likely to be higher than last year (See section 9).

### 3. METHODOLOGY

#### 3.1 The Analytical Framework:

##### 3.1.1 Household Economy Analysis

The analytical approach adopted has been guided by a regional consultation workshop held in Pretoria in March 2003. As part of a general thrust promoting Livelihood-based Vulnerability Assessment (LBVA), it was agreed that the Swaziland NVAC would continue to use its national RiskMap/Household Economy Approach (HEA) approach.<sup>7</sup> In this latest assessment the Swaziland VAC has been able to build on to the updated baseline of information on livelihoods generated in November and December 2002, the EMOP documentation<sup>8</sup> the two previous rolling assessments<sup>9</sup> and the four-day rapid-update exercise carried out March 2003. NB. This assessment assumes that readers are familiar with these core documents. Collectively these documents provide important relevant supporting information. This report therefore needs to be read as the third in a series of assessments. This round has incorporated an update on the situation of HIV/AIDS and food security including a framework for looking at HIV/AIDS and household vulnerability and the main findings of the MOAC commissioned study.

Using the updated baseline information on 24 livelihood profiles in eight FEZ this round of HEA has involved the following activities:

- the identification and estimation of shocks on current year 2002-2003 production and supply conditions as well as market access situations,
- the modelling of current year shocks on typical patterns of livelihood through a structured problem specification and scenario analysis, - to estimate the effects of coping strategies open to households and to identify who/where people are most at risk, and,
- the subsequent identification of appropriate food and non-food interventions.

HEA is consistent with the existing SADC-FANR guidelines on vulnerability assessment.<sup>10</sup> It provides an understanding on how and to what extent a combination of external and internal vulnerability affect livelihoods. Decision-makers can better predict the likely impact of shocks on given population groups, leading to more effective emergency and development response planning. The November-December 2002 updated livelihood baselines should remain valid and useable for a number of years. The Swaziland NVAC can therefore place more emphasis on better monitoring the severity of hazards and shocks to livelihoods 2003-2006. Monitoring vulnerable populations should be main emphasis now. The priority now needs to be focused more on the chronic problems of poverty issues and HIV/AIDS.

##### 3.1.2 Conceptualizing HIV/AIDS and Food Security

To help conceptualise the multiple impacts of HIV/AIDS on food security a number of stages of HIV/AIDS have been identified: asymptomatic; early illness; chronic illness; critical illness; death and, lastly, survivors. Each phase of the disease is associated with a different impact, which has different implications for policy responses. Clearly these impacts are complex to monitor as the effects of the pandemic shifts from year to year. It is important to emphasise the final category on this continuum -

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<sup>7</sup> For a fuller elaboration see – “An introduction to Save the Children (UK)’s Household Economy Approach and Riskmap programme,” (July 200) and The Household Economy Approach A resource manual for practitioners, (2000), London Food Security & Livelihood Unit SCUK.

<sup>8</sup> WFP (UN World Food Programme) “Southern Africa Crisis Response Implementation Strategy.” WFP Bureau for East and Southern Africa

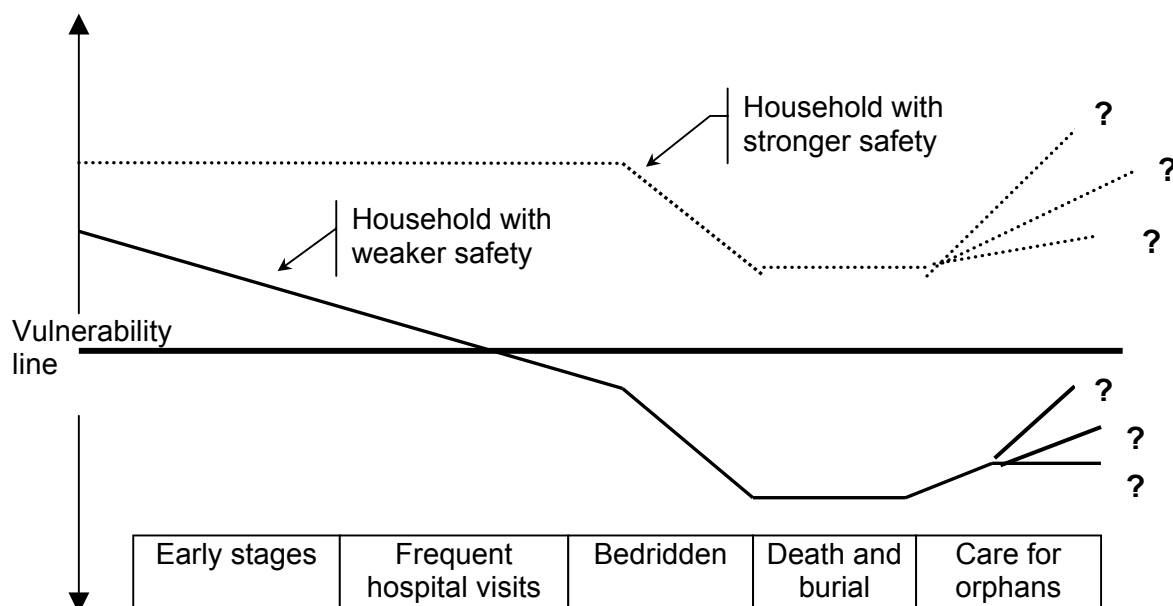
<sup>9</sup> Swaziland NVAC July-August and November-December assessments and the March 2003 Update.

<sup>10</sup> For a current review and discussion regarding HEA and livelihoods approaches see Karim Hussein Livelihoods Approaches compared: A Multi-Agency Review of Current Practice, DFID & ODI October 2002.

the category of survivors. HIV/AIDS has a massive impact on those left living. There are many more 'affected' than 'infected' people.

The diagram below is a useful tool for the conceptualisation of how HIV/AIDS impacts on different households. It is likely to be part of the way forward in examining the links between HIV/AIDS and food insecurity. It is intended to illustrate the multiple impacts through the stages a household may experience. Those households with a stronger economic safety net and a wider range of options to draw upon during the crisis are less vulnerable at each stage of the continuum of HIV/AIDS illness than their poorer counterparts. The dotted line represents the rate of degradation experienced by a household with a stronger economic safety net and a wider range of options, including rights to land, to draw upon during the crisis. The other line represents the rate of economic degradation experienced by a household with a weaker safety net. The different rates of degradation appear to pivot on the presence or absence of physical assets, business income and access to credit, savings or land. From this it is important to recognise that the impact of HIV/AIDS on rural households is not equal: the poorer ones are much less able to cope with the effects of HIV/AIDS than wealthier households who have the ability to access food are better able to absorb shocks.

**Figure 1: The Effect of HIV/AIDS on Households/Livelihood Strategies**



**Source:** adapted from Donahue *et al*, 2000

Further, the diagram indicates that the immediate situation of a single household varies over time. This can be used to help identify how specific interventions can be more or less useful at various stages of illness, to reduce household vulnerability.

IFAD has suggested that the HIV epidemic is disproportionately affecting agriculture relative to other sectors (2001). De Waal and Tumushabe argue that this is not because rates of HIV are higher among workers in the agricultural sector than elsewhere but because the structure of the agricultural sector, especially the smallholder sub-sector, is such that it is much less able to absorb the impacts of the human resource losses associated with the epidemic (2003).

### 3.1.3 Using the Frameworks to Plan Interventions

The Swaziland NVAC approach recognises that the HIV/AIDS pandemic is intensifying existing labour bottlenecks, increasing widespread malnutrition, weakening traditional mechanisms of support during crises, worsening problems of female-headed households, and deepening a range of macroeconomic problems. The impact of HIV/AIDS on rural households means that they are more susceptible to external shocks and much less resilient. Swaziland could well emerge as an example of the so-called HIV/AIDS-induced 'new variant famine'. This hypothesis suggests that Southern Africa is facing a new kind of acute food crisis. The prospects of a return to either sustainable livelihoods or demographic normality in the wake of the pandemic are slim. Some testing of this hypothesis will be done over the next six months through a special demographic survey to be carried out by the SVAC in conjunction with the Central Statistical Office.

There is a clear need to respond to chronic and acute vulnerability that exists at the child, gender, household and community levels in Swaziland. HEA, LBVA and emerging frameworks for conceptualising the effects of HIV/AIDS on households/livelihood strategies can be used to address both food aid needs (short-term livelihood provisioning) and a broader range of interventions that could reduce household vulnerability – whether poverty or HIV/AIDS related. Approaches to reducing vulnerability include the protection of livelihoods through rehabilitation and safety nets, the prevention of the erosion of productive assets and assistance in their recovery. The longer-term development of more resilient and sustainable livelihood systems will need to address the specific challenges of HIV/AIDS affected households and communities.

### 3.2 Collection and Analysis of Data

This report has used three main approaches to its nation-wide collection of information. They are community-based focused group interviews (FGIs), district level key informant interviews and secondary data review and analyses.

All the main secondary sources reviewed for this assessment, are listed in the attached references. They include information on livelihoods, poverty studies, household crop & livestock statistics, crop & food supply assessment mission findings, macro-economic analyses, reviews of consumer price indices, labour force surveys plus the current emergency operational planning documentation.

In preparation for the community based focused group interviews, 15 professionals from government departments, NGO's and a UN agency attended a half-day training programme in preparation for the collection of information on current year conditions. Five teams of three members were tasked with carrying out half-day consultative meetings. A total of 36 communities were selected covering all food economy zones.<sup>11</sup> The consultations focused on understanding the impact of hazards on 2002-2003 production and supply conditions (food crops, cash crops, and gifts/relief). They also assessed changes in 2002-2003 market access (employment, livestock and livestock products, cash crops, non-food products, other trade commodities and food purchase markets). Comparative estimates of price changes 2002-2003 were made for staple foods and for the value of main livestock assets.

### 3.3 HIV/AIDS

This round has incorporated the findings of an update on the situation of HIV/AIDS and food security. The main findings of the Ministry of Agriculture and Co-operatives, the Federation of Swaziland Employers and UNAIDS (2003) *'The impact of HIV/AIDS on Agriculture and the Private Sector in Swaziland'*, are summarised in section 9.

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<sup>11</sup> The villages sampled are listed in Appendix 2.

### 3.4 Data Analysis

Household economy analysis involves identifying food economy areas and populations, identifying wealth groups and normal livelihood conditions, including access to food and cash income, linkages to markets and identifying potential coping strategies. It also involves a problem specification process and analysis that calculates the likely effects of assessed shocks on each wealth group and food economy area. Much of the information gathered in this round has therefore been summarised into a problem specification for 2002-2003.<sup>12</sup> The analysis used the RiskMap V1.2 computer programme to calculate the likely effects of the assessed shocks on each wealth group and food economy areas. As mentioned above, this modelling exercise has built on an earlier phase of Household Economy Analysis. The November-December phase updated the national baseline information on the eight food economy areas, their populations, wealth group characteristics and 'normal' livelihood conditions was inputted into the database six months ago (See Appendix 1). The problem specification is presented in detail in Section 8 and the Results are presented in Section 9 of this report. Elsewhere in the report, national level analysis has drawn on a number of sources, especially the ongoing work of the MOAC and the NEWU. The results on HIV/AIDS are simply a representation of the main findings coming out of the MOAC commissioned study.

The following section outlines the methodology used for the MOAC study. Although the study focused on household or subsistence farming, commercial agriculture, the private sector and the Ministry of Agriculture and Co-operatives, the methods used for the subsistence sector will only be elaborated here, as it is this sector that the Swaziland VAC is focusing on predominantly.

The households used in the survey on subsistence agriculture were obtained through a two-stage sampling process. Initially, households were stratified randomly across the four (administrative) regions in Swaziland and then systematic sampling was used to select the households from each region. Both qualitative and quantitative techniques were used: a structured questionnaire complemented by focus group interviews.

The questionnaire focused on the impact of excess morbidity and mortality due to AIDS on labour supply and income of households. This impact was then investigated by focusing on area under cultivation, crop yield and cropping patterns. A technique called a "verbal autopsy" was used to establish the cause of death in an affected household, which relies on clinical assessment of signs and symptoms during terminal illness reported retrospectively by a close caregiver. Validation of the process was provided in the study. Focus group discussions were held to inform the whole process of data collection.

The cause of death was determined by two independent clinicians to verify the "verbal autopsy". The clinical definition of HIV/AIDS, as described by Piot *et al* was used to identify HIV positive cases and AIDS-related deaths (1992), a strict and consistent criterion, which was followed throughout. Two clerks entered data on different computers to ensure high quality and Epi Info2000, SPSS 7.8 and Stata Quest were used to analyse the data.

The entire process of planning, preparation, data collection, analysis and report writing of this Third Round Assessment took place between the 7<sup>th</sup> May & 10<sup>th</sup> June, 2003.

The assessment represents the collaboration by a number of organisations and their staff. The organisations include the WFP, MOAC, Save the Children, Swaziland Farmers Development Foundation, Lutheran Development Service and Baphalali Swaziland Red Cross Society.

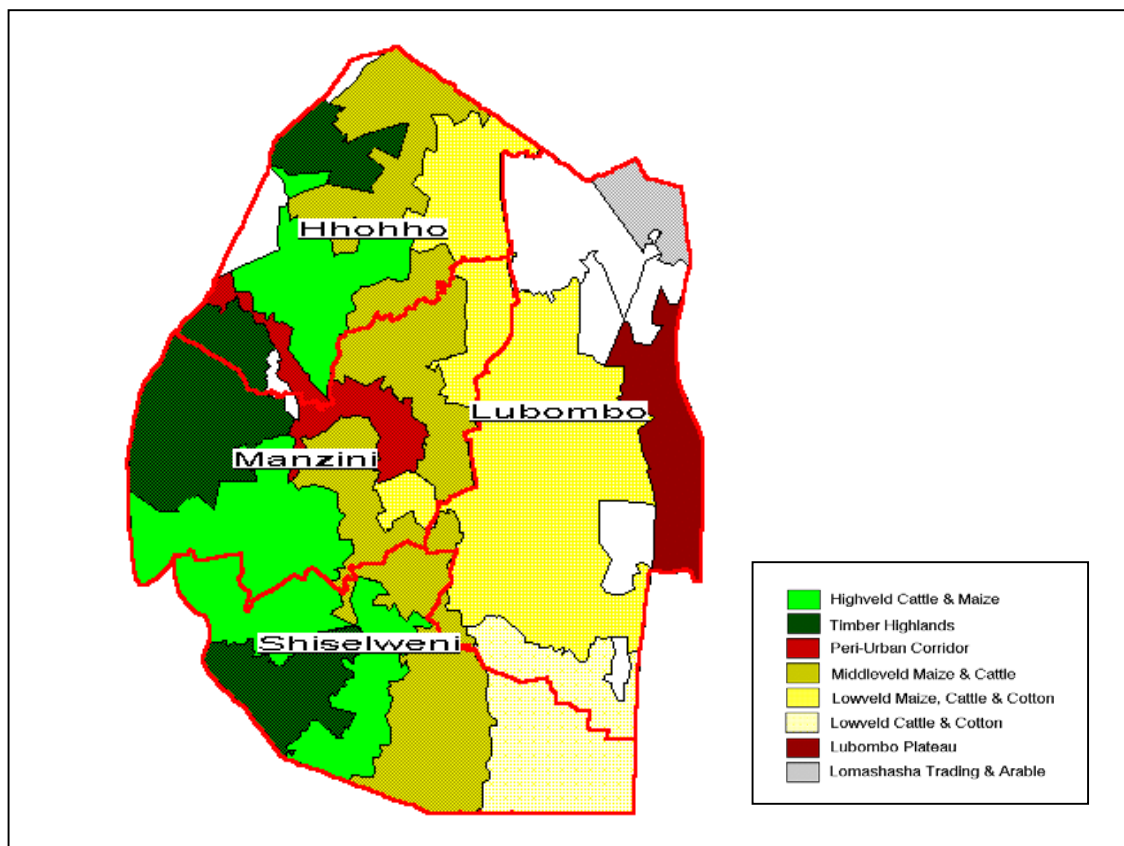
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<sup>12</sup> The summary parameters for the problem specification have been synthesised from the findings of the NEWU, the latest CFSAM, agro-meteo reports and updates and the findings of the Tinkhundla-level consultations

#### 4. LIVELIHOOD/FOOD ECONOMY ZONES

Swaziland borders the Republic of South Africa and Mozambique. Landlocked and mountainous it is 17 364 km<sup>2</sup> in size. Arable land makes up about 11% of the total surface area. Significant cattle populations utilise the extensive mountain range lands and semi arid areas of the Lowveld in a mixed farming system. The country is divided into four agro-ecological zones – the Lubombo Plateau, the Lowveld, the Middleveld, and the Highveld. The sub-tropical climate is characterised by wide ranges in total annual rainfall including periods of droughts that particularly affect the Lowveld and Middleveld. However, in addition to protracted dry spells, heavy rainfalls, storms and flooding also negatively impact agricultural production. This is especially so when summer tropical cyclones (Jan-March) strike the southern coast of Mozambique. Maize is the main cereal crop grown. Between 1990 and 2000 the area under maize has fallen by 40%. While average yields have gone up, the net effect was that production in 2000 was down (-10%) on what it was in 1990. Swaziland normally imports cereals (maize, wheat and rice) estimated to be about 28% of national consumption needs. However, in the past three years there has been a significant fall in the self-sufficiency ratio with significant increases in the imports of wheat and rice.

MAP 1.  
Swaziland Districts and Food Economy Zones



Local production and market relations define eight Food Economy Zones (FEZs) within the overall parameters of four agro-ecological regions. The Highveld has been divided into two main zones - the Timber Highlands and the Highveld Maize and Cattle areas. The Urban Corridor traverses the Highveld. It forms a tract of dense peri-urban settlement that links Manzini, Mbabane and surrounding areas to the South African border. The corridor also crosses the central Middleveld. It terminates just east of Manzini. The Middleveld Maize and Cattle forms a long broken escarpment region between the

wetter Highveld and drier Lowveld. Because of the diversity of conditions found within the Middleveld there are plans to divide it into its 'moist' and 'dry' sections. The Lowveld is currently subdivided into two parts – the dry southern Cattle and Cotton Lowveld and the more diversified northern Cattle, Cotton and Maize Lowveld. Within the Lowveld there are large tracts of industrial sugar production. The Lubombo Plateau is also divided into two – the more remote Lubombo Plateau in the centre and, in the north, the Lomahasha Trading and Arable that straddles the main road through to Maputo and Mozambique. The sugar estates, national parks, forest reserves and all urban areas are excluded from the food economy zones and the estimates of FEZ populations.

The country is divided into four regional administrative divisions – Hhohho, Manzini, Shiselweni and Lubombo. These are further subdivided into Tinkhundlas – clusters of chieftaincies. Depending on their size and populations - 1-3 poling divisions are located within individual Tinkhundla. There is considerable scope for confusion between the Lubombo administrative region and the Lubombo agro-ecological region. The latter is defined by the Lubombo mountains and is made up of three Tinkhundla – Tikhuba, Lugongolweni and Lomahasha. The Lubombo administrative region is much bigger and is made up of a total of 11 Tinkhundla and occupies most of the northern Lowveld and the Lubombo plateau. Map 1 shows the regional administrative boundaries overlaid on the food economy zones. (Detailed summaries of typical livelihood patterns for three wealth groups for each zone are presented in Appendix 1).

## 5. NATIONAL LIVELIHOOD/FOOD SECURITY: 2002-2003 Consumption Year

### 5.1 Crop & Food Supply

Table 1 below compares the figures for opening April 2002 food balance estimates with the closing figures 12 months later. This information provides a useful way of comparing the early warning forecast issued at the National level in April last year against actual events (especially levels of commercial imports and flows of food aid) and any other subsequent updates of earlier estimates made elsewhere on the national cereal balance. The April figures are estimates and the March figures are much closer to what has actually transpired in the year.

**Table 2 National cereal balance review as at April 2002 and March 2003**

<b>2002/03 MARKETING YEAR</b>	All Cereals As @ April 2002	All Cereals As @ March 2003
<b>A. Domestic Availability</b>	<b>72300</b>	<b>76700</b>
A.1 Opening Stocks	2500	6800
Formal/SGR	0	0
On Farm		
A.2 Gross Harvest (2001/02)	69800	69900
<b>B. Total Requirements</b>	<b>205800</b>	<b>205800</b>
B.1 Domestic Consumption Req.	181600	181600
B.2 Desired SGR Carryover Stocks	10500	10500
B.3 Unofficial Exports	2000	2000
B.4 Seed use	1200	1200
B.5 Losses & other uses	10500	10500
<b>C. Domestic Shortfall/Surplus</b>	<b>-133500</b>	<b>-129100</b>
D. Commodity Cross Substitution	0	0
<b>E Total Planned Imports</b>		0
Commercial	95500	0
Food Aid	0	0
E.1 Received		128800
Commercial	9400	105700
Food Aid	0	23100
E.2 Expected	86100	0
Commercial		0
Food Aid		0
<b>F. Exports</b>		<b>0</b>
Commitments Shipped		0
Commitments Not Yet Shipped		0
<b>G. Import Gap/Surplus</b>	<b>-38000</b>	<b>-300</b>

Estimates of domestic availability in March 2002 turned out to be 93.5% of the final figure a year later. Concerning total requirements, projections remained constant through out the year. (NB there is no monitoring of actual SGR stocks, unofficial exports, seed use and other losses and uses). The revisions to the domestic availability have brought about a reduction in the domestic shortfall from - 137,500 to - 129,100 MT. Throughout the year commercial imports and imports of food aid were monitored. Total received imports as at March 2003 were in excess of those planned as at April 2002. However as the final closing import gap indicates, the increased levels of imports fell just short of satisfying Total Requirements.

## **5.2 Macro Economic Trends**

The country's GDP growth rate is forecast at 2.6% for 2003. This is up from, 2.0% in 2002 – according to the Ministry of Economic Planning and Development. For the last quarter of 2002 the inflation rate declined from 12.9% to 11.5%. During the first quarter of 2003, the inflation rate has dropped further to 9.3%. Projections for employment 2000-2004 are an indication of stagnation with a -0.1% change.

## **5.3 Market Prices**

The consumer price index for cereal products for the year 2002/03 was calculated at 15.7%. These are made up of results for: Rice -3.3%, Maize 21.8%, Maize-meal 17.6%; other cereals: 17.4%, Flour 18.1%, Pastas 28.3%, Brown bread 15.8% and Biscuits & buns 14.9%.

## **6. HOUSEHOLD FOOD SECURITY REVIEW – 2002-2003**

### **6.1 Existing Baseline Information and the HEA Approach.**

At the outset of the current emergency in Swaziland there was a consolidated set of baseline information relating to household livelihoods/food security. Swaziland has been using its national Household Economy and RiskMap database since 1998. It has applied HEA methods in the assessment of the impacts of both floods and drought conditions in the period 1998-2002. The national baseline has therefore been used throughout the emergency. However, as an integral part of the Second Round Assessment, the 1998 livelihood profiles in each food economy zone were updated in November and December 2002. A total of 24 typologies of livelihoods have been re-described. These refer to three socio-economic groups ('poor', 'middle' and 'rich') located in eight food economy/livelihood zones. These Food Economy Zone (FEZ) profiles provide both qualitative and quantitative descriptions. They are sufficiently robust to be used to as a baseline against which modelling exercises examine the likely consequences of shocks on the livelihoods of various wealth groups and areas. The Swaziland National RiskMap was carefully constructed such that the evidence coming out of the monitoring units of agricultural production – Highveld, Middleveld, Lowveld and Lubombo Plateau could be transferred into current year hazard information at the Food Economy Zone. The same information has formed the basis of the collaboration between the MOAC and the FAO/WFP on the CFSAMs.

HEA and RiskMap analyses provide an additional tool and information with which to assess the current and future situations. This Third Round assessment has therefore focused on monitoring current year hazards.

### **6.2 Shifting Perceptions of Household Food Security Needs 2002-2003.**

Since April 2002, when the emergency began, the FAO/WFP and the Swaziland NVAC have produced four 'snap-shots' of the food security situation. The main findings and the shifting perceptions of household food security needs during 2002-2003 are reviewed below. Through the three rolling vulnerability assessments carried out by Swazi VAC, WFP adjusted its EMOP programme in December 2002 and in March 2003. Throughout the emergency the main geographic focus has been in the Lowveld, Lubombo Plateau and the Dry Middleveld.

Following the erratic weather and prolonged dry spells that severely affected crops in 2001/2002 season, an FAO/WFP Crop and Food Supply Mission (CFSAM) visited the country to review the food situation and outlook for 2002/2003 marketing year. The mission estimated 144,000 people in the Lowveld, Middleveld and Lubombo Plateau required food assistance. Recommendation from the mission included approximately 17,720 tonnes of food (including such commodities as maize, pulses, vegetable-oils and iodised salt) over a period of three to six months. The initial WFP EMOP was based on the recommendation of the CFSAM report. It anticipated a programme response from July to November 2002. According to available WFP monthly reports, a total of 126,000 to 147,000 people were targeted with maize, pulses, vegetable oil and CSB (introduced later) between July and November 2002. The tonnage distributed each month ranged from 1,500MT to 2,130MT. Slightly over 70% of people targeted were in the Lowveld.

### 6.2.2 September 2002 Vulnerability Assessment

The vulnerability assessment carried out in July/August 2002 estimated 153,000 people in need of food assistance between the period September to November 2002 with a total cereal requirement of 6,852MT. According to the Swazi VAC report released on the 16<sup>th</sup> September 2002, the number of people in need of food assistance was expected to rise from 153,000 to 265,000 between November and December 2002. The projected cereal requirement stood at 19,500MT. The WFP maintained its level of support to 144,000 people through to November.

**Table 3 Estimated #'s of People in Need and Metric Tonnes of Food Aid**

Period	CFSAM			VAC		
	# people in need	% total population in need	MT	# people in need	% total population in need	MT
Sept –Nov 02	144,000	13	3,456	153,000	14	6,852
Dec 02–March 03	231,000	21	10,044	265,000	24	12,720
<b>Total</b>	<b>231,000</b>		<b>13,500</b>	<b>265,000</b>		<b>19,500</b>

### 6.2.3 November - December 2002 Vulnerability Assessment

The second round of the rolling assessments was conducted in November and December 2002. Intensive fieldwork was done to collect hazard information and update the livelihood profiles in each FEZ. The results of this particular assessment estimated 297,000 people were in need of food assistance with income/food deficits equivalent of two-four months requirements. In line with the previous assessments, these estimated numbers of people fell in the previously defined 'worst affected' areas i.e., Lowveld, Lubombo Plateau and parts of the Middleveld. With effect from December 2002, the WFP pipeline scaled up from targeting 144,000 to 265,000. This pipeline was operational for four months, December 2002 and March 2003.

### 6.2.4 March 2003 Vulnerability Assessment

The nine-month WFP emergency response program was scheduled to end in March 2003. This was in anticipation of the April/May 2003 harvest and the assumption that food aid in the immediate post-harvest period would be unnecessary. However, early warning information indicated that most of the EMOP supported areas were likely to have a very poor harvest. In response, WFP requested the Swazi VAC to carry out a short rapid update of the food security situation to provide information and a basis for justifying the extension of the emergency response for a further three months. The findings of the quick desktop update projected that 190,000 people in the Lowveld, dry parts of the Middleveld and the Lubombo Plateau were affected by food shortages of between four and a half months to six and a half months of their annual consumption needs. The subsequent WFP emergency response targeted 152,000 people between April and June 2003. According to the April 2003 WFP monthly report, 152,571 people received food aid amounting to 1,768MT.

## 6.3 Relationship between Food Insecurity and HIV/AIDS.

This Third Round assessment took forward the HIV/AIDS issues by reviewing the existing published information on HIV/AIDS. This has been presented in the methodology section and in section 8 and 9. The Swazi NVAC is currently supporting a demographic survey that will review morbidity and mortality trends against the 1997 census. There is also a forthcoming HIV/AIDS and food security study that will take place within the next six-months. Many other multi-sectoral linkages (health & nutrition,

education, child protection and water supply and sanitation) exist between food and livelihood security and warrant a number of related studies.

## **6.4 Conclusions on Household Food Security Review**

Depending upon circumstances people have coped by using a combination of household level responses and by benefiting (or not) from a number of emergency response and other supportive policies and programmes. Knowledge about people's cash savings, financial and other assets is very limited. Where available they have probably been used extensively. The implication is that in many cases they are well depleted. The First Round assessment spent quite some effort in exploring coping strategies.

### **6.4.1 Multi-Sectoral Interactions**

The Swaziland NVAC recognises the priority of learning about the linkages between food security/livelihoods and other sectors. Apart from the HIV/AIDS review presented in this report there was no incorporation of multi-sectoral issues into the third round assessment. The consolidated list of key questions relating Health and Nutrition, HIV/AIDS, Education, Water and sanitation and child protection has spelt out a framework for analysis of these linkages. However, this decision was taken anticipating an intensive and short livelihood/food security assessment. Incorporating the multi-sectoral issues requires more time and effort to select the most appropriate indicators, scanning the secondary sources for existing information and assessing its reliability, choosing between techniques to collect the data and simply allowing enough time for consultation to secure appropriate levels of technical input. A considerable amount of time and effort needs to be put into the prioritisation of issues and on what represents an appropriate level of detail. Ideally a whole consultative dialogue, training and orientation for stakeholders in multi-sectoral analysis needs to be put in place.

### **6.4.2 Food aid, Coping Strategies and Nutritional Status**

Food aid has played a significant role in averting a humanitarian crisis in the Lowveld, Lubombo Plateau and parts of the Dry Middleveld according to household coping strategies surveyed and reported in the July/August 2002 round of assessment.

The issue of monitoring the nutritional status of vulnerable populations is very limited. A much higher level of nutritional monitoring is required. This is even more imperative in the light of the HIV/AIDS situation in the country.

### **6.4.3 Accuracy of Predictions for 2002-2003**

Accuracy of the assessment predictions on numbers of vulnerable populations have been judged "quite good". If the early warnings are compared against the EMOP responses (actual beneficiaries), the experience in 2002/2003 indicates that the EMOP expanded to 265,000 beneficiaries, in December 2002 – March 2003 (as predicted). The extension of food aid to 152,000 beneficiaries in April/June 2003 partially confirmed the March 2003 early warning projection of up to 190,000 vulnerable people. It is important to note that the pre-existing plans were a 100% withdrawal of all food aid in the immediate post-harvest period.

## 7. NATIONAL LEVEL FOOD SECURITY: 2003-2004 Consumption year

The NEWU and CSO current estimates for production in 2002-2003 are summarised in table 4 below. It shows the overall national picture and the situation at the level of the four agro-ecological zones. Wide-ranging production conditions have been experienced in 2002-2003. The Highveld is expected to achieve near normal production levels. The Lowveld has experienced an almost unprecedented crop failure. Conditions in the Middleveld and the Lubombo Plateau are depressed. Overall domestic production is estimated to be 61% of the six-year mean. This represents a current year production shortfall of 38-40,000 MT.

Agro-Ecological Zones	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	Six-Year Average	2002/03	2002/03 as Percent of Average
Highveld	30630	44741	45486	38721	33493	24692	36294	35184	97%
Middleveld	37134	50661	39939	43514	28995	28929	38195	23501	62%
Lowveld	32527	24562	17358	27627	16860	21592	23421	232	1%
Lubombo Plateau	7916	5240	4557	2917	3187	4514	4722	3617	77%
<b>Swaziland</b>	<b>108207</b>	<b>125204</b>	<b>107340</b>	<b>112779</b>	<b>82535</b>	<b>79727</b>	<b>102632</b>	<b>62534</b>	<b>61%</b>

The table 5 summarises the opening cereal balance statement for the consumption year 2003-2004. Total Domestic Availability is estimated at 79,000 tonnes comprising of 73,000 tonnes of maize, 6,300 tonnes of wheat and 100 tonnes of rice. Forecast domestic harvest from SNL is estimated at 62,500 tonnes. The total figure of 73,000 tonnes for domestic availability for maize includes an additional (assumed) 10,000 tonnes of maize production from the Title Deed Land (TDL). Total Requirements are estimated 215,500 tonnes consisting of 148,900 tonnes of maize, 51, 100 tonnes of wheat and 15,500 tonnes of rice. The Domestic shortfall is therefore estimated 146,000 tonnes of composed of 86,400 tonnes of maize, 44,800 tonnes of wheat and 15,400 tonnes of rice.

Planned imports for this year stand at a total of 74,000 tonnes comprising 28,000 tonnes of maize, 42, 000 tonnes of wheat and 4,000 tonnes of rice. Figures of planned imports of food aid for this marketing year were not available at time of compilation of this report. There is a proposed WFP EMOP to support 100,000 people between July-December 2003, increasing to 150,000 between January and March 2004. It is anticipated that the National Disaster Task Force will play an expanded role in Food Aid provision.

As at June 2003, the uncovered gap to satisfy Total Requirements (including losses and other uses, seeds, unofficial exports, desired stocks and domestic consumption requirements) is 72, 600 tonnes. This total is composed of 58,400 tonnes of maize, 2,800 tonnes of wheat and 11,400 tonnes of rice. The closing stocks at the end of April stood at 300 tonnes of maize and 8,400 tonnes for wheat. Separating out the Domestic Consumption Requirement component against Domestic Availability indicated that the domestic shortfall would be reduced to 113,100 tonnes. This figure less the total planned import of 74,000 tonnes indicated a domestic consumption gap of about 40, 000 tonnes. This correlates closely with the estimated current year production shortfall.

**Table 5: Swaziland's Cereal Balance Sheet for the 2003/2004 Marketing Year (As at 30th April 2003) Figures in Thousands of Tonnes**

	Maize	Wheat	Rice	Total
<b>A Domestic Availability</b>	<b>73,0</b>	<b>6,3</b>	<b>0,1</b>	<b>79,4</b>
A. 1 Anticipates Opening Stocks (as at 1/4/2003)	0,5	6,3	0,0	6,8
Formal (monitored)	0,5	6,3	0,0	6,8
On Farm (unmonitored)*	0,0	0,0	0,0	0,0
A. 2 Forecast Gross Harvest	62,5	0,0	0,1	62,6
<b>B Total Requirements</b>	<b>148,9</b>	<b>51,1</b>	<b>15,5</b>	<b>215,5</b>
B.1 Domestic Consumption Requirement: Food use	133,3	44,1	15,0	192,4
B.2 Desired Minimum Stock Requirement	3,0	7,0	0,5	10,5
B.3 Unofficial Exports	2,0	0,0	0,0	2,0
B.4 Seed Use	1,2	0,0	0,0	1,2
B.5 Losses and other uses **	9,4	0,0	0,0	9,4
<b>C Domestic Shortfall/Surplus</b>	<b>-75,9</b>	<b>-44,8</b>	<b>-15,4</b>	<b>-136,1</b>
<b>D Total Planned Imports</b>	<b>28,0</b>	<b>42,0</b>	<b>4,0</b>	<b>74,0</b>
(Commercial)	28,0	42,0	4,0	74,0
(Food Aid)		0,0	0,0	0,0
D.1 Received	4,3	6,3	0,0	10,6
(Commercial)	2,5	6,3	0	8,8
(Food Aid)	1,8	0	0	1,8
D.2 Expected	23,7	35,7	4,0	63,4
(Commercial)	25,5	35,7	4,0	65,2
(Food Aid)	-1,8	0,0	0,0	-1,8
<b>E Exports</b>	<b>2,0</b>	<b>8,8</b>	<b>0,0</b>	<b>10,8</b>
Planned Exports	0,0	1,0	0,0	1,0
Unofficial Exports	2,0	0,0	0,0	2,0
Exports Completed	0,0	7,8	0,0	7,8
<b>F Uncovered Gap: Unallocated Surplus</b>	<b>-47,9</b>	<b>-2,8</b>	<b>-11,4</b>	<b>-62,1</b>
<b>G Closing Stocks as at 30th April 2003</b>	<b>0,3</b>	<b>8,4</b>	<b>0,0</b>	<b>74,0</b>

## **8. HOUSEHOLD FOOD SECURITY: Problem Specification 2002-2003**

### **8.1 Introduction**

The household level projections in Section 9 below are based on an analysis of the effects of hazard impacts on the updated November-December 2002 livelihood profiles. A number of hazards have been summarised into a problem specification for each food economy zone. Indexes are used to measure changes against 'normal' production and supply conditions for food crops, grazing, gifts and relief and cash crops.

Concerning the shocks of HIV/AIDS, no area specific HIV/AIDS indexes have been used to further adjust the shocks on livelihoods at the FEZ level. Frameworks for analysis are being developed. However, agro-ecological and regional summaries of production levels against running averages of production are assumed to include the impacts of HIV/AIDS on agricultural production

The problem specification presents a summary of the estimated shocks and their severity for various components of production and supply, market access and food prices for each food economy zone. They are presumed to capture much of the HIV/AIDS related effects as well. These problem specifications are drawn from summaries of the 36 focus group interviews sampled from each FEZ. They have been supplemented with information and assessments based on key informant interviews at the national level and with reference to NEWU reports, price data and meteorological summaries. NEWU and Swaziland National VAC members contributed to judgements about the severity of hazard impacts in each food economy zone.

### **8.2 Shocks 2002-2003**

The main production impacts modelled have been reduced food and cash crops production levels and reduced production from poor grazing conditions in some areas. Food price rises in the year have been a major but variable element of shock to household purchasing power and have been factored into the problem specification. Various levels of constrained market access have been factored into the problem specification (see **Problem Specification Sheet below**).

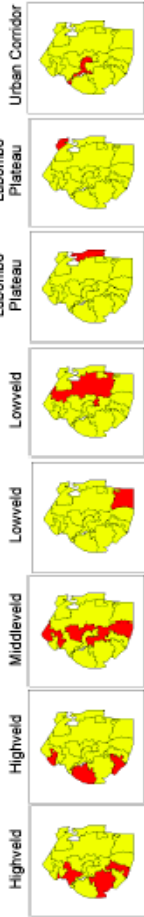
# Problem Specification Sheet

6/10/03

SWAZILAND APRIL-MAY  
ASSESSMENT

June 2003 Problem

## Problem Specification for the Swazi May-June 2003 Assessment Simulation



Highveld Maize & Cattle	Highveld Timber Highlands	Middleveld Maize & Cattle	Lowveld Cotton & Maize	Lubombo Plateau	Lubombo Plateau	Urban Corridor
155000	79000	255000	43000	147000	22000	104000

Food Economy Zone Name	Population in FEZ	Lomahasha Trading & Arable	Urban Corridor
Highveld Maize & Cattle	155000	25000	104000

Production/Supply Changes	Changes in "normal" production and supply conditions Index 100=Normal (Index range 0-300)						
Food Crops	80-100	40-60	0-10	0-10	40-60	10-20	40-60
Grazing	80-90	40-60	40-50	40-50	50-60	40-50	40-60
Relief/Gifts	100	100	100	100	100	100	100
Cash Crops	80-100	30-40	0-10	0-10	40-60	10-20	40-60

Access to Markets	Changes in "normal" market access - Index 100=normal (or one of 5 categories of depressed market access 75-100, 50-75, 25-50, 0-25 and 0)						
Employment	75-100	75-100	25-50	25-50	25-50	25-50	75-100
Livestock	100	100	100	100	50-75	50-75	100
Cash Crops	100	100	100	100	100	100	100
Non-food Production	100	75-100	75-100	75-100	100	100	100
Other Trade	100	100	100	100	100	100	100
Food Purchase	100	100	75-100	75-100	100	100	100

Change Food Price	Changes in "normal" Food Price - Index 100=Normal (Index range 40-200)						
120	125	120	120	120	130	120	120

### **8.2.1 Highveld Cattle & Maize**

Food and cash crop production (maize) is expected to be from 80- 100% of normal. Production within grazing areas are depressed at 80– 90% of normal and cash crops are expected to yield 80–100% of normal. Access to employment markets is depressed to 75-100% of normal. Food price inflation in the year was 20% above normal.

### **8.2.2 Timber Highlands**

Food crop production is expected to be from 80-100% of normal. Grazing areas are 80-90% of normal and cash crops are expected to produce 80-100% of normal. Access to employment markets is depressed at 75-100% of normal. Food price inflation in the year was 25%.

### **8.2.3 Peri-Urban Corridor**

Food crop production is expected to be from 40-60% of normal. Grazing areas are 40-60% of normal and cash crops are expected to produce 30-40% of normal. Access to employment and livestock markets is depressed at 75-100% of normal. Food price inflation was 20%

### **8.2.4 Middleveld Maize & Cattle**

Food crop production is expected to be from 40-60% of normal. Grazing areas are 40-60% of normal. Cash crops are depressed at 30-40% of normal. Access to employment and non-food production markets depressed at 75-100% of normal. Food price inflation in the year was the highest at 20%.

### **8.2.5 Lowveld Cattle & Cotton**

Food crop production is expected to be from 0-10% of normal. Cash crops are 0-10% of normal. Grazing conditions are depressed at 40-50% of normal. Access to employment market is highly depressed at 25-50% of normal. Non food and Food purchase access have also been depressed at 75-100% of normal. Food price inflation in the year was 20%.

### **8.2.6 Lowveld Cattle, Cotton & Maize**

Food crop production is expected to be from 0-10% of normal. Grazing conditions have been depressed to 40-50% of normal. Cash crops are 0-10% of normal. Access to employment market is very depressed at 25-50% of normal. Non food and Food purchase access have also been depressed at 75-100% of normal. Food price inflation in the year was 20%.

### **8.2.7 Lubombo Plateau**

Food crop production is expected to be from 40-60% of normal. Grazing conditions have been depressed to 40-50% of normal. Cash crops are 40-60% of normal. Access to employment market is very depressed at 25-50% of normal. Livestock market access was depressed at 50-75% of normal. Food price inflation in the year was 30%.

### **8.2.6 Lomahasha Trading & Arable**

Food crop production is expected to be from 10-20% of normal. Cash crops are 10-20% of normal. Grazing conditions have been depressed to 40-50% of normal. Access to employment market is depressed at 75-100% of normal. Livestock market access was depressed at 50-75% of normal. Food price inflation in the year was 20%.

The simulated effects of these shocks are presented in Section 9 below. The most affected areas in terms of hazard impacts are the two Lowveld FEZs where poor food production (failure to near failure) and poor cash crop production (failure to near failure) is combined with very poor access to normal employment conditions. The food price inflation figures have been considerably dampened down in this third round assessment. The Tinkhundla level interviews have probably not measured a year on year inflation but have generated a figure covering a 4-5 month recall period—i.e. from May 2003 back to December last year.

## **9. RESULTS AND ANALYSIS.**

### **9. 1 Interpreting the Results**

The findings of the analysis are summarily presented in the table of results below. The analysis goes through a process of calculating the impacts on the food economy zone without any compensating steps, generating a first measure called - the crude deficit. It then examines the use of options to make up the deficit, using various coping strategies such as use of food stocks, increased use of wild foods, increased use of paid labour etc. A final result is presented after taking account of possible compensating steps. It is important not to interpret these figures on income/food deficits directly into tonnes of FOOD AID. Income deficits can lead to food deficits and equally food deficits can be remedied through various income transfer mechanisms.

The core summary measures include: the percentage of the population with an income/food deficit, an estimate total number of affected people, and the mean deficit measured as a percentage of annual food needs. Finally it presents high and low estimates of income/food deficit measured in tonnes of cereals required to make up the deficit. The two sets figures on estimates of tonnes assess the consequences of a 'with' and 'without' access to food stocks and cash savings in the Lowveld and Plateau food economy Zones. After three years of adverse conditions, a high level of depletion of stocks seems a logical assumption in these two regions.

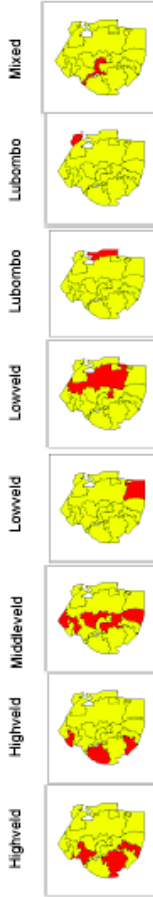
# Table of Results By FEZ

6/5/03

SWAZILAND MAY-JUNE 2003  
Simulation Results

Results Consolidated

## Results of the Swazi May-June 2003 Simulation



Agro Ecological Zone  
Food Economy Zone No.

Location

Food Economy Zone Name Population in FEZ	Highveld 1550000	Highveld Highlands 790000	Middleveld Maize & Cattle 2550000	Lowveld Lowveld 430000	Lowveld Cattle & Cotton 430000	Lowveld Cattle & Maize 1470000	Lowveld Plateau 220000	Lubombo 250000	Lubombo Plateau 220000	Urban Corridor 1040000	Totals 8300000
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### The Effects of the problem on the Food Economy/Agroecological Zone - with no compensating steps

	0%	20%	80%	100%	100%	80%	80%	90%	60%
% of population with a deficit	0	15800	204000	43000	147000	17600	22500	62400	62400
Estimation of affected population	0%	11%	15%	37%	48%	42%	35%	10%	10%
Mean deficit as % of annual food needs									

% of population with a deficit  
Estimation of affected population  
Mean deficit as % of annual food needs

### Comparison of Cereal Production short falls per Agroecological zone with the crude deficit estimated by the simulation

Highveld	Lowveld	Lubombo Plateau	Corridor	Totals
1110	21360	900	2370	36070
300	19960	2140		33150

NEWU est. of Cereal Prod. shortfalls Tonnes  
Crude deficit est. by the simulation Tonnes

	0%	10%	80%	80%	90%	80%	60%
% of population with a deficit	0	7900	204000	34400	132300	17600	20000
Estimation of affected Population	0%	7%	12%	43%	58%	31%	48%
Mean deficit as % of annual food needs							

% of population with a deficit  
Estimation of affected Population  
Mean deficit as % of annual food needs

### Scenario One - Assuming normal levels of food stocks and cash savings in all FEZs

0	140	2670	2870	12880	600	1510	720	21160
0	290	2830	2830	13950	960	1730	2660	25250

Tonnes estimate Best case (low)  
Tonnes estimate Worst Case (high)

### Scenario Two - Assuming normal food stocks and cash savings are depleted in the Lowveld & Lubombo

0	140	5120	2590	15560	690	1140	720	25960
0	290	7910	3060	15560	1050	1140	2660	31670

Tonnes estimate Best case (low)  
Tonnes estimate Worst Case (high)

## **9.2 Results of the HEA by Food Economy Area**

### **9.2.1 Results for Highveld Maize & Cattle**

The problem impacted 0% of the population and there was no crude deficit.

### **9.2.2 Results for Timber Highlands**

The problem impacted 20% of the population (15,800) and generated an initial crude deficit of 11% of annual income/food needs. The final result after coping strategies indicates that 10% of the population (7900) are likely to experience a mean deficit of 7% of their annual food needs. At the FEZ level, this is estimated at a modest 140-290 tonnes income/food deficit. The main coping strategy that reduced the deficit was the recourse to more employment.

### **9.2.3 Results for Middleveld Maize & Cattle**

The problem impacted 80% of the population (204,000) and generated an initial crude deficit of 15% of annual income/food needs. The final result after coping strategies indicates that 80% of the population (204,000) are likely to experience a mean deficit of 12% of their annual food needs. At the FEZ level, this is estimated at 5,120-7,910 tonnes income/food deficit. The main coping strategies that reduced the deficit were the use of food stocks and recourse to more non-food production.

### **9.2.4 Results for Lowveld Cattle & Cotton**

The problem impacted 100% of the population and generated an initial crude deficit of 37% of annual income/food needs. The final result after coping strategies indicates that 80% of the population are likely to experience a mean deficit of 43% of their annual food needs. At the FEZ level, this is estimated at 2,670-2,830 tonnes income/food deficit, assuming normal levels of food stocks and cash savings. Assuming that food stocks and cash savings are depleted, it is estimated at 2,590-3,060 tonnes income/food deficit. The main coping strategies that reduced the deficit were the use of food stocks, recourse to more labour and additional sales of livestock.

### **9.2.5 Results for the Lowveld Cattle, Cotton & Maize**

The problem impacted 100% of the population and generated an initial crude deficit of 48% of annual income/food needs. The final result after coping strategies indicates that 90% of the population are likely to experience a mean deficit of 58% of their annual food needs. At the FEZ level, and assuming normal levels of food stocks and cash savings, this is estimated at 12,880-13,950 tonnes income/food deficit. Without food stocks and savings it is estimated at 15,560 tonnes income/food deficit. The main coping strategies that reduced the deficit were the use of food stocks and recourse to more labour.

### **9.2.6 Results for the Lubombo Plateau**

The problem impacted 80% of the population and generated an initial crude deficit of 42% of annual income/food needs. The final result after coping strategies indicates that 80% of the population are likely to experience a mean deficit of 31% of their annual food needs. At the FEZ level, and assuming normal levels of food stocks and cash savings, this is estimated at 600-960 tonnes income/food deficit. Without food stocks and savings it is estimated at 690-1050 tonnes income/food deficit. The main coping strategies that reduced the deficit were the recourse to more labour, additional sales of livestock, additional other trade and more non-food production.

### 9.2.7 Results for the Lomasha Trading & Arable

The problem impacted 90% of the population and generated an initial crude deficit of 35% of annual income/food needs. The final result after coping strategies indicates that 80% of the population are likely to experience a mean deficit of 48% of their annual food needs. At the FEZ level, and assuming normal levels of food stocks and cash savings, this is estimated at 1,510-1,730 tonnes income/food deficit. The main coping strategies that reduced the deficit were the use of food stocks recourse to more labour and additional sales of livestock.

### 9.2.8 Results for the Urban Corridor

The problem impacted 60% of the population and generated an initial crude deficit of 10% of annual income/food needs. The final result after coping strategies indicates that 60% of the population are likely to experience a mean deficit of 8% of their annual food needs. At the FEZ level, this is estimated at 720-2660 tonnes income/food deficit.

## 9.3 Results of the Ministry of Agriculture and Co-operatives, the Federation of Swaziland Employers and UNAIDS HIV/AIDS Study.

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 death in the household, death but not related to HIV/AIDS and 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 the 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 6 and discussed further below:

**Table 6: Impact of an 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 household	-	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 the sick member. This diversion of labour may have a serious impact on agricultural production,

particularly if the produce is labour intensive. The MOAC 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 study found that 17 percent 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.

**Dependency ratio:** The manner in which HIV/AIDS, as opposed to other factors, is changing the dependency ratio in the country is not clear. However, given the national figures from the ANC surveys and the data available in the MOAC study, there is a logical and significant impact. More comprehensive assessments of the production of the population in key age groups that are 'dependent as against being productive' must await the results of the current dependency survey, which is being conducted by the Central Statistical Office on behalf of the Swaziland National VAC. This study is specifically investigating health, morbidity and mortality issues in order to get a better assessment of the impact of AIDS. The study will nonetheless have to 'infer' AIDS deaths as a major cause of increased mortality

**Sources of income:** Most households (88%) sell their farm produce to raise income. The impact of mortality and morbidity through HIV/AIDS therefore 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 percent of households that experienced an AIDS-related death (see Table 8). 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 7: Sources of income for households**

Source of Income	Households (%) n = 456
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 9). The average reduction in land under cultivation was 51 percent compared to 15.8 percent 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 percent.

**Table 8: Land cultivation**

	Average household land under cultivation		Percent reduced due to AIDS
	Non-AIDS deaths	AIDS deaths	
<b>% land cultivated</b>	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 decreased 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 two:). The reduction in maize production due to AIDS was 54.2 percent (see table 10 below):

**Table 9 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	54.2%
Cattle	13.610	9.583 herd	4.027	29.6%

Source: MOAC *et al*, 2003: 18

**Cropping patterns:** Of the households that experienced AIDS deaths, 42.3 percent showed changes in cropping patterns (see table two). 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 percent 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 percent of households that experienced AIDS deaths. This is a measure that households take to reduce expenditure because increases due to: AIDS-related costs, falling income or a loss of remittances as members of the household become increasingly or terminally sick and ultimately die. Children are an additional source of labour for the farm - although this could not be established for certain within the MOAC study.

## 9.4 Summary of Results

This Third Round Swaziland NVAC assessment estimates that the Middleveld, Lowveld and Lubombo Plateau Agro-Eco zones will be vulnerable to food and income insecurity in the 2003-

2004-outlook consumption period. Across the entire country the analysis scenario indicates a total income/food deficit before utilization of coping strategies of 33,150 MT, and between 22,000 to 32,000 MT after coping strategies. The 10,000 MT range comes from assuming that normal food stocks and cash savings are available (highly unlikely) and an alternative scenario where they are 100% depleted in the Lowveld and the Lubombo. The reality probably falls somewhere in between. NB the WFP immediately extended its EMOP in the period April-May and June 2003 giving support to 150,000 people.

Projections for the consumption year 2003-2004 indicate that the worst affected area is the Lowveld Cattle-Cotton & maize FEZ where 90% of the population may face a 58% deficit in their annual food needs. The second most affected area is the Lomahasha Trading & Arable where 80% of the population may face a 48% deficit in their annual food needs. This has come about as a consequence of crop failure (food and Cash crops) highly depressed employment opportunities and a year on year food price inflation of at least 20%. The third most affected area is the Lowveld Cattle & Cotton FEZ where 80% of the population may face a 43% deficit in their annual food needs. The Fourth most affected area is the Lubombo Plateau where 80% of the population may face a 31% deficit in their annual food needs. The fifth most affected area is the Middleveld where 80% of the population may face a 12% deficit in their annual food needs. The least affected areas are the Highveld Maize and Cattle and the Timber Highlands FEZs where 0-10% of the population may face a 0-7% deficit in their annual income/food needs.

The MOAC study in the impacts of HIV/AIDS has clearly shown the effect of labour supply and income changes on the farm systems in the subsistence sector of Swaziland. The following factors may be drawn from the analysis to indicate the vulnerability of these farm systems to the impact of HIV/AIDS and its impact on household food security:

- The dependence of production on labour inputs means that as younger members who are disproportionately affected by HIV/AIDS die, the reduction in labour supply will affect production.
- The dependence on remittances for survival in many of the households means that as remitters die of HIV/AIDS the reduction in income will lead to less production on farms.

## **10. CONCLUSIONS AND RECOMMENDATIONS**

It is the hope of the Swaziland VAC, that this April-May 2003 assessment contains useful, relevant and timely information that will lead to more effective emergency and development response planning in the 2003-2004 period. Although it has set out to reflect on the experience of the 2002-2003 early warnings, rolling assessments and the emergency response, the EMOP programmes need their own independent evaluations. Much should be learned and documented concerning the response initiatives, capacity issues and the processes for targeting beneficiaries.

Internal and external factors affect household welfare in Swaziland. This assessment has therefore set out to provide information and analyses of how and to what extent a combination of current external hazards and internal vulnerability factors have affected (and are likely to affect) different regions and population groups in the outlook consumption period April 2003 to March 2004. The analysis systematically links information on 24 typical patterns of livelihoods in eight food economy sub regions to judgements about current supply and production conditions, and market trends.

Every effort has been made to ensure the accuracy of the information contained in this report and that the judgement on food availability and food access are realistic. The output is none-the-less based on a computer database and simulation. Vulnerability assessments are rapid – time-bound studies to provide early warning of the likely possible outcomes and to provide judgements on broad orders of magnitude of possible effects and needs. The results are presented as an aid to further analysis, field investigation and verification.

### **10.1 Policy Issues**

A clear distinction needs to be made between the policies and programmes that address structural and chronic conditions surrounding poverty and those dealing with acute vulnerability. Otherwise, there is a danger that people's 'normal' lives become viewed as a long protracted disaster. Rather they need to be understood from a more proactive development perspective. How can we support and improve what are in effect quite resilient livelihoods. How can we mitigate against future vulnerability?

The Swaziland VAC process will begin using the updated livelihood baselines for effective emergency and development response planning. In the months ahead, the Swaziland VAC can, as well, place a much stronger emphasis on monitoring the severity of hazards and shocks. The findings of this report clearly indicate that priorities now need to shift to a greater focus on the chronic problems of poverty issues and HIV/AIDS.

There is a clear and looming need to establish and learn from new programmes of support to mitigate and respond to the impacts of HIV/AIDS. Given the limited capacity of the current GOS social welfare programmes and, outside of an extension of the current EMOP/WFP umbrella, what kind of support could be put in place? How will the justifiable and recurrent consumption support initiatives (food aid for the chronically ill, elderly and vulnerable female and child-headed households) be financed, sourced and managed over the next few years?

It is recommended that government put in place programmes and policies to enhance the levels of national staple food self-sufficiency. For years Swaziland has relied on imports to make for the shortfall in domestic requirements, for example, planned imports for maize in the 2003/2004 marketing year amounts to 20% of the national requirement.

## **10.2 Short-Term Emergency Interventions**

It is important to recognise that this is an early warning assessment and the findings cannot be transformed directly into a food aid response. Within the scenario mapped out section 9 above, it is clear that food need assessments should be carried out regularly.

There are lots of challenges in targeting the vulnerable and needy populations. Improved targeting and screening procedures need to be put in place to identify the most vulnerable households.

## **10.3 Recovery & Longer-Term Interventions**

The LBVA approaches, now being adopted can greatly assist in identifying both food aid needs (short-term livelihood provisioning) and a broader range of interventions that could reduce household vulnerability. This may include, protection of livelihoods through rehabilitation and safety nets (the prevention of the erosion of productive assets and the assistance in their recovery) and longer-term development of more resilient and sustainable livelihood systems.

The updated livelihood baseline information indicates that agricultural incomes form only a small part of total household incomes. Therefore, in addition to agricultural rehabilitation initiatives, broader-based livelihood interventions need to be identified and considered. The Livelihood profiles in Appendix 1 can be utilised along with other livelihood-based analyses in this process.

Production of alternative food crops other than maize has not been not been highly considered by farmers in the marginal rainfall areas. This could be improved by provision of more attractive incentives.

## **10.4 Monitoring**

With the escalating incidences of hazards, such as drought, HIV/AIDS and chronic poverty, it is imperative to put in place a livelihoods monitoring framework to track our understanding of these complex linkages over time to better understand vulnerability.

The Swazi VAC made some attempts to demarcate the Middleveld into the moist and dry Food Economy Zones. This was meant to clearly distinguish livelihood profiles in the two food economy zones. This was necessitated by the different climatic conditions in the two food economy zones. This exercise was however hindered by the policy implications associated with mapping of agro-ecological boundaries. More consultations need to be undertaken with all concerned stakeholders to reach a common ground on the purpose of the demarcation exercise.

## 11. REFERENCES

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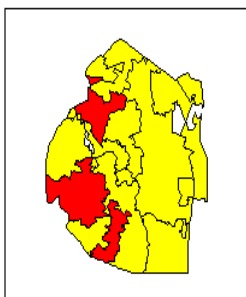
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## Appendix I: Summaries of Food Economy Zones

### SWAZILAND NATIONAL VULNERABILITY ASSESSMENT COMMITTEE NOVEMBER- DECEMBER 2002 – VULNERABILITY ASSESSMENT

#### Summary of Livelihood Patterns



Food Economy Zone: HIGHVELD MAIZE & CATTLE  
**Estimated Population: 155,000**

**Main Economic Activities:** Food Crops, Cash Crops, Livestock, Paid Employment, Non Food Production, Trade

#### Sources of Food

Category	Poor	Mode	Rich
<b>Own/Crops</b>	10-15%	20-35%	30-40%
<b>Milk/Meat</b>	5-10	15-25	15-25
<b>Fishing</b>	5-10	5-10	0-5
<b>Wild foods</b>	10-15	5-10	0-5
<b>Gift/Relief</b>	15-20	5-15	0
<b>Purchase</b>	35-45	20-35	35-45
<b>Totals</b>	<b>80-115%</b>	<b>70-130%</b>	<b>80-120%</b>

Notes: Sources of Food: For most families in the Highveld Maize & Cattle area, their own food crop production provides 20 - 35% of their annual food needs. In contrast, for poor families their own harvest provides around 10 - 15% of annual food needs; for rich families, it provides 30 - 40% of annual food need

Most families in the FEZ have to buy 20 - 35% of their annual food needs. Poor families have to buy 35 - 45% of their food needs, and richer families 35 - 45% of their food needs.

#### Sources of Cash Income

Category	Poor	Mode	Rich
<b>Employment/Remittance</b>	35-40%	20-35%	20-35%
<b>Livestock Sales</b>	0-5	10-25	20-25
<b>Cash Crops</b>	0	20-35	20-30
<b>Non Food Production</b>	25-40	10-20	5-15
<b>Other Trade</b>	15-35	10-20	10-20
<b>Totals</b>	<b>75-120%</b>	<b>70-135%</b>	<b>75-125%</b>

Notes: Sources of cash income: In Highveld Maize & Cattle, the poorest households normally get 35 - 40% of their annual cash income from employment; in contrast, most households depend on employment or remittances for 20 - 35% of their annual cash income. The richest households in the area, normally acquire 20 - 35% of their cash in this way.

Non-food production includes beer-brewing, craft manufacture, firewood and grass collection and sales. The poor normally rely on this source of income for 25 - 40% of their total cash income. In contrast, most families obtain 10 - 20% of total cash income from non-food production, and the richest households obtain 5 - 15% of their total cash income in this way.

Livestock is sold mainly to neighbours and through government sale yards. Livestock numbers per homestead are quite high in this region, but its contribution to incomes is not that high.

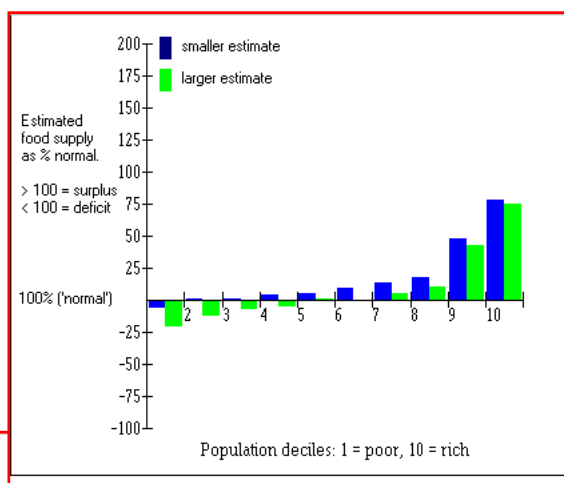
Maize in this zone is grown both as a cash and food crop. The sale of maize whilst green also features greatly in the community's description of socio-economic characteristics. Beans and sweet potatoes also featured as a cash crop in a few areas.

**CHANGE OF CONTEXT:**

**Overall trends a general decline in livelihoods, reduced access to casual labour and regular employment.  
Two consecutive years of poor agriculture production.**

- Problem Specification:** Food Crop Production: 50-60% of normal
- Cash Crop production: 50-60% of normal
- Grazing conditions: 60-70% of normal
- Access to employment markets 75-100% of normal
- Increase prices of staple grains (maize) 70% above normal

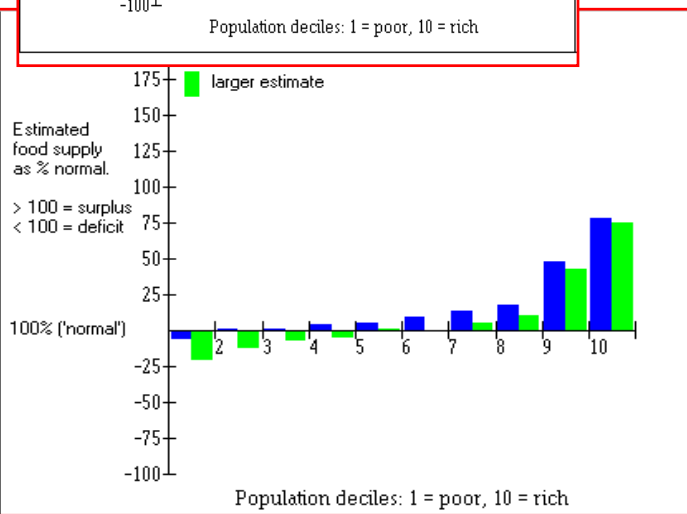
**Results Scenario Analysis: Worst Case**



The histogram shows the estimated change in food supply within the selected population which has resulted from the problem entered. (e.g production failures and maize price increases, noted above)

The blue and green bar show larger and smaller estimates of deficits respectively, values derived from the ranges of the input data.

With reduced capacity to overcome shocks, the average deficit for the deficit population is estimated at **40% of normal**. Of the total population, approximately **62,000 are facing a food deficit**. Total food tonnage requirement to fill this deficit is approximately **1,131 Mts**.



**Best Case Scenario**

After the affected populations have maximised all relevant coping strategies, the overall deficit maybe reduced to **10%**. Assumed coping strategies, include the following: increased use of food stocks, cash savings, wildfoods, sale of livestock, expansion of casual labour, non food production, (firewood, beer brewing crafts) and trade.

Of the total population, approximately **15,500 are facing a food deficit**. Total food tonnage requirement to fill this deficit is approximately **565 Mts**.

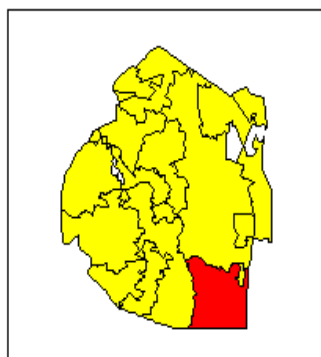
## HIGHVELD MAIZE & CATTLE

### FINAL WEALTH GROUP CHARACTERISTICS AND GROUPING

	<b>Wealth Group 1: Poor -- Labaswele</b>	<b>Wealth Group 2: Middle -- Labasemkhatsini</b>	<b>Wealth Group 3: Rich -- Labancono</b>
Hhld size	8-12	10-15	4-6
<b>Assets</b>			
Land size owned	1-2	1-3	1-3
Land cultivated	.25-.50	1-2	2-5
Type of housing (iron roofed, cement bricks, stick and mud walls, timber off cuts, etc)	Stick, mud, stones, thatched roofs 5-6 huts	Stick, mud, some with bricks, thatched roofs, some with iron sheets, some with plastered walls, 2-5 huts	Bricks, iron sheets, tiled, plastered and painted, some with electricity, a few with 2 houses, with 4 to 5 rooms
<b>Other assets</b> (television, bicycle, furnishings, donkey tractors, cars, carts, plough, etc)	Minimal and basic, mats, blankets, hand hoes	Beds, wooden furniture, radio, stove, some with TVs and electricity, scrap cars	TV, radios, quality furniture, cars, tractors, ploughs
<b>Animal holdings</b>			
Cattle	borrowed	10-15	10-20
Shoats	0	10-15	15-20
Pigs	0-1	2-3	-
Poultry	0-5	15-20	20-30
Donkeys	0	0	0
<b>Crop Production</b>			
Types of food crops	Maize, pumpkins, sweet potatoes,	Maize, legumes, sweet potatoes, vegetables, fruits	Maize, legumes, sweet potatoes, Irish potatoes, vegetables, fruits
Types of cash crops	none	As above	As above
Access to Agriculture Inputs	None	Yes, but depends on affordability	Yes
Months of food consumption – Baseline	1-2	8-12	12+
Surplus maize after consumption, estimated in 50 kg sacks or number months – Baseline	0	10-15	20-50
Types of work & economic activities	Casual labour Firewood sales Hand crafts Beer brewing Trade	Paid employment Casual labour Trade Beer brewing Hand crafts	Paid employment Trade (small business) Self employment
Cash Crops (Cotton) normal sales in bales			
<b>Proportional piling, % of the pop</b>	38%	41%	21%

**SWAZILAND NATIONAL VULNERABILITY ASSESSMENT COMMITTEE  
NOVEMBER- DECEMBER 2002 – VULNERABILITY ASSESSMENT**

**SUMMARY OF LIVELIHOOD PATTERNS**



**Food Economy Zone:      LOWVELD CATTLE & COTTON**

**Estimated Population:      43,000**

**Main Economic Activities:** Employment, Livestock, Cash Crops, Food Crops,

**Sources of Food**

Category	Poor	Mode	Rich
<b>Own/Crops</b>	10-20%	25-35%	35-60%
<b>Milk/Meat</b>	0-5	10-20	15-25
<b>Fishing</b>	0	0	0
<b>Wild foods</b>	5-10	0-5	0-5
<b>Gift/Relief</b>	10-15	0-5	0
<b>Purchase</b>	55-60	40-60	40-50
<b>Totals</b>	<b>80-110%</b>	<b>75-125%</b>	<b>90-140%</b>

**Notes: Sources of Food:** The table above shows how families acquire the food they need to survive in a 'normal' year. Crucially, it shows the relative importance of different activities.

Most households in the Lowveld Cattle-Cotton area have to buy 40 - 60% of their annual food needs. Poor families have to buy 55 - 60% of their food needs, and richer families 40 - 50% of their food needs

**Sources of Cash Income**

Category	Poor	Mode	Rich
<b>Employment/Remittance</b>	50-70%	25-30%	20-40%
<b>Livestock Sales</b>	0-5	20-30	25-30
<b>Cash Crops</b>	0	20-30	20-30
<b>Non Food Production</b>	15-30	5-10	0
<b>Other Trade</b>	10-15	15-25	10-30
<b>Totals</b>	<b>75-120%</b>	<b>85-125%</b>	<b>75-130%</b>

**Notes: Sources of cash income:** The poor in this food economy do not grow cotton. This is due to the high level of inputs necessary to make cotton a profitable crop. The poor do not have disposable income to cover this initial out-lay. Rather they try to grow maize, a crop that due to the low rains is unsuitable in most years. They grow .25 to .5 of a hectare of maize, and often harvest only half a 70kg bag. They also do not have any cattle or goats. The poor get 50-70% of their income from employment (mainly daily labour) and need to purchase the same percentage of their food.

Livestock is significant in this food economy. The rich own 10 to 30 herds of cattle and 10-25 goats, which contribute 25-30% to their incomes and 15% to 25 their food sources; The mode own 5 to 10 herds of cattle and

5-10 goats, which contribute 20-30% to their incomes and 10-20% to their food sources. The poor only own a few chickens and no cattle or goats.

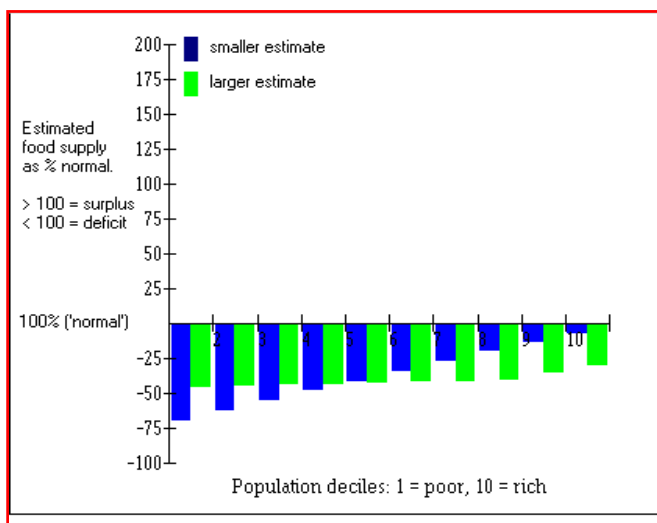
### Change of Context:

- Overall trends: a general decline in livelihoods, reduced access to casual labour and regular employment.
- Cotton production in dramatic decline, problems compounded with closure of the national market and ginning factory
- Two consecutive years of poor agriculture production.

- Problem Specification:**
- Food Crop Production: 50-60% of normal
  - Cash Crop production: 50-60% of normal
  - Grazing conditions: 40-60% of normal
  - Access to employment markets 75-100% of normal
  - Increase prices of staple grains (maize) 80% above normal

### Results Scenario Analysis: Worst Case

The histogram shows the estimated change in food supply within the selected population which has resulted from the problem entered. (e.g production failures and maize price increases, noted above)

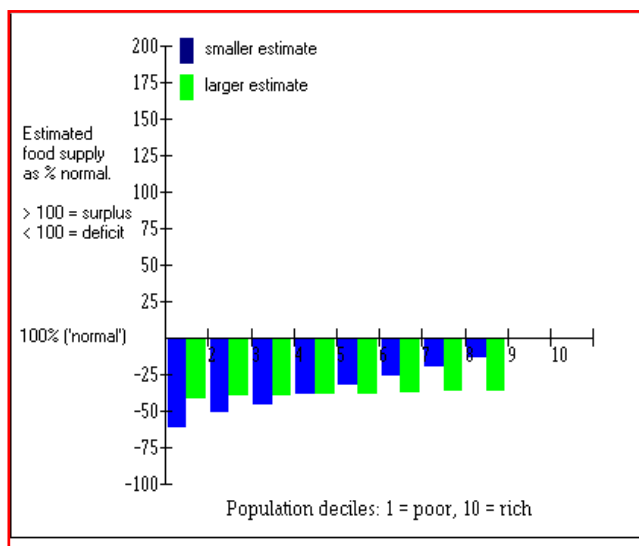


The blue and green bar show larger and smaller estimates of deficits respectively, values derived from the ranges of the input data.

With reduced capacity to overcome shocks, the average deficit for the deficit population is estimated at **80% of normal**. Of the total population, approximately **34,400 are facing a food deficit**. Total food tonnage requirement to fill this deficit is approximately **2,432 Mts**.

### Best Case Scenario

There are very little changes between the worst and best case scenarios. After the affected populations have maximised all relevant coping strategies, the overall deficit remains at **80%**. Assumed coping strategies, include the following: increased use of food stocks, cash savings, wildfoods, sale of livestock, expansion of casual labour, non food production, (firewood, beer brewing crafts) and trade.

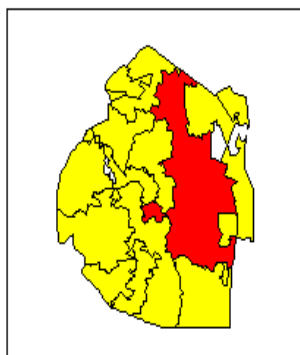


Of the total population, approximately **34,400 are facing a food deficit**. Total food tonnage requirement to fill this deficit is approximately **2,275 Mts**.

### NAME OF FEZ: LOWVELD CATTLE – COTTON Final Wealth Group Characteristics and Grouping

	<b>Wealth Group 1: Poor</b> Loswele	<b>Wealth Group 2: Middle</b> Lonconywa	<b>Wealth Group 3: Rich</b> Loncono
Hhld size	10 - 15	5 - 10	3 - 8
<b>Assets</b>			
Land size owned	1 – 5ha	1 – 5ha	1 – 5ha
Land cultivated	0.5ha	1 – 4ha	2 – 5ha
Type of housing (iron roofed, cement bricks, stick and mud walls, timber off cuts, etc)	Stick & mud thatched houses 1 – 3 huts	Stick & mud, Cement bricks, thatched & Iron sheets 2 – 4 houses	Cement brick iron sheet, tile roofed house architectural design 3 – 5 bedrooms
<b>Other assets</b> (television, bicycle, furnishings, donkey tractors, cars, carts, plough, etc)	Grass huts (2) 3legged pots Cow dung floor polish	¾ bed, wooden chairs & tables, radios Ox ploughs & tractors Cars	Good furniture T.V., Radio Tractors & Implements, Cars
<b>Animal holdings</b>			
Cattle	0	5 – 10	10 – 30
Shoats	0	5 – 10	10 – 15
Pigs	0	0 – 2	0
Poultry	2 – 5	10 – 20	20 – 30
Donkeys	0	6 - 10	0
<b>Crop Production</b>			
Types of food crops	Maize Melons (pumpkins) (small scale production)	Maize Legumes Sweet potatoes Melons (pumpkins)	Maize Legumes Sweet potatoes Melons (Pumpkins)
Types of cash crops	0	Cotton Maize	Cotton Maize
Access to Agriculture Inputs	No	Yes	Yes
Months of food consumption	2 – 3 months	6 – 12 months	12 months
Months of food consumption – Current Year	0	3 – 4 months	5 – 8 months
Surplus maize after consumption, estimated in 50 kg sacks	0	3 – 5 bags/50kg	10 – 30bags/50kg
Types of work & economic activities	Casual labour Non food production (grass cutting, grass mats, tree felling, cane cutters) irrigation of sugar fields)	Paid employment (Mine workers, sugar belt labourers) livestock sales, cash crops, non food production (beer brewing) Trade (vegetables poultry production & sale)	Paid Employment (Civil Servants, Managers. Teachers, health workers) Livestock sales Cash crops Trade (hammer mill, groceries, tractor hire)
Cash Crops (Cotton) normal sales in bales	0	10 – 20 bales	25 – 35 bales
<b>Proportional piling, % of the pop</b>	48%	35%	17%

**Summary of Livelihood Patterns**



**Food Economy Zone: LOWVELD CATTLE - COTTON - MAIZE**

**Estimated Population: 147,000**

**Main Economic Activities:** Employment, Livestock, Cash Crops, Food Crops,

**Sources of Food**

Category	Poor	Mode	Rich
<b>Own/Crops</b>	10-20%	40-50%	50-60%
<b>Milk/Meats</b>	0-5	5-10	10-15
<b>Fishing</b>	0	0	0
<b>Wild foods</b>	10-20	5-10	0
<b>Gift/Relief</b>	10-15	0-5	0
<b>Purchase</b>	50-60	25-35	25-40
<b>Totals</b>	<b>80-120%</b>	<b>75-110%</b>	<b>85-115%</b>

**Notes: Sources of Food:** Mode families in the Lowveld Cattle-Maize-Cotton area have to buy 25 - 35% of their annual food needs. Poor families have to buy 50 - 60% of their food needs, and richer families 25 - 40% of their food needs

For most families in the Lowveld Cattle-Maize-Cotton area, their own food crop production provides 40 - 50% of their annual food needs. In contrast, for poor families their own harvest provides around 10 - 20% of annual food needs; for rich families, it provides 50 - 60% of annual food needs.

**Sources of Cash Income**

Category	Poor	Mode	Rich
<b>Employment/Remittance</b>	70-90%	30-50%	20-35%
<b>Livestock Sales</b>	0-5	10-15	20-25
<b>Cash Crops</b>	0	20-40	30-40
<b>Non Food Production</b>	20-30	10-15	5-10
<b>Other Trade</b>	0-5	10-20	10-15
<b>Totals</b>	<b>90-130%</b>	<b>80-140%</b>	<b>85-125%</b>

**Notes: Sources of cash income:** For poor households, 70-90% of their income is from employment (mainly as daily labour and some seasonal); 0-5% from sale of livestock and 20-30% from non-food production (sale of firewood, beer brewing, handicraft, and wild foods) Small petty trade takes up 0-5%. The poor tend to work for the rich and mode as daily paid labour. The main employer for the rich and mode is the sugar cane industry.

Livestock is significant in this food economy. The rich own 15 to 30 herds of cattle and 20-30 goats, which contribute 20-25% to their incomes and 10-15% to their food sources. The mode own 10-15 herds of cattle and

10-15 goats, which contribute 10-15% to their incomes and 15-25% to their food sources. The poor only have 0-5 herds of cattle and 0-10 goats, which contribute 0-5% to food consumption.

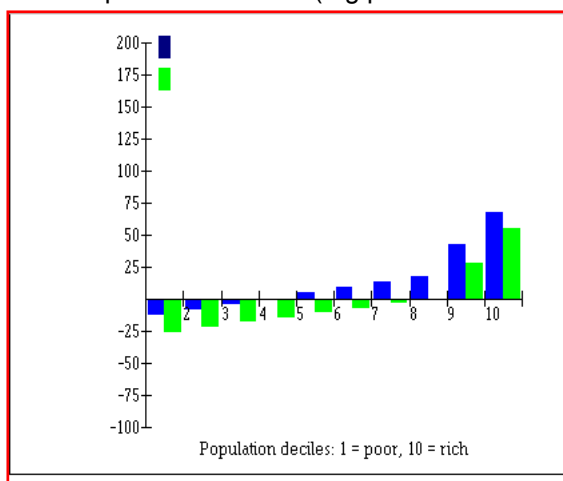
### CHANGE OF CONTEXT:

- Overall trends: a general decline in livelihoods, reduced access to casual labour and regular employment.
- Cotton production in dramatic decline, problems compounded with closure of the national market and ginning factory
- Two consecutive years of poor agriculture production.

- Problem Specification:**
- Food Crop Production: 20-40% of normal
  - Cash Crop production: 20-40% of normal
  - Grazing conditions: 40-60% of normal
  - Access to employment markets 50-75% of normal
  - Access to Food Markets 70-75% of normal
  - Increase prices of staple grains (maize) 80% above normal

### Results Scenario Analysis: Worst Case

The histogram shows the estimated change in food supply within the selected population which has resulted from the problem entered. (e.g production losses and maize price increases, noted above)

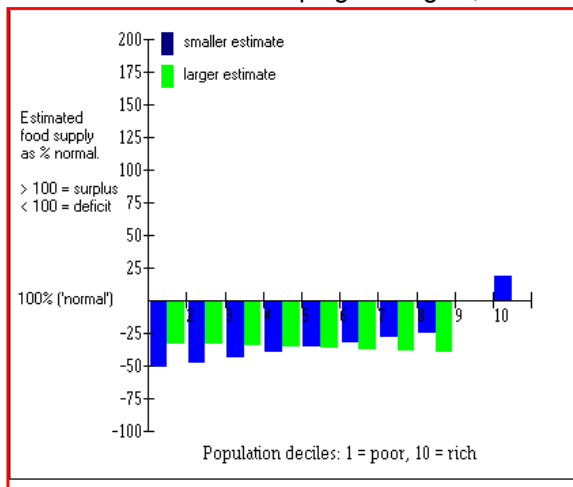


The blue and green bar show larger and smaller estimates of deficits respectively, values derived from the ranges of the input data.

With reduced capacity to overcome shocks, the average deficit for the deficit population is estimated at **80% of normal with a mean deficit of 38%**. Of the total population, approximately **117,600 are facing a food deficit**. Total food tonnage requirement to fill this deficit is approximately **8,048 Mts.**

### Best Case Scenario

There are very little changes between the worst and best case scenarios. After the affected populations have maximised all relevant coping strategies, the overall deficit remains at **80%**. Mean Deficit is decreased slightly to



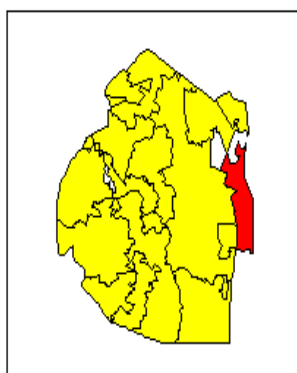
**36%**. Assumed coping strategies, include the following: increased use of food stocks, cash savings, wildfoods, sale of livestock, expansion of casual labour, non food production, (firewood, beer brewing crafts) and trade.

Of the total population, approximately **117,600 are facing a food deficit**. Total food tonnage requirement to fill this deficit is approximately **7,511 Mts.**

### NAME OF FEZ: LOWVELD CATTLE – COTTON Final Wealth Group Characteristics and Grouping

	<b>Wealth Group 1: Poor</b>	<b>Wealth Group 2: Middle</b>	<b>Wealth Group 3: Rich</b>
Hhld size	6 - 10	10 - 12	8 - 11
<b>Assets</b>			
Land size owned			
Land cultivated	0 - 2	2 - 4	5 - 15
Type of housing (iron roofed, cement bricks, stick and mud walls, timber off cuts, etc)	Walls intertwined Using poles Thatched roofs 1 - 2 houses	Stick + mud Cement floors Iron roofed 3 - 5 houses	Cement blocks Iron roofed 3 - 5 rooms
<b>Other assets</b> (television, bicycle, furnishings, donkey tractors, cars, carts, plough, etc)	Hand tools Kitchen utensils (basic)	¾ bed basic furniture Ox plough radio	Furniture Tractor Television Stoves Base - beds
<b>Animal holdings</b>			
<b>Cattle</b>	0 - 5	7 - 15	16 - 31
Shoats	0 - 10	10 - 20	18 - 30
Pigs	0	0	0
<b>Poultry</b>	0 - 10	10 - 30	30 - 40
Donkeys	0	0	0
<b>Crop Production</b>	1 - 4 (50kg)	10 - 20 (50kg)	20 - 40 (50kg)
Types of food crops	Maize	Maize Legumes Sweet potatoes	Maize Legumes Sweet potatoes, Vegetables
Types of cash crops	None	Cotton	Cotton Maize Legumes Sweet potatoes
Access to Agriculture Inputs	None	Yes with limitations	Yes
Months of food consumption – Baseline	0 - 4 months	7 - 9 months	12+ months
Months of food consumption			
Surplus maize after consumption, estimated in 50 kg sacks	0	0	0
Types of work & economic activities	Casual piece work Non food production (grass sales Beer brewing Sales of wild food Livestock sales	Trade (Ox-hire) Employment (seasonal + permanent Livestock sales Cash crops	Employment Cash crops Livestock sales Trade (tractor hire)
<b>Proportional piling, % of the pop</b>	23%	41%	21%

SWAZILAND NATIONAL VULNERABILITY ASSESSMENT COMMITTEE  
NOVEMBER- DECEMBER 2002 – VULNERABILITY ASSESSMENT



**Summary of Livelihood Patterns**

**Food Economy Zone: LUBOMBO PLATEAU**

**Estimated Population: 22,000**

**Main Economic Activities:** Food Crops, Livestock, Paid Employment, Cash Crops, Trade, Non Food Production

**Sources of Food**

Category	Poor	Mode	Rich
<b>Own/Crops</b>	0-10%	30-40%	60-70%
<b>Milk/Meat</b>	0-5	10-15	10-15
<b>Fishing</b>	0	0-5	0
<b>Wild foods</b>	10-20	0-10	0
<b>Gift/Relief</b>	10-20	5-10	0
<b>Purchase</b>	50-60	35-45	25-30
<b>Totals</b>	<b>70-115%</b>	<b>80-125%</b>	<b>95-125%</b>

**Notes: Sources of Food:** For most families in the Lubombo Plateau area, their own food crop production provides 30 - 40% of their annual food needs. In contrast, for poor families their own harvest provides around 0 - 10% of annual food needs; for rich families, it provides 60 - 70% of annual food needs.

Most families in the Lubombo Plateau area have to buy 35 - 45% of their annual food needs. Poor families have to buy 50 - 60% of their food needs, and richer families 25 - 30% of their food needs.

**Sources of Cash Income**

Category	Poor	Mode	Rich
<b>Employment/Remittance</b>	70-90	30-40%	30-40
<b>Livestock Sales</b>	0	5-10	10-20
<b>Cash Crops</b>	0	20-40	30-40
<b>Non Food Production</b>	15-30	10-20	0-10
<b>Other Trade</b>	0	10-15	10-20
<b>Totals</b>	<b>80-120%</b>	<b>75-125%</b>	<b>80-130%</b>

**Notes: Sources of cash income:** For poor households 70-90% of income is from temporal employment and daily labour, 15-30 % from non-food production (mainly sale of thatching grass, handicraft, beer brewing and firewood ).

**CHANGE OF CONTEXT:**

- Overall trends: a general decline in livelihoods, reduced access to casual labour and regular employment.
- Two consecutive years of poor agriculture production.

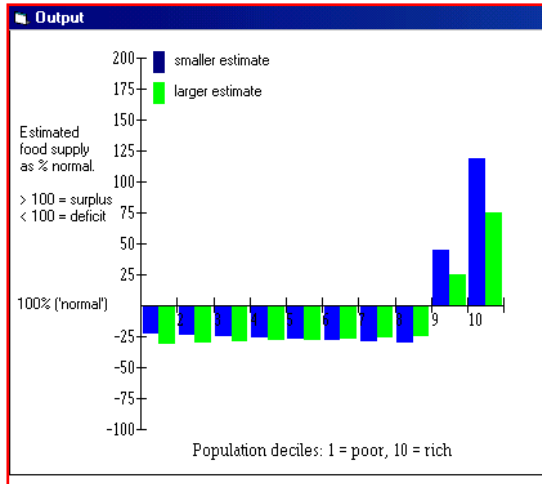
**Problem Specification:**

- Food Crop Production: 40-60% of normal
- Grazing conditions: 40-60% of normal
- Access to employment markets 75-100% of normal
- Access to Livestock Markets 50-75of normal

--Increase prices of staple grains (maize) 80% above normal

## Results Scenario Analysis: Worst Case

The histogram shows the estimated change in food supply within the selected population which has resulted from the problem entered. (e.g production losses and maize price increases, noted above)



The blue and green bar show larger and smaller estimates of deficits respectively, values derived from the ranges of the input data.

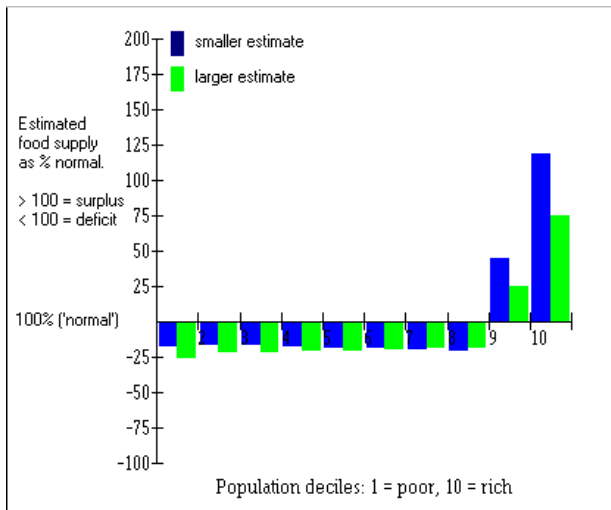
With reduced capacity to overcome shocks, the average deficit for the deficit population is estimated at **80% of normal with a mean deficit of 21%**. Of the total population, approximately **17,600 are facing a food deficit**. Total food tonnage requirement to fill this deficit is approximately **8,640 Mts**.

## Best Case Scenario

There are very little changes between the worst and best case scenarios. After the affected populations have maximised all relevant coping strategies, the overall deficit remains at **80%**. Mean Deficit is decreased slightly to **19%**. Assumed coping strategies, include the following:

increased use of food stocks, cash savings, wildfoods, sale of livestock, expansion of casual labour, non food production, (firewood, beer brewing crafts) and trade.

Of the total population, approximately **17,600 are facing a food deficit**. Total food tonnage requirement to fill this deficit is approximately **562 Mts**.

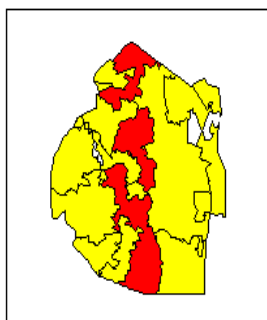


Name of FEZ: Lubombo Plateau  
Final Wealth Group Characteristics and Grouping

	Wealth Group 1: Poor	Wealth Group 2: Middle	Wealth Group 3: Rich
Hhld size	7-10	8-15	5-8
<b>Assets</b>			
Land size owned			
Land cultivated	0-.5	.5-2	3-6
Type of housing (iron roofed, cement bricks, stick and mud walls, timber off cuts, etc)	Stick, mud, thatched roof, 1 –2 huts	Stick, mud, iron sheets, cement floor, 3-5 huts	Cement, bricks, iron sheets, 3-5 rooms
<b>Other assets</b> (television,	Hand tools, basic	Ox ploughs,	Tractor, cars,

bicycle, furnishings, donkey tractors, cars, carts, plough, etc)	kitchen utensil	basic furniture	ploughs, quality furniture
<b>Animal holdings</b>			
Cattle	0	5-10	15-30
Shoats	0	5-10	10-20
Pigs	0	0	0
Poultry	0-5	10-15	20-30
Donkeys	0	0	0
<b>Crop Production</b>	2 x 70 kgs	5 x 70kgs	??
Types of food crops	maize	Maize, beans, sweet potatoes, cassava, gr-nuts	Maize, beans, sweet potatoes, cassava, gr-nuts, vegetables
Types of cash crops	none	Maize, beans, cassava, vegetables	Maize, beans, cassava, vegetables, bananas
Access to Agriculture Inputs			
Months of food consumption	1-2	12	12
Months of food consumption – Current Year			
Surplus maize after consumption, estimated in 50 kg sacks or number months – Baseline		5 x 70kgs	??
Types of work & economic activities	Casual labour Non food production Fetching water, grass cutting	Employment Petty trade Cash crops Livestock	Employment Cash crop Livestock sales
Cash Crops (Cotton) normal sales in bales			
<b>Proportional piling, % of the pop</b>	<b>26%</b>	<b>58%</b>	<b>16%</b>

Summary of Livelihood Patterns



**Food Economy Zone: MIDDLEVELD MAIZE & CATTLE**

**Estimated Population:** 255,000

**Main Economic Activities:** Food Crops, Paid Employment, Cash Crops, Trade, Non Food Production

**Sources of Food**

Category	Poor	Mode	Rich
<b>Own/Crops</b>	10-15%	40-50%	40-50%
<b>Milk/Meats</b>	0-5	15-25	20-30
<b>Fishing</b>	0	0	0
<b>Wild foods</b>	0-15	0-5	0-5
<b>Gift/Relief</b>	20-30	0-5	0
<b>Purchase</b>	40-60	25-45	20-25
<b>Totals</b>	<b>75-125%</b>	<b>80-130%</b>	<b>80-110%</b>

**Notes: Sources of Food:** Most families in the Middledveld Maize & Cattle area have to buy 25 - 45% of their annual food needs. Poor families have to buy 40 - 60% of their food needs, and richer families 20 - 25% of their food needs.

For most families own food crop production provides 40 - 50% of their annual food needs. In contrast, for poor families their own harvest provides around 10 - 15% of annual food needs; for rich families, it provides 40 - 50% of annual food needs.

**Sources of Cash Income**

Category	Poor	Mode	Rich
<b>Employment/Remittance</b>	50-65%	35-50%	20-30%
<b>Livestock Sales</b>	0-5	20-30	15-20
<b>Cash Crops</b>	0	25-30	30-40
<b>Non Food Production</b>	25-40	5-15	0
<b>Other Trade</b>	5-15	10-20	20-30
<b>Totals</b>	<b>80-125%</b>	<b>95-145%</b>	<b>85-120</b>

**Notes: Sources of cash income:** Employment is significant in this food economy and contribute 20-30% to the incomes of the rich and 35-50% to that of the mode. This group work mainly in the cities and agricultural plantations. The poor get 50-65% of their income from daily paid and seasonal employment.

The poor in this zone generally have a maize harvest of 1-5 bags, grown on 0.5-1 hectare. Own food production contributes 10-15% to staple consumption. They do not sell any crops. The poor do not own any cattle or goats but only a few chickens. Employment (mainly daily labour and seasonal), contributes 50-65% to income. Non-

food production (mainly handicraft, beer brewing, sale of wild foods and poles) contributes 25-40% to income. Trade contributes 5-15% of income.

### CHANGE OF CONTEXT:

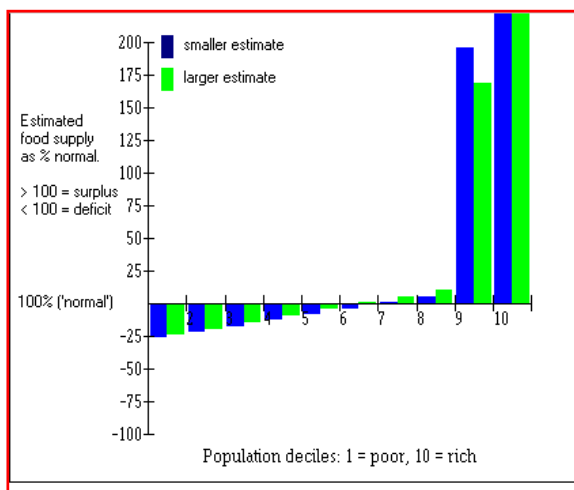
- Overall trends: a general decline in livelihoods, reduced access to casual labour and regular employment.
- Two consecutive years of poor agriculture production.

### Problem Specification:

- Food Crop Production: 60-80% of normal
- Grazing conditions: 60-80% of normal
- Access to employment markets 75-100% of normal
- Access to Non Food Markets 75-100% of normal
- Increase prices of staple grains (maize) 70% above normal

### Results Scenario Analysis: Worst Case

The histogram shows the estimated change in food supply within the selected population which has resulted from the problem entered. (e.g production losses and maize price increases, noted above)



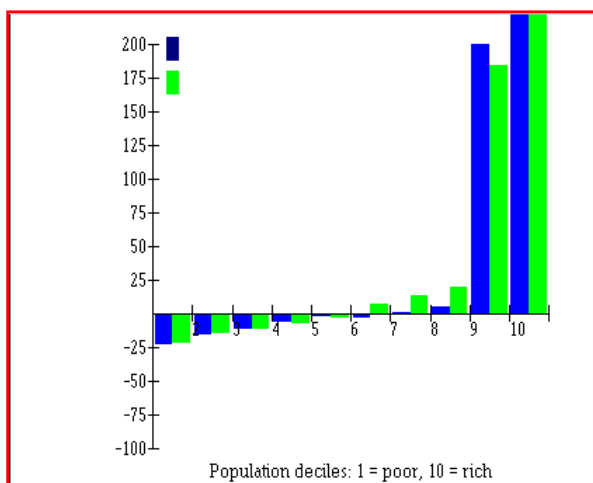
The blue and green bar show larger and smaller estimates of deficits respectively, values derived from the ranges of the input data.

With reduced capacity to overcome shocks, the average deficit for the deficit population is estimated at **60% of normal with a mean deficit of 10%**. Of the total population, approximately **127,500 are facing a food deficit**. Total food tonnage requirement to fill this deficit is approximately **3,257 Mts.**

### Best Case Scenario

After the affected populations have maximised all relevant coping strategies, the overall deficit remains at **50%**.

Mean deficit is decreased to **12%**. Assumed coping strategies, include the following: increased use of food stocks, cash savings, wildfoods, sale of livestock, expansion of casual labour, non food production, (firewood, beer brewing crafts) and trade.



Of the total population, approximately **127,000 are facing a food deficit**. Total food tonnage requirement to fill this deficit is approximately **2,792Mts.**

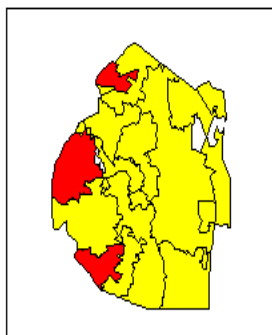
Name of FEZ: MIDDLEVELD MAIZE & CATTLE  
Final Wealth Group Characteristics and Grouping

	<b>Wealth Group 1: Poor</b>	<b>Wealth Group 2: Middle</b>	<b>Wealth Group 3: Rich</b>	<b>Group 4:</b>
<b>Local Vernacular</b>	Loswele	Lomcomywama	Loncomo	
Hhld size	10-15	4-8	1-5	
<b>Assets</b>				
Land size owned	2-3	2-3	2-3	
Land cultivated	.5-1	2-3	3-6	
Type of housing (iron roofed, cement bricks, stick and mud walls, timber off cuts, etc)	Stick, mud, thatched roof, 1-2 huts	Stick, mud, cement, bricks, thatched and iron sheets, 3 to 5 huts	Cement bricks, iron sheets and tile roofs, modern design	
<b>Other assets</b> (television, bicycle, furnishings, donkey tractors, cars, carts, plough, etc)	Grass mats, (2) legged pots Cow dung as polish ¾ bed No furniture	Ox ploughs Radio, 137 double Tables, Chairs Few own, cars	T.V., Good furniture Cars, tractors + implements	
<b>Animal holdings</b>				
<b>Cattle</b>	0	5 - 10	20 – 30	
Shoats	0	5 - 10	15 – 20	
Pigs	0	2 - 3	0	
<b>Poultry</b>	5 – 10	10 - 30	20 – 30	
Donkeys	0	0	0	
<b>Crop Production</b>				
Types of food crops	Maize (small scale production Legumes Sweet Potato & Taro roots	Maize Legumes Sweet potato & Taro roots Vegetables	Maize Legumes Sweet Potatoes & Taro roots Vegetables	
Types of cash crops	0	Maize Legumes Sweet potatoes & Taro roots Vegetables	Maize Legumes Sweet potatoes & Taro roots Vegetables	
Access to Agriculture Inputs	No	Yes	Yes	
Months of food consumption – Baseline	4 – 6 Months	12 Months	12 Months	
Months of food consumption	0 – 3 Months	8 – 9 Months	12 Months	
Surplus maize after consumption, estimated in 50 kg sacks	0	5 – 15 bags/70kg	30 – 70 bags/70kg	
Types of work & economic activities	Casual labour non feed production (Beer brewing, Crafts, grass cutting, firewood collection) Trade (small rendering)	Paid employment (Civil Servants, Mine workers) Livestock sales cash crops Trade (groceries, & Small Kiosks.	Paid Employment (Civil Servant, Teachers Health workers, Managers) Trade (tractor hire, groceries, hammer mills) Livestock sales	

			Cash crops	
Cash Crops (Cotton) normal sales in bales				
<b>Proportional piling, % of the pop</b>	48%	40%	12%	

SWAZILAND NATIONAL VULNERABILITY ASSESSMENT COMMITTEE  
 NOVEMBER- DECEMBER 2002 – VULNERABILITY ASSESSMENT

**Summary of Livelihood Patterns**



**Food Economy Zone:   TIMBER HIGHLANDS**

**Estimated Population:**       79,000

**Main Economic Activities:** Food Crops, Paid Employment, Cash Crops, Livestock, Non-Food Production, Trade

**Sources of Food**

Category	Poor	Mode	Rich
<b>Own/Crops</b>	10-15%	30-50%	40-60%
<b>Milk/Meat</b>	0-5	15-25	20-25
<b>Fishing</b>	0-10	0-10	0
<b>Wild foods</b>	10-20	10-15	0
<b>Gift/Relief</b>	5-10	0-10	0-5
<b>Purchase</b>	40-60	30-40	25-40
<b>Totals</b>	<b>85-150%</b>	<b>85-150%</b>	<b>85-130</b>

**Notes: Sources of Food:** The poor in this region grow maize on 0.5 -1 hectare, where they produce between 0-3 bags. Own crop production contributes only 10-15% to staple food consumption.

Most families in the Timber Highlands area have to buy 30 - 40% of their annual food needs. Poor families have to buy 40 - 60% of their food needs, and richer families 25 - 40% of their food needs.

In the Timber Highlands area, the consumption of fish provides around 10% of the annual food needs of most families. For rich families, fish contribute around 0% of annual food needs; for poor families, around 0-10%.

**Sources of Cash Income**

Category	Poor	Mode	Rich
<b>Employment/Remittance</b>	50-80%	25-45%	15-35%
<b>Livestock Sales</b>	10-15	5-10	10-20
<b>Cash Crops</b>	0	25-45	30-40
<b>Non Food Production</b>	0-15	10-15	0-10
<b>Other Trade</b>	0-5	10-15	10-20
<b>Totals</b>	<b>60-115%</b>	<b>75-130%</b>	<b>65-125%</b>

**Notes: Sources of cash income:** In Timber Highlands, the poorest households normally get 50 - 80% of their annual cash income from employment; in contrast, most households depend on employment or remittances for 25 - 45% of their annual cash income. The richest households in Timber Highlands normally acquire 15 - 35% of their cash in this way.

Livestock is significant in this region. The rich own 20 to 30 herds of cattle and 20 - 25 goats. The mode own 5 to 10 herds of cattle and 5 to 15 goats. The poor only own a few chickens, which however contribute significantly to their income (10-20%). Livestock is sold mainly to neighbours and to government sale yards

### CHANGE OF CONTEXT:

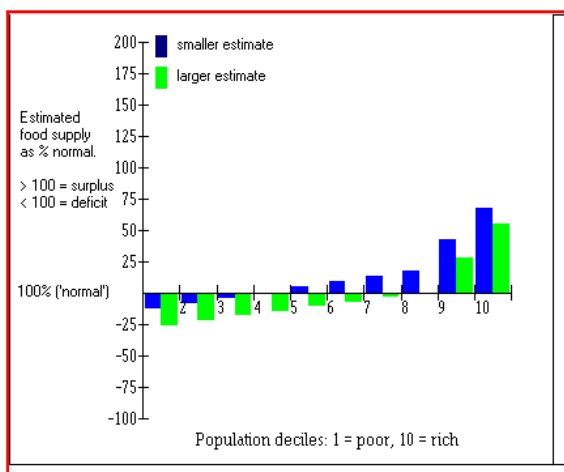
- Overall trends: a general decline in livelihoods, reduced access to casual labour and regular employment.
- Two consecutive years of poor agriculture production.

### Problem Specification:

- Food Crop Production: 50-60% of normal
- Grazing conditions: 60-70% of normal
- Access to employment markets 75-100% of normal
- Increase prices of staple grains (maize) 70% above normal

### Results Scenario Analysis: Worst Case

The histogram shows the estimated change in food supply within the selected population which has resulted from the problem entered. (e.g production losses and maize price increases, noted above)

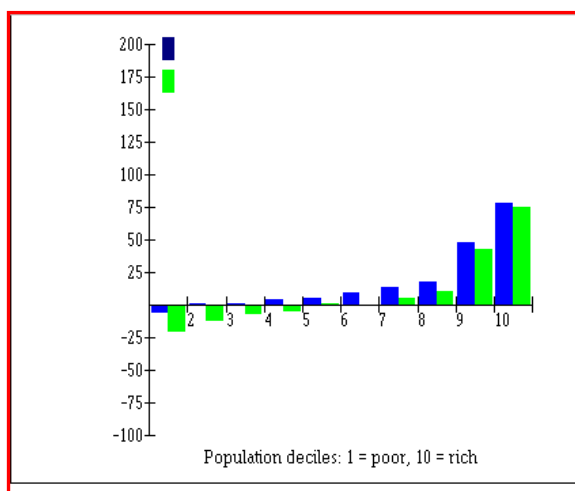


The blue and green bar show larger and smaller estimates of deficits respectively, values derived from the ranges of the input data.

With reduced capacity to overcome shocks, the average deficit for the deficit population is estimated at **50% of normal with a mean deficit of 9%**. Of the total population, approximately **55,300 are facing a food deficit**. Total food tonnage requirement to fill this deficit is approximately **865 Mts**.

### Best Case Scenario

After the affected populations have maximised all relevant coping strategies, the overall deficit remains at **50%**.



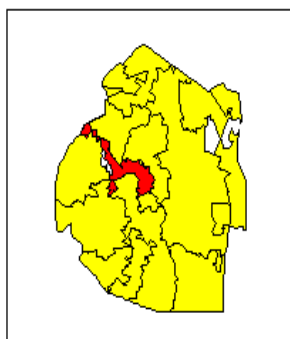
Mean deficit is decreased to **9%**. Assumed coping strategies, include the following: increased use of food stocks, cash savings, wildfoods, sale of livestock, expansion of casual labour, non food production, (firewood, beer brewing crafts) and trade.

Of the total population, approximately **39,500 are facing a food deficit**. Total food tonnage requirement to fill this deficit is approximately **576 Mts**.

## Name Of Fez: Middleveld Maize & Cattle:Final Wealth Group Characteristics And Grouping

	<b>Wealth Group 1: Poor</b>	<b>Wealth Group 2: Middle</b>	<b>Wealth Group 3: Rich</b>	<b>Group 4:</b>
Local Vernacular	Labaswele	Labasemkhatsini	Labancono	
Hhld size	5 - 12	5 - 10	3-5	
<b>Assets</b>				
Land size owned	1 - 3	1 - 3	1 – 3	
Land cultivated	0.5 - 1	1 - 3	1 – 6	
Type of housing (iron roofed, cement bricks, stick and mud walls, timber off cuts, etc)	Stick and Mud Grass – roof Timber off cuts  1 – 3 Houses (huts)	Stick & Mud, bricks plastered Iron sheets  2 – 5 (huts houses)	Bricks Tiles, Iron sheets Plastered + painted 1 –2 houses 4to5 rooms	
<b>Other assets</b> (television, bicycle, furnishings, donkey tractors, cars, carts, plough, etc)	Grass mats 2 pots, 3 legged old blankets hand hoes	Bed, radio, furniture & ploughs, stove	TV, Radio, Furniture cars, tractors Ploughs, Electricity	
<b>Animal holdings</b>				
Cattle	0	5 - 15	20 – 30	
Shoats	0	5 – 15	20 – 30	
Pigs	0	2 – 3	3 – 5	
Poultry	3 – 5	15 – 30	20 – 40	
Donkeys	0	0 - 3	0	
<b>Crop Production</b>				
Types of food crops	Maize/ pumpkins Legumes – small quantity	Maize Legumes Tubers Veg. + fruits	Maize, Legumes Tubers, Veg. + fruits	
Types of cash crops		Timber sales As above	Timber sales As above	
Access to Agriculture Inputs	No	Yes/limitations	Yes	
Months of food consumption – Baseline	1 – 3 months	8 - 12	Year round (12)	
Months of food consumption – Current Year				
Surplus maize after consumption, estimated in 50 kg sacks or number months – Baseline	None	5 - 10	30 - 50	
Types of work & economic activities	Casual labour Firewood sales Trade Traditional Beer brewing Domestic labour	Paid employ Trade Cash crop sales Livestock sales Non food sales Sale of beers	Paid employ Professionals Trade Livestock sales Cash crop sales	
Cash Crops (Cotton) normal sales in bales				
<b>Proportional piling, % of the pop</b>	33	56	11	

**Summary of Livelihood Patterns**



**Food Economy Zone: URBAN CORRIDOR**

**Estimated Population: 104,000**

**Main Economic Activities:** Paid Employment, Food Crops, Cash Crops, Livestock, Non-food Production, Trade

**Sources of Food**

Category	Poor	Mode	Rich
<b>Own/Crops</b>	10-20%	20-30%	30-40%
<b>Milk/Meat</b>	10-15	15-20	20-30
<b>Fishing</b>	5-10	0-5	0
<b>Wild foods</b>	10-15	5-10	0-5
<b>Gift/Relief</b>	5-10	0	0
<b>Purchase</b>	30-50	30-50	30-40
<b>Totals</b>	<b>70-120%</b>	<b>70-115%</b>	<b>80-115%</b>

**Notes: Sources of Food:** In the Urban Corridor area, the consumption of milk and meat provides 15 - 20% of the annual food needs of most families. For rich families, milk and meat provides around 20 - 30% of annual food needs; for poor families, only around 10 - 15%.

For most families in the Urban Corridor area, their own food crop production provides 20 - 30% of their annual food needs. In contrast, for poor families their own harvest provides around 10 - 20% of annual food needs; for rich families, it provides 30 - 40% of annual food needs. Most families in the FEZ have to buy 30 - 50% of their annual food needs. Poor families have to buy 30 - 50% of their food needs, and richer families 30 - 40% of their food needs.

**Sources of Cash Income**

Category	Poor	Mode	Rich
<b>Employment/Remittance</b>	25-30%	25-30%	25-35%
<b>Livestock Sales</b>	5-10	10-20	20-25
<b>Cash Crops</b>	0-5	15-20	15-25
<b>Non Food Production</b>	20-30	10-15	10-15
<b>Other Trade</b>	15-25	10-30	10-20
<b>Totals</b>	<b>80-120%</b>	<b>70-115%</b>	<b>80-120%</b>

**Notes: Sources of cash income:** In Urban Corridor, the poorest households normally get 40 - 50% of their annual cash income from employment; in contrast, most households depend on employment or remittances for 25 - 30% of their annual cash income. The richest households in Urban Corridor normally acquire 25 - 35% of their cash in this way.

Non-food production includes firewood and grass collection and sales; charcoal production and sale; beer-brewing; and craft manufacture. In Urban Corridor, the poor normally rely on this source of income for 20 - 30% of their total cash income. In contrast, most families obtain 10 - 15% of total cash income from non-food production, and the richest households in Urban Corridor obtain 10 - 15% of their total cash income in this way.

**CHANGE OF CONTEXT:**

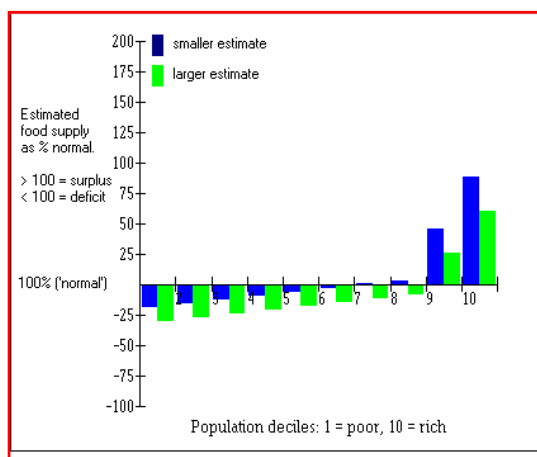
- Overall trends: a general decline in livelihoods, reduced access to casual labour and regular employment.
- Two consecutive years of poor agriculture production.

**Problem Specification:**

- Food Crop Production: 40-60% of normal
- Grazing conditions: 60-80% of normal
- Cash Crop Production: 40-60%
- Access to employment markets 75-100% of normal
- Increase prices of staple grains (maize) 70% above normal

**Results Scenario Analysis: Worst Case**

The histogram shows the estimated change in food supply within the selected population which has resulted from the problem entered. (e.g production losses and maize price increases, noted above)

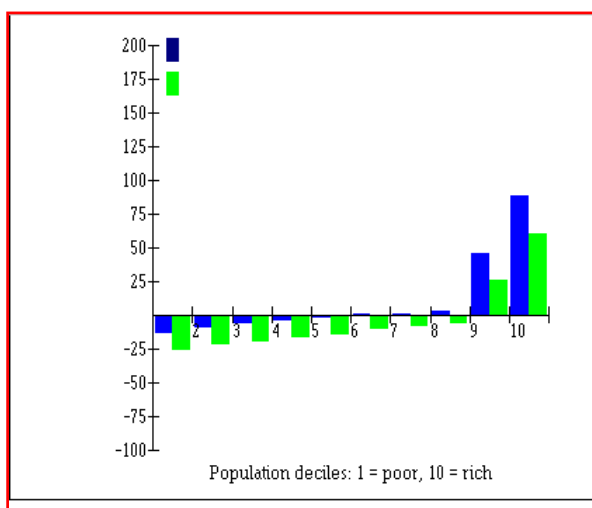


The blue and green bar show larger and smaller estimates of deficits respectively, values derived from the ranges of the input data.

With reduced capacity to overcome shocks, the average deficit for the deficit population is estimated at **80% of normal with a mean deficit of 16%**. Of the total population, approximately **83,200 are facing a food deficit**. Total food tonnage requirement to fill this deficit is approximately **2277 Mts**.

**Best Case Scenario**

After the affected populations have maximised all relevant coping strategies, the overall deficit remains at **50%**.



Mean deficit is decreased to **7%**. Assumed coping strategies, include the following: increased use of food stocks, cash savings, wild foods, sale of livestock, expansion of casual labour, non food production, (firewood, beer brewing crafts) and trade.

Of the total population, approximately **52,000 are facing a food deficit**. Total food tonnage requirement to fill this deficit is approximately **569 Mts**.

**NAME OF FEZ: URBAN CORRIDOR**

**Final Wealth Group Characteristics and Grouping**

	Wealth Group 1:	Wealth Group 2:	Wealth Group 3:	Group 4:
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	Poor	Middle	Rich	
Local Vernacular	Labaswele	Labasemkhatsini	Labancono	
Hhld size	5-10	5-10	4-7	
<b>Assets</b>				
Land size owned	1-3	1-3	1-3	
Land cultivated	.5-1	1-2	2-4	
Type of housing (iron roofed, cement bricks, stick and mud walls, timber off cuts, etc)	Stick and mud walls, thatched roofs, 2-3 huts	Mud bricks, iron sheet roofs, few with cement bricks and plastered walls, 3-4 houses	Brick houses, iron sheets, a few with tiles, 1-2 houses, 4-5 rooms in main house	
<b>Other assets</b> (television, bicycle, furnishings, donkey tractors, cars, carts, plough, etc)	Grass mats, 1 to 2 legged pots, limited or no furniture, a few with radios	Radios, beds, stoves, wooden furniture, ox ploughs, scrap cars, ox carts	TV, radios, quality furniture, cars, tractors, ploughs,	
<b>Animal holdings</b>				
Cattle	0-1	0-10	10-20	
Shoats	0-5	3-10	10-20	
Pigs	0	3-6	1-5	
Poultry	2-10	10-15	10-30	
Donkeys	0	0	0	
<b>Crop Production</b>				
Types of food crops	Maize, pumpkin, legumes, sweet potatoes	Maize vegetables, legumes, Irish potatoes, sweet potatoes	Maize vegetables, legumes, Irish potatoes, sweet potatoes	
Types of cash crops	none	All	All	
Access to Agriculture Inputs	Cannot afford	Yes but depends on affordability	Yes	
Months of food consumption – Baseline	1-3	10-12	12 +	
Months of food consumption – Current Year	?	?	?	
Surplus maize after consumption, estimated in 50 kg sacks or number months – Baseline	0	5-10	20-40	
Types of work & economic activities	Casual labour Beer brewing Firewood sales Domestic labour Small petty trade	Paid employment Casual labour Trade Hawkers Crafts Livestock sales Cash crops	Paid employment Trade Livestock sales Cash crops	
Cash Crops (Cotton) normal sales in bales				
<b>Proportional piling, % of the pop</b>	31%	47%	22%	

## **Appendix 2: List of Tinkundla Centres Visited by Agro-ecological Zone**

### **TINKHUNDLA CENTRES VISITED DURING THE THIRD ROUND OF ASSESSMENT**

#### **Highveld:**

1. Ntfontjeni
2. Piggs Peak
3. Nkhaba
4. Sigangeni
5. Mbangweni
6. Maseyisini
7. Mangcongco
8. Maphalaleni
9. Hhukwini

#### **Middleveld:**

1. Ekukhanyeni
2. Ludzeludze
3. Ngwemphisi
4. Mahlangatja
5. Lamgabhi
6. Ntondozi
7. Lobamba
8. Mayiwane
9. Madlangempisi
10. Mhlangatane
11. Nkwena
12. Khubuta
13. Sandleni
14. Nhlambeni
15. Mafutseni

#### **Lowveld:**

1. Lavumisa
2. Lubuli
3. Sithobela
4. Sigwe
5. Mpolonjeni
6. Dvokodweni
7. Mtfongwaneni
8. Hlane

#### **Lubombo Plateau:**

1. Siteki

2. Matsanjeni
3. Lomahasha
4. Shewula