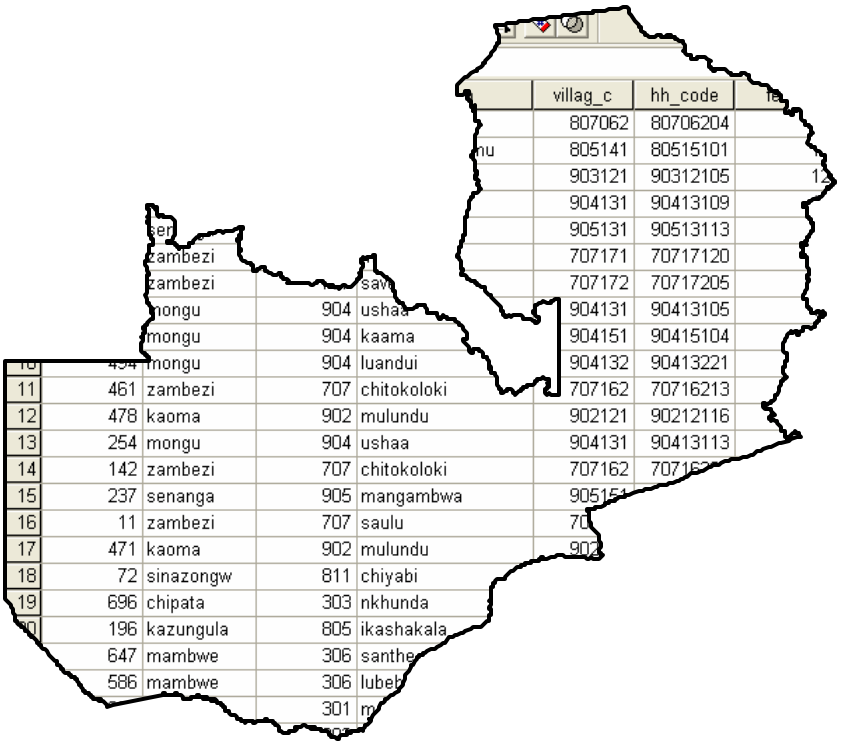
ZAMBIA
Vulnerability
Assessment Committee

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

SADC FANR
Vulnerability
Assessment Committee

Zambia
Emergency Food Security Assessment



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January 2003
Lusaka

Preface

This emergency food security assessment is regionally coordinated by the Southern Africa Development Community (SADC) Food, Agriculture, and Natural Resources (FANR) Vulnerability Assessment Committee (VAC), in collaboration with international partners (WFP, FEWS NET, SC (UK), CARE, FAO, UNICEF, and IFRC). National VACs in each country are a consortium of Government, NGOs, and UN agencies that coordinate the assessments locally. This is the second of a series of rolling food security assessments whose main objective is to monitor and update the food security situation in affected countries throughout the region for the duration of the current food crisis.

These assessments are made possible by individual Government's commitment with its financial and human resources and also with financial and technical support from international partners. The value of such assessment is measured by the quality of information collected and timeliness that this information is made available to Government, donors and all food security stakeholders. The VAC assessments assume a standard regional approach for ease of comparison within the region. The two step-wise processes involved in the assessment are: firstly, the use of a sequential process of 'best-practices' in assessment and monitoring, drawn from the extensive and varied experience of the VAC partners, to meet a broad range of critical information needs at both the spatial and socio-economic targeting levels. The sequential nature of the approach not only provides richer details of the "access side" of the food security equation, but it adds the very important temporal dimension as well. From an operational (i.e. response) perspective, the latter is critical. Secondly, by approaching food security assessment through a coordinated, collaborative process, the strategy integrates the most influential assessment and response players into the ongoing effort, thereby gaining privileged access to national and agency datasets and expert technicians and increases the likelihood of consensus between national Governments, implementing partners, and donors. This 'partnering' strategy links the major players and stakeholders including regional institutions, national Governments, response agencies, NGOs and donors for on-going, intensive 'rolling' assessment coverage of food security conditions on the ground.

Acknowledgements

The Zambia Vulnerability Assessment Committee (VAC) wishes to thank the following member institutions for participating in the assessments:

- The Disaster Management and Mitigation Unit, Office of the Vice President
- The National Early Warning Unit, Ministry of Agriculture and Cooperatives
- The Meteorological Department,
- The Central Statistical Office
- The National Food and Nutrition Commission
- The World Food Programme (WFP)
- The Famine Early Warning Systems Network (FEWSNET)
- UNICEF
- Programme Against Malnutrition (PAM)
- CARE International
- OXFAM
- World Vision International
- Red Cross Society of Zambia
- Natural Resources Development College (NRDC).

The VAC wishes to express gratitude to the District officers who accompanied the teams for fieldwork. The VAC is grateful for financial support from DFID, SADC FANR and the World Food Programme (WFP) and would like to particularly thank the Regional VAC, WFP and FEWSNET for providing technical support to the assessment.

Lastly but not the least, the VAC wishes to thank participating households and the communities, without whose cooperation, the assessment would not have been conducted.

Acronyms

ACE	Agricultural Commodity Exchange
CFSAM	Crop and Food Supply Assessment Mission
CSO	The Central Statistical Office
DMMU	The Disaster Management and Mitigation Unit
DRC	Democratic Republic of Congo
EC	European Commission
EMOP	Emergency Operation
FAO	Food and Agricultural Organisation of the United Nations
FEWSNET	The Famine Early Warning Systems Network
FRA	Food Reserve Agency
GDP	Gross Domestic Product
GMO	Genetically Modified Organisms
GRZ	Government of the Republic of Zambia
HIPC	Highly Indebted Poor Country
MACO	Ministry of Agriculture and Cooperatives
MT	Metric Tonnes
NEWU	National Early Warning Unit
NCZ	Nitrogen Chemicals of Zambia
NGO	Non Government Organisation
NRDC	Natural Resources development College
OVC	Orphans and vulnerable children
PAM	Programme Against Malnutrition
UNICEF	United Nations Children's Fund
WFP	World Food Programme
WVI	World Vision International
VAC	Vulnerability Assessment Committee
VAM	Vulnerability Assessment and Mapping
ZNFU	Zambia National Farmers Union

Highlights

- The total cereal production for 2001/2002 season increased by 0.4% after factoring in production of winter maize. Winter maize production accounted for 7,200 MT representing 1.2% of total maize production.

- The estimated number of people requiring food assistance stands at 2.77 million. The total food aid requirement was estimated at 132,856MT for the period December to March, 2003.

- The worst affected areas are parts of Southern, Western and Lusaka Provinces. These areas have more than 75% of the population requiring assistance.

- The food aid pipeline has been weak. As of end of December only 27.5% of the requirement for the period August to December had been met.

- There is some relationship between areas with a high percentage of chronically ill and those with a high percentage of population in need of food assistance for Southern, Lusaka and Western Provinces.

- Generally prices in the most affected areas have continued increasing. In addition maize for purchase is not easily available in these areas.

- A substantial reduction in crop production in Southern Province is expected as a result of poor rainfall since the start of the 2002/2003 growing season.

- Survey findings provide evidence of strong linkages between HIV/AIDS and food insecurity in Zambia.

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1.0 INTRODUCTION

Zambia lies between 8° and 18° south latitudes and 22° and 34° east longitudes and has a population estimated at 9.3 million people with an annual growth rate of 2.3%
(CSO, 2000 Census of population).

With an area of 750,000 km,^{2} Zambia has the potential to expand agricultural production. However, it is estimated that only 14% of total agricultural land is currently being utilized. Agriculture generates about 22% of Gross Domestic Product (GDP) and provides direct livelihood to more than 50% of the population. The agricultural sector employs 67% of the labor force and it is the main source of income and provides employment for women who make up 65% of the rural population. The sector is currently the main stay of the rural economy

Zambia is one of the countries in the southern Africa sub-region faced with a food crisis attributed to a complex combination of unfavorable weather pattern, poor health standards and unfavorable socio-economic conditions and high prevalence of HIV\AIDS.. The current crisis has been further compounded by reduced food production in the last two consecutive seasons (2000/2001 and 2001/2002 resulting in the country experiencing a substantial deficits of the staple food.

Whilst weather and other exogenous factors may have limited the sectors' ability to grow, by and large, agricultural policies of the past, imposed limitations on growth prospects. The HIV/AIDS pandemic has also had adverse effect on agricultural production and productivity.

2.0 EMERGENCY ASSESSMENT APPROACH

2.1 Objectives and Components

The Zambia Vulnerability Assessment Committee (Zam-VAC) carried out the December Rolling Assessment with the objective to update and further explore the results to determine the extent of vulnerability to food insecurity by rural households in the affected districts in relation to the results of the findings of the August assessment... Special emphasis was given to the spatial distribution of food insecure people. The approach used consisted of the study and analysis of macro indicator processes, district, community and household interviews.

2.2 Overall Approach for the Household Food Security Analysis

Close-ended questionnaires were used to gather information at the household level. This information was transformed into an extensive database and used to calculate the cereal shortages at the household level. In total, 938 questionnaires were completed and entered in the household database.

Twenty three districts in fourteen food economy zones were visited during the fieldwork. The breakdown of interviews per food economy zone is illustrated in Table 1 below.

Table 1: Number of Questionnaires per Food Economy Zones – Zambia

Food Economy Zone Code	Frequency	Percentage Questionnaires
2	42	4.5
4	80	8.5
5	81	8.6
6	75	8.0
7	95	10.1
8	122	13.0
10	40	4.3
11	39	4.2
12	79	8.4
13	83	8.8
14	80	8.5
15	44	4.7
16	39	4.2
17	39	4.2
Total	938	100.0

2.2.1 Sampling Scheme

Food Economy Zone Sampling

Food economy zones were used to stratify the country to enable sampling[1]. Within each zone at least three sites were visited.

Village Sampling

In order to allow for a direct comparison between the August and the December assessments, the same sites were visited. For both assessments Luapula, Copperbelt and parts of Northern and North Western Province were omitted from the field survey because secondary data identified them as not being affected by the unfavorable weather pattern. Five new districts (Kapiri Mposhi, Chama, Mpika, Chinsali and Mufumbwe) were included in the December assessment to verify reports of localized food insecurity

Household Sampling

One of the objectives of the community interview was to develop a village-based definition of the different socio-economic groups within the village. At the end of this interview participants were asked to identify villagers from selected socio-economic groups to take part in the next level (household) of interview. In each village, a maximum of 20 household interviews were conducted with a total of 938 households interviewed in 23 districts. The proportion of households selected in each socio economic group reflected the community as a whole, as depicted in Table 2.

Table 2: Socio-economic groupings

Socio-Economic Group	No of HH	Valid Percentage
well off	94	10%
middle	178	19%
poor	310	33%
poorest of the poor	356	38%

2.2.2 Analytical Procedure

Percentage Population in Need (Cereal Food Gap)

The percentage population in need of food aid refers to the population with a cereal food gap until March 2003. Patterns of production, purchasing, indirect cereal earning and assets were

[1] the initial step in the community vulnerability assessment was to conduct a workshop in order to identify food economy zones (FEZ) within Zambia. Participants in the three-day workshop included representatives of the national Vulnerability Assessment Committee. The approach used is to identify the main factors (climate, soil, proximity to market) that determine the basic food and income options (the crops that will grow, the livestock that can be raised, the natural resources that exist) and then to group similar areas together. This was done using a combination of secondary source material (agro-ecological maps, vegetation maps, relief maps, etc.) and by drawing on expertise and local knowledge of the workshop participants. The final output of the workshop was a preliminary food economy/livelihood zoning map, used as a sampling frame from which areas to be visited in the assessment were selected. A total of 21 food economy zones were identified.

included in the households' capacity to meet their needs. The cereal food gap was established based on kilograms per person and was calculated based on the

i) Cereal production,
ii) Cereal from indirect source
iii) Cereal Purchase,
iv) Households' needs and
v) Households' assets.

Cereal and Tuber Production

a. Stocks from Cereal harvests

Amounts of current household's stock from summer and winter production (2001/02) came from the household questionnaire.

b. Stocks from Cassava Production

The question of area under mature cassava generated some problems and was a key variable for the results in the cassava growing areas, i.e. Fez 12, 16, and 17. For these areas, the percentage population with cereal shortages up to March 2003 on average increased by 10% when the worse hypothetic yield was used. The average cassava yield for one hectare is estimated at 7 MT. It was assumed that average yield for cassava production was below normal due to the following factors:

- Unfavorable weather patterns experienced in the country
- Continuous harvesting distorts the area under production

Given the above factors, it is assumed that the average cassava yield reduced to 3.5MT/ha in the worst-case scenario

Thus the worse hypothetic harvest was used to account for this variation. The worse harvest value was 3,500 kg of cassava per hectare. The variation on the final results on the zones that cultivate cassava was as illustrated in Table 3. The value used in the calculation of the cereal shortages was the worse yield.

Table 3: Cassava Production Scenarios

Fez	Yield=7,000/hect	Yield=3,500/hect	Diff between full and half yield
8	63.1	64.8	1.6
12	26.6	35.4	8.9
13	59.0	61.4	2.4
14	76.3	77.5	1.3
15	47.7	50.0	2.3
16	33.3	41.0	7.7
17	35.9	48.7	12.8
Total	**60.2**	**62.9**	**2.7**

Cereal from Indirect Sources

Households were asked to provide information on the amount of food earned from both casual labour and gifts from friends and relatives between August and December. During the August VAC assessment the field teams established that households were not able to easily forecast their future earnings. Thus a decision was made to focus on cereal earned between August and December. The underlining assumption made was that households will earn the same amount of cereal from indirect sources as they had during the past four months.

Cereal Purchase

Information was provided on sources of income for each household to purchase cereal. . The income received during the past four months was extrapolated for the next four months. The assessment assumed that households spend 90% of their income on food when there is food crisis.

Household Needs

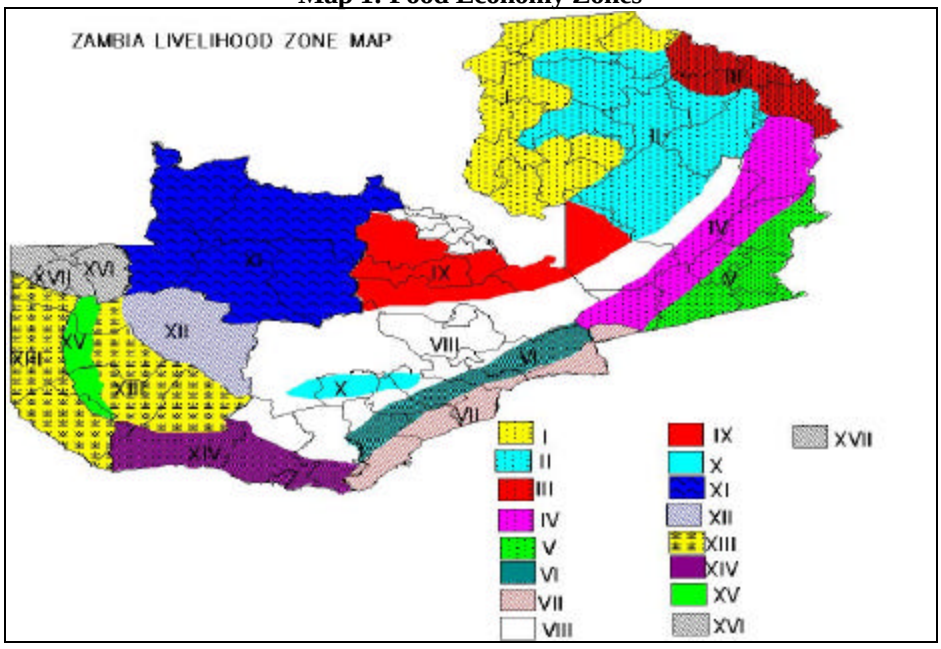
a. Size of Household

The calculation of the households' needs was based on the total number of members living within each household. The ration used was 12 Kgs (400g per person per day) of grain per person per month irrespective of the age and gender distribution within households.

b. Assets Ownership

The number of livestock owned by the household was used to disqualify households from receiving food aid except in zones 13, 15 and parts of 14 where cattle diseases led to a ban on livestock movement and sales.

Map 1: Food Economy Zones



2.2.3 Assumptions

Extrapolation

The cereal food gap was calculated based on food economy zones. The analyses calculated by FEZ were converted to districts based on the population living in each livelihood zone per district. Extrapolation on the division of district's population into livelihood population was done by the overlay of districts and FEZ.. The district population data was gathered from Census projection's for 2002 with annual national growth rate of 2.3%

The percentage population in need of cereal in the specific livelihood zone, resulting in the population in need per district part, multiplied the population living in the overlay of a district and a livelihood zone. In the event that a district had more than one livelihood zone, the population in need per livelihood zones and district overlays were summed.

Cereal Requirement and Ration Size

The total cereal food gap was calculated based on constant ration sizes through the varied demographics of the household. Ration refers to cereals needs only.

Calculation of Cereal Gap

As mentioned above, calculations of the cereal food gap were done at the food economy zone level.

Calculation of gap was given by the relationship between the cereal requirement and the household potential to fill this gap. Potential income to be spent on cereal purchase, and cereal available for the household (direct or indirect source) reflected the household potential to fill the gap. Households with more than five cattle and/or more than 10 goats were classified as 'households with full potential to fill the gap' and they were not taken into consideration for cereal food gap calculation. In these instances, issues of availability of cereal for purchase within the community were taken into account.

The relationship between these variables used the hypothesis of 'compulsive consumption'. t implying that all the available cereal would be consumed without any coping strategies. Thus, strategies such as decreasing number of meals, eating unusual food, borrowing foods etc. were not taken into account in the calculation of the gap. Issues of inflation were not computed into the cereal food gap analysis. The forecasted potential income (up to March 2003) was related to the December, 2002 maize price.

3.0 NATIONAL LEVEL FOOD SECURITY

3.1 Main Season Crop Production Levels

The final crop forecast estimated the seasonal cereal production for the 2001/2002 agricultural season to be 742,194 MT of which 601,606 MT was maize; 54,416MT sorghum/millet; 11,645MT rice; and 74,527MT wheat. With the winter production of 7,200Mt of maize and 70,000Mt of irrigated wheat, the season cereal production is therefore adjusted to 744,867 recording a very slight increase from the initial estimates.

The official maize commercial imports as at 31st December 2002 have been estimated at 60,512MT. So far, 59,670MT of non-GM maize has been brought in to the country in form of food aid while another 90, 173MT is still expected (Table 4).

Table 4: ZAMBIA Cereal Balance Sheet (May 2002 – April 2003 Marketing Year)

	August 2002[1]	December 2002[2]	5-Year Average[3]
Opening Stocks	23,000	23,000	95,000
Domestic Production	738,000	744,867	1,095,000
TOTAL AVAILABILITY	**761,000**	**765,194**	**1,190,000**
Domestic Requirements	1,445,000	1,413,000	1,467,000
Unplanned Exports	10,000	10,000	14,000
Desired Closing Stocks	17,000		20,000
TOTAL REQUIREMENTS	**1,472,000**	**1,423,000**	**1,501,000**
DOMESTIC CEREAL GAP	**-711,000**	**-657,806**	**-311,000**
Commercial Imports Received**	0	60,512	111,000
Food Aid Received	46,000	59,670	71,000
TOTAL IMPORTS RECEIVED	**46,000**	**120,182**	**182,000**
Commercial Imports Expected	150,000	40,000	0
Food Aid Expected	132,000	90,173	0
TOTAL IMPORTS EXPECTED	**282,000**	**130,173**	**0**
TOTAL IMPORTS	**328,000**	**250,355**	**182,000**
UNFILLED CEREAL GAP	**-383,000**	**-407,451**	**-129,000**

*** The 60, 512 consist of 10, 481MT brought in by Sable Transport and 31MT by Hubert & associates and 50,000 MT brought in by the Millers Association of Zambia through formal imports.*

Source:

Maize Importation Task Force.

1.SADC Regional Early Warning Unit Estimate, based on Government figures

2.National Early Warning Unit Estimate based on final Crop Forecast figures

3.SADC Regional Early Warning Unit

3.2 Commercial Import Progress

There is a lot of uncertainty over the commercial maize importation in Zambia. Based on the August 2002 maize deficit of 711,000 MT from the Ministry of Agriculture Food balance sheet, Government made plans to facilitate commercial maize importation. On June 2, 2002, the Government of Zambia signed a memorandum of understanding with the Millers Association of Zambia for maize importation to fill the deficit for the 2002-2003 consumption season. The millers were to import 300,000MT while Government was to bring in 155,000MT. The millers have brought in 50,000 MT as formal imports. However there is strong evidence that the millers have purchased substantial amounts of maize (above official imports) brought into the country through cross border trade with Tanzania and Mozambique, which had not been accounted for. Therefore although the cereal gap appeared so large in the food balance sheet when only official imports are considered, in reality the gap is much smaller and that is why there is no commercial shortfall in urban areas. The millers have confirmed that they still have stocks to last up to February and beyond.

Between May and December 2002 there have been conflicting figures on what is intended to be imported towards relief and strategic reserves. As a result of conflicting pronouncements wrong signals were sent to the private sector. The private sector (millers) felt that if large quantities of maize were imported, market prices would be depressed. These pronouncements could have also contributed to the sharp increases in maize meal prices.

Despite all the pronouncements of bringing in large amounts of maize, the Government has so far made available USD10, 000,000.00 for maize importation. This amount can buy about 40,000MT of maize at the agreed landed price of USD245/Mt. Information from the Millers Association indicated that as at December 31st most millers were adequately stocked with maize to last to the next harvest to service the urban market.

3.3 Food Aid Progress and Plans

Generally the food aid pipeline has performed moderately. Between August and December 2002, Government sourced 46,347MT GM-free maize and 4,000MT of mealie meal. This comprises grain from local purchases (17,677 MT) as well as from import (28,670 MT). The NGOs have brought a combined total of 2,000 MT of maize. During the same period multilateral donors through WFP imported 31,000 MT. Therefore the total relief food that has so far been sourced amounts to 79,347 MT of GMO free maize grains and 4,000 MT of mealie meal out of the estimated 224,000 MT cereal requirements for the period August 2002 to March 2003. Based on the total requirement, this translates into 35% of total requirement up to the end of March 2003. The WFP cereal pipeline for the period December 2002 to March 2003 is 90,173 MT.

4.0 MAJOR SURVEY FINDINGS

4.1 Household Demographics

During the December 2002 survey 48% of the households surveyed were the same as those visited in the August 2002 survey. In all the Zones over 60% of the household are male headed (see Table 5 below).

Table 5: Percentage of Households Surveyed by Sex

Fez	Sex of Household Head	
	Male	Female
2	71	29
4	75	25
5	78	22
6	69	31
7	63	37
8	66	34
10	80	20
11	82	18
12	81	19
13	63	37
14	63	38
15	66	34
16	59	41
17	64	36
National Avg.	70	30

The majority of the households (69%) are married while 18% were widowed and 12% are either divorced or single. Zones 7, 16 and 17 had almost 30% of widows. There were negligible cases of separated households.

The average age of the heads of households is 48 years while the average household size is 7. Most households hadnegligible number of under five male and female children. The majority reported an average of one male and female aged between 5 and 13 years old.. The number of orphans was negligible from all households. Each household had an average of two primary going children. The rest of the households had negligible number of children attending school beyond primary school. The reasons why some households do not send children to school was attributed to high cost implications, this was reported by 50% of the households.

4.2 Food Security and Markets

The overall food security situation has slightly deteriorated as predicted by the VAC August assessment. Results show that 28% of the total population will be in need of food aid between December 2002 and March 2003. This is 2% higher than what was forecasted during the August assessment. At sub national level, food security has improved for some districts while for others there has been some deterioration with respect to the findings in August.

The number of people requirement food aid has decreased in some districts while in others it has increased. The on-going food relief program has had significant positive impact on rural

household access to food especially in areas where the majority of the households have run out of own stocks and food for purchase is not available on the market. The rainy season has also brought some early foods such as wild foods (vegetables, mushrooms etc) and mangoes especially in areas receiving appreciable amounts of rainfall. In parts of North western Province, the livestock movement ban which was in place in August has been lifted allowing farmers to sell their animals outside their districts. This could help explain the improved food security situation in some areas.

4.2.1 Cereal Availability

Summer Harvest

Availability of cereal at local markets in the rural areas continues to be a problem. From the forty-eight (48) villages surveyed, less than 10% stated that maize was readily available while less than 30% stated that maize was occasionally available. The main reason for the low availability of cereals at local markets was the low production. According to MACO maize production in the last season declined by 32% compared to the 5 year average. Not only is the supply of cereals low, but demand for marketed maize has increased due to reduction in harvest. This has perpetuated food insecurity. The December assessment findings show that 49% of all households surveyed harvested less than 340kg while 26% had no production at all. The bottom line is the rural markets have continued having a critical shortage of grain.

Winter Harvest

Traditionally, not many households in Zambia grow cereals as winter crops. In the few areas where winter grain was grown, it was unsuccessful. Of those that grew the crop, 90 percent reported that they didn't harvest anything. This is evidenced by the low level of winter stocks reported in each zone (see Chart 1).

Chart 1: Current Stocks from Winter Harvest by Food Economy Zone

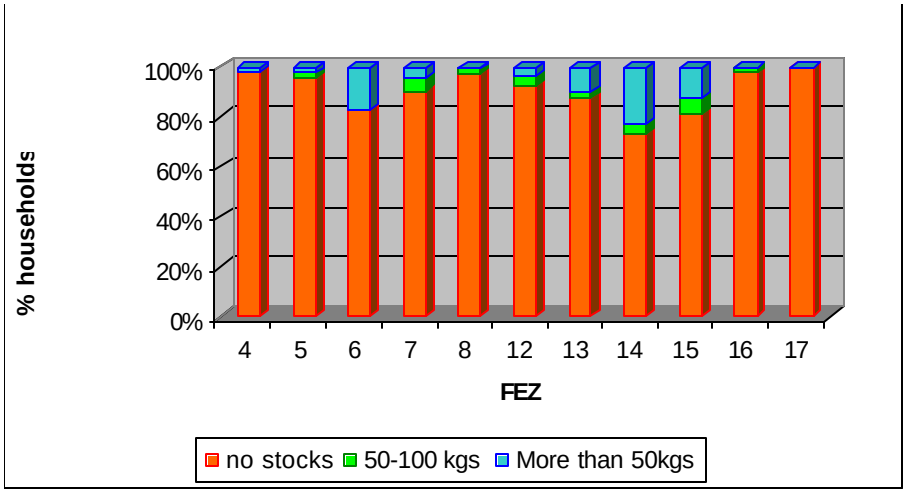


Table 6 shows that over 90% of the households reported no food stocks from winter harvest except in zones 6 and 14, which were relatively better off. The worst cases were in zones 4, 5, 16 and 17. This situation may have contributed to 50% of the interviewed households reporting that they ha d to purchase cereal.

Areas with higher cereal availability are located in the northeastern parts of the country. Southern and south eastern parts of the country represent the lowest levels of cereal availability.

In the affected areas, 76.5% of the households currently do not have cereal stocks from the summer (main) harvest while 90% do not have from the more recent winter harvest. Taking into account the summer and winter harvests, an average of 75.8% of households surveyed have no stocks available from own production.

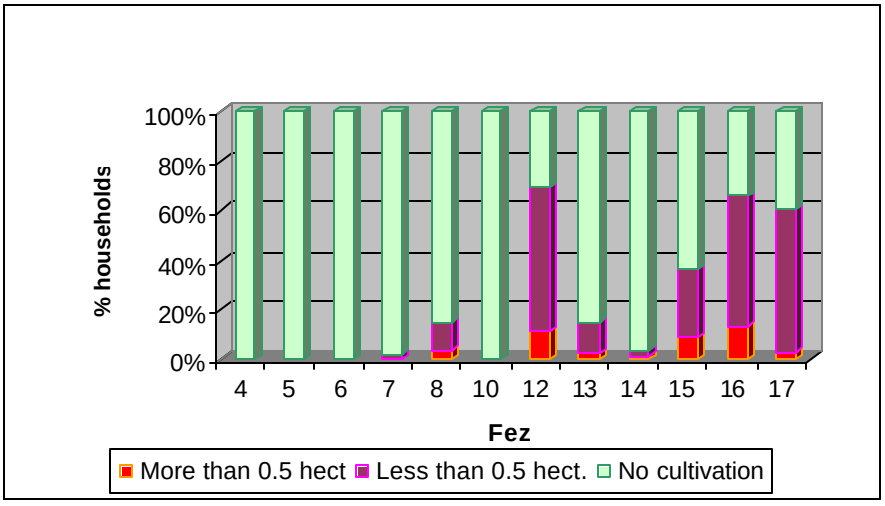
Table 6: Percentage of households with cereal stock, by FEZ

FEZ	Cereal Stock from summer and winter harvest				
	No stocks	< 50kgs	50-100kgs	100-200kgs	> 200kgs
4	40.0	18.8	22.5	6.3	12.5
5	56.8	11.1	21.0	3.7	7.4
6	96.0	2.7	0.0	0.0	1.3
7	97.9	0.0	1.1	0.0	1.1
8	61.5	16.4	10.7	4.9	6.6
10	92.5	2.5	2.5	0.0	2.5
12	70.9	12.7	10.1	1.3	5.1
13	91.6	2.4	3.6	0.0	2.4
14	88.8	6.3	1.3	3.8	0.0
15	86.4	9.1	2.3	2.3	0.0
16	87.2	2.6	5.1	0.0	5.1
17	89.7	2.6	2.6	0.0	5.1
Total	**75.8**	**9.5**	**8.2**	**2.2**	**4.3**

4.2.2 Cassava Availability

Cassava contributes significantly to the household food security for the north, parts of north western and western parts of Zambia. Results show that although 78% of surveyed households did not have any land under mature cassava, FEZs 12, 15, 16, and 17 grow significant amounts of cassava. Chart 2 illustrates variation in cassava production across the FEZs .

Chart 2:
Percentage of Households with Cassava Cultivation, By Food Economy Zone



Information from the survey shows that even in areas where cassava is commonly grown and consumed, it is not consumed alone, but is normally mixed with maize meal. This implies that there is still demand for maize meal even in cassava consuming areas.

4.3 Maize Market Prices and Access

Generally, the price of maize has been increasing since the start of the marketing season in most parts of the affected areas. Large increases were observed in southern, southwestern, western and southeastern parts of the country that were severely affected by last season's drought. The highest price increases of 50% and above was observed in the southern and western parts of the country. This confirms the grain shortage in most of these rural areas. However, some price reductions were observed in the central and north-eastern parts of Zambia.

The reduction in maize prices in some areas was also captured by the Food Security Research Project. The inflow of maize from neighboring Tanzania through cross border trade, which has increased supply, could help explain these price reductions. Table 7 compares the August and December maize prices by Food Economy Zone.

Actual cereal prices in December averaged ZMK 60,000/50kg, ranging from ZMK105, 000/50kg in FEZ 14 to ZMK 40,000 in FEZ 8 This can be attributed to the proximity of rail/road and transit points in FEZ 8. Sesheke (FEZ 14) recorded the highest price of maize, which is likely due to the chronic problem of poor accessibility by road.

Table 7: Price Variation by Food Economy Zone

Food Economy Zone	Price /50kg bag August 2002 in ZMK	Price/50kg bag December 2002 in ZMK	% increase/decrease in price from Aug to Dec
4	56 000	45 000	-19.6
5	45 000	60 000	+33.3
6	54 000	75 000	38.8
7	60 000	90 000	+50
8	54 000	40 000	-25.9
10	45 000	60 000	+33.3
12	40 000	72 500	+81.1
13	60 000	60 000	0.0
14	60 000	105 000	+75
15	50 000	75 000	+50
16	50 000	75 000	+50
17	50 000	50 000	0.0

Some rural households throughout Zambia are not able to produce enough staple food even in a 'normal' year to cover their annual needs. Without exception these households reported that they would, at some point during normal years, purchase cereals for consumption. This year, household food stocks were depleted earlier than usual, thereby forcing households to begin purchasing maize earlier than usual.

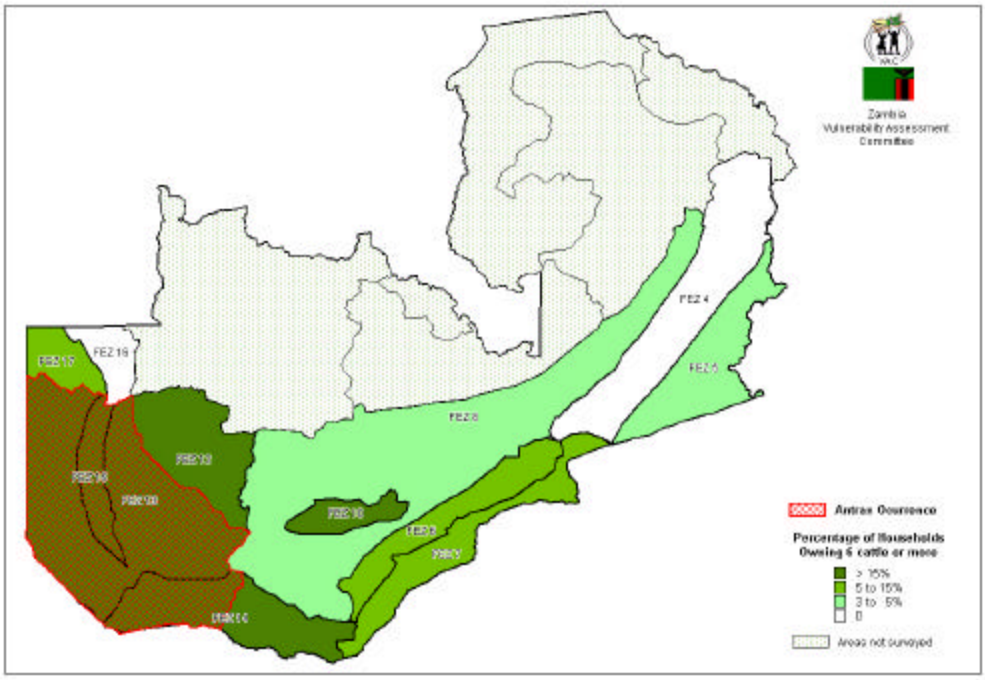
4.4 Livestock Prices

In most of the food insecure areas the price of livestock has gone down compared to August period. This is a desperate measure by households in trying to cope with the food crisis situation. In Western Province, the decrease in prices was further compounded by the outbreak of Anthrax that led to a ban on livestock movement. The ban has since been lifted but it still remains in force in North Western province. Therefore, when calculating

household food needs from the survey data, cattle was not considered to be a convertible asset (i.e., for food or money) for households in the affected areas.

During the August VAC assessment the northwestern part of the country had a serious outbreak of CBPP, causing Government ban on the sale of cattle. By December the situation had completely changed following the vaccination of cattle and the lifting of the ban. This could help explain the reduction in the number of people requiring food assistance in parts of northwestern. Map 2 depicts occurrence of anthrax and cattle ownership.

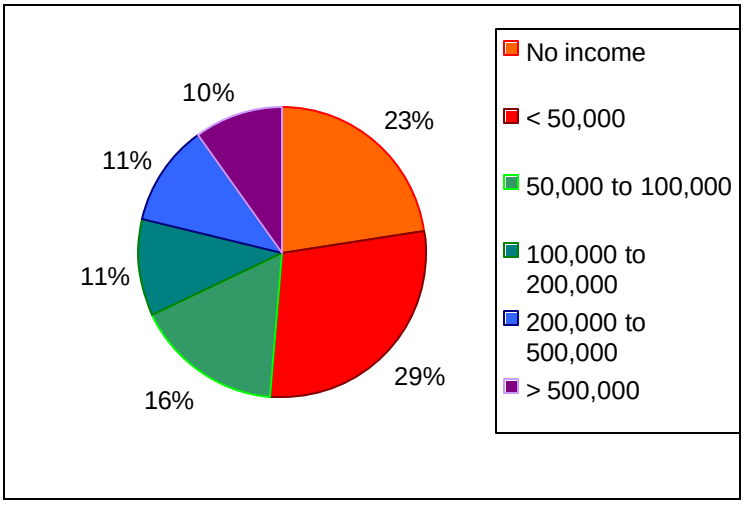
MAP 2: Percentage of Households Owning over Six Cattle



4.5 Income Sources

Generally, access to cereals at household level was low mainly due to the low purchasing power. The VAC findings indicated that 50% of the households had income less than ZMK 50 000 per month. From this group, 23% did not have any income at all (see Chart 3).

Chart 3:
Distribution of Household Income /between August and December



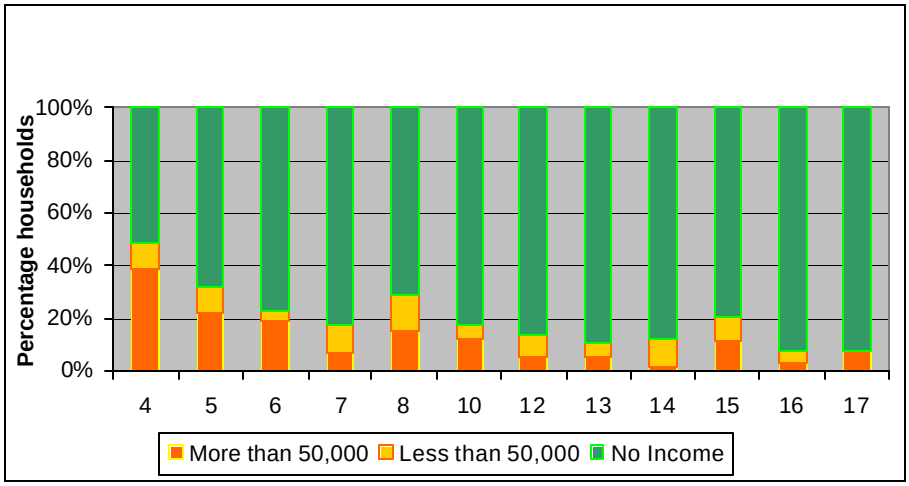
The various sources of primary income are shown in Table 8. The results show that cash crop sale is the most common source of income. The least common sources of income are formal labor and charcoal sales. The northern part of the Eastern area has the highest cash crop sales, 19.8%. In this area 36% of households identified cash crop sales as their primary activity, with a mean income from this activity of about ZMK126, 000 per households (see Chart 4).

Table 8: Primary Sources of Income

Primary Source of Income	Percentage Households
Casual Labor - Agricultural	22
Casual labor - non agricultural	6
Formal labor	2
Cash crop sales	26
Livestock sales	8
Small business/petty trade	10
Charcoal	2
Brewing	79
Crafts	87
Fishing	8

Among the households involved in agricultural casual labor the average income from August to December 2002, was ZMK 118,000. Fifty percent of households involved in this activity received less than ZMK 50,000, while the highest 10% received more than ZMK 550,000. Labor continues to be a constraint to food production in some areas, which is exasperated by high rates of HIV/AIDS.

Chart 4:
Household Income from Cash Crop Sales by Food Economy Zone

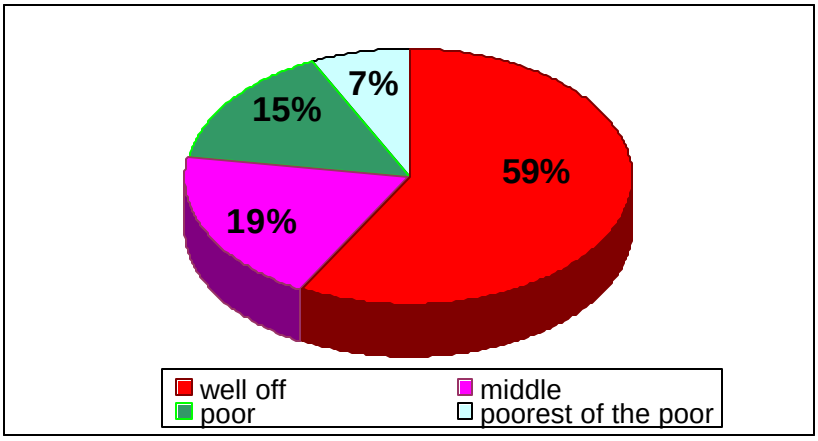


Thirty-eight percent of the households interviewed could not cultivate part of their land due to shortage of labor. Only 17 percent of the households use their own oxen as the main source of draught power for cultivation while 68 percent use hand hoes. The rest use either hired or borrowed draught power as the main source of power for cultivation.

4.6 Household Assets

Livestock ownership has a strong relationship with wealth grouping (see Chart 5). The frequency of households with more than 5 cattle ranges from 59% in the well off group to 7% in the poorest of the poor group.

Chart 5:
Household with more than 5 Cattle by Socio-Economic Group



4.7 Household Coping Strategies

The extent to which households are engaging distress coping strategies is consistent with—and supports--findings regarding the estimated numbers of people in need of food aid. Table 9 illustrates the percentage of households having engaged in selected coping strategies over the past three months.

For the affected areas the most common type of coping strategy is altering dietary intake. Over the past three months, 78% of the entire survey population reported reducing the daily number of meals. This is 13% higher than that reported in the August assessment. The highest percentages of households reducing the number of meals are in food economy zones 6 (92%), 10 & 17 (90%), 7&11(88%), 16 (85%), 15 (79%), and 8 (70%). Other dietary-related coping strategies included reducing the amount eaten at meal times (72%) and skipping an entire day without a main meal (58%). Households are also relying more on wild foods than in normal years (38%).

The level of borrowing is also of concern, as this could lead to further perpetuation of livelihood strains beyond the immediate food crisis. Households tend to first rely on borrowing from friends and relatives (30%), followed by borrowing from non-family members (27%) and borrowing from money lenders (5%).

Table 9: Frequency of Selected Coping Strategies

Type of Coping Strategy	% Households engaged in each coping strategy (August-December)
Reduced number of meals	78%
Reduced amount at meal times	72%
Skipped entire day without food	58%
Reduced expenditure on alcohol and tobacco	57%
Increased consumption of wild foods	38%
Reduced expenditure on non-foods	34%
Beyond normal livestock sales	32%
Borrowed from friends and relatives	30%
Borrowed from non-family members	27%
Borrowed from money lenders	5%

4.8 Household Dietary Intake

Table 10 shows the average number of meals consumed by both adults and children in a day and the proportion of the population. For adults 46% reported consuming one meal followed by 40% who consumed 2 meals while 0nly 4% could afford 3 meals a day. Ten percent reported no regular meal. This information suggests that households are cutting down on eating times. The trend is the same for children.

Table 10: Number of Main Meals Consumed

No. of main staple Meals Taken Per Day	Proportion of Population Consuming No. of Meals (%)
Adults	
0	10
1	46
2	40
3	4
TOTAL	100
Children	
0	13
1	36
2	39
3	12
TOTAL	100

Among those eating some food, the most commonly consumed are cereals and vegetables, followed by cassava and fruits. This is depicted in Table 11 which shows the different types of food eaten in a week and the average number of days a particular food type is eaten:

Table 11: Type of Food Consumed by Number of Days

Food Type	No. of Days in a Week (Average)
Cereal	5
Cassava	2
Sugar	1
Legumes	1
Vegetables	5
Fruits	4
Wild fruits	3
Meat	1
Egg	1
Fish	1
Oil	2
Milk	1

The amount of cereal intake has improved because of the current relief programs under the Government, NGOs and the church. However, the issue of quantity remains critical, as most of the families have to reduce the amount and the number of meals for the food to last a longer period.

Cassava is only produced and consumed in some parts of Western Province, northern and north western parts of Zambia. The main vegetables consumed include indigenous crops such as *Sindambi*, traditional Okra, cassava leaves and *lumanda*. In most places especially in Southern Province the main vegetable is okra. The main fruit eaten by majority of the population is mango which is a seasonal fruit and at the time of the assessment it was diminishing at a very fast rate because of the critical hunger situation. Table 11 shows that very few families have milk, oil, fish, eggs, meat, legumes and sugar in their diet.

5.0 TARGETING FOOD AID

5.1 Geographical Targeting

During the August assessment the household in need were estimated at 26% of rural population or 2,865,171 households. This estimate was based on the preliminary 2000 Census population of 10.3 million. However, by December, the revised Census population of 9.3 million with an annual growth rate of 2.3% was released. Based on this new information, the August figures were adjusted. Table 12 shows the new and old August figures for population affected and required food aid for the period Jan-March.

Table 12: Adjusted August Survey Figures

August Findings	**Old Census figures**	**Adjusted census figures**	**Percentage Reduction**
CSO 2000 Total Population	10.3 million	9.3	9.7
2002 projected population	10.9 million	9,8	10
Annual Growth Rate	2.8%	2.3%	18
Total Rural Population in Need	2,9	2.5	11
Percentage of Total Population in Need	26%	26%	
Total Food Aid Requirement	103,146 MT	91,798 MT	

Food aid requirement is based on the ration of 400gms per person per day.

For, the December assessment any comparison with August was made with the adjusted figures.

In the December assessment, the rural population in need rose from the projected 26% to 28%, a 2% increase. The estimated total number of people in need of food aid (2,767,841 of which 97,000 are urban orphans and vulnerable children) and total amount of food aid required (132,856 MT) broken down at district level is shown in Table 13.

Table 13: Food Aid Requirement until March 2003

Province	District	2002 CSO projected Pop	Rural Population	% Rural Population in Need Dec/02 thru Mar/03	Total Number of People in Need Dec/02 thru Mar/03	Food Aid Requirement in MT	Food Economy Zone
Eastern	Chadiza	82,916	78,770	63%	49,625	2,382	5
Eastern	Chama	72,518	67,442	58%	38,779	1,861	4
N/western	Chavuma	29,132	26,510	44%	11,543	554	16 & 17
Central	Chibombo	236,927	215,604	65%	139,711	6,706	8
Luapula	Chiengi*	82,572	71,012	0%	0	0	1
Copperbelt	Chililabombwe*	69,795	9,771	0%	0	0	9
Northern	Chilubi**	63,348	60,814	37%	22,258	1,068	1
Copperbelt	Chingola*	172,640	27,622	0%	0	0	9
Northern	Chinsali	124,462	113,260	45%	51,194	2,457	2
Eastern	Chipata	358,880	290,693	63%	183,137	8,791	5

Southern	Choma	202,238	157,745	74%	116,731	5,603	8 & 6
Lusaka	Chongwe	128,556	89,989	77%	69,561	3,339	8 & 6
Southern	Gwembe	32,833	30,863	78%	23,996	1,152	7
Northern	Isoka**	96,469	85,857	35%	30,100	1,445	2
Southern	Itezhi-tezhi	42,921	40,346	68%	27,425	1,316	10 & 8
N/western	Kabompo**	69,252	62,327	7%	4,340	208	2
Central	Kabwe*	178,315	24,964				8
Lusaka	Kafue	149,386	128,472	73%	94,264	4,525	8,7 & 6
Western	Kalabo	113,448	106,641	77%	81,589	3,916	15 & 13
Southern	Kalomo	163,154	153,365	68%	103,784	4,982	10 & 8
Copperbelt	Kalulushi*	73,944	10,352	0%	0	0	9
Western	Kaoma	155,618	143,169	35%	50,682	2,433	12
Central	Kapiri Mposhi	193,010	167,919	32%	52,978	2,543	8 & 9
Northern	Kaputa	86,535	77,882	0%	0	0	2
Northern	Kasama	172,058	127,323	0%	0	0	2
N/western	Kasempa**	51,397	45,743	12%	5,712	274	2
Eastern	Katete	188,102	178,697	63%	112,579	5,404	5
Luapula	Kawambwa*	100,813	86,699	0%	0	0	1
Southern	Kazungula	65,901	61,947	71%	44,075	2,116	14 & 8
Copperbelt	Kitwe*	379,286	3,793	0%	0	0	9
Southern	Livingstone	98,797	5,928	78%	4,594	221	14
Lusaka	Luangwa	19,226	17,303	78%	13,479	647	7
Copperbelt	Luanshya*	150,710	15,071	0%	0	0	9
N/western	Lufwanyama*	62,648	58,263	0%	0	0	9
Western	Lukulu	64,012	60,171	57%	34,063	1,635	15, 13 & 12
Eastern	Lundazi	232,274	220,660	63%	139,946	6,717	5
Lusaka	Lusaka***	1,106,403	11,064	0%	0	0	urban
Northern	Luwingu	75,594	69,546	0%	0	0	2
Eastern	Mambwe	46,914	44,568	64%	28,372	1,362	5 & 4
Luapula	Mansa*	180,421	131,707	0%	0	0	1
Copperbelt	Masaiti*	94,932	88,287	0%	0	0	9
Southern	Mazabuka	204,307	149,144	77%	115,459	5,542	10, 8 & 6
Northern	Mbala	146,221	131,599	0%	0	0	2
Luapula	Milenge*	27,053	19,749	0%	0	0	1
Central	Mkushi	106,738	99,266	36%	36,168	1,736	8
Western	Mongu	159,790	115,049	71%	81,354	3,905	15,& 13
Southern	Monze	162,373	136,393	73%	99,657	4,784	10, 8 & 6
Northern	Mpika	142,496	116,847	21%	24,719	1,187	8, 4 & 2
Copperbelt	Mpongwe*	62,251	56,026	0%	0	0	9
Northern	Mporokoso	74,453	67,008	0%	0	0	2
Northern	Mpulungu	64,619	58,157	0%	0	0	2
Copperbelt	Mufulira*	143,659	11,493	0%	0	0	9
N/western	Mufumbwe**	42,778	31,228	56%	17,613	845	11
Central	Mumbwa	154,969	147,221	65%	95,399	4,579	8
Northern	Mungwi**	110,277	99,249	22%	22,141	1,063	2
Luapula	Mwense*	105,061	99,808	0%	0	0	1
N/western	Mwinilunga**	119,013	109,492	59%	64,600	3,101	11
Northern	Nakonde*	72,423	64,456	0%	0	0	3
Southern	Namwala	80,474	71,622	78%	55,507	2,664	10
Luapula	Nchelnge*	111,198	98,966	0%	0	0	1

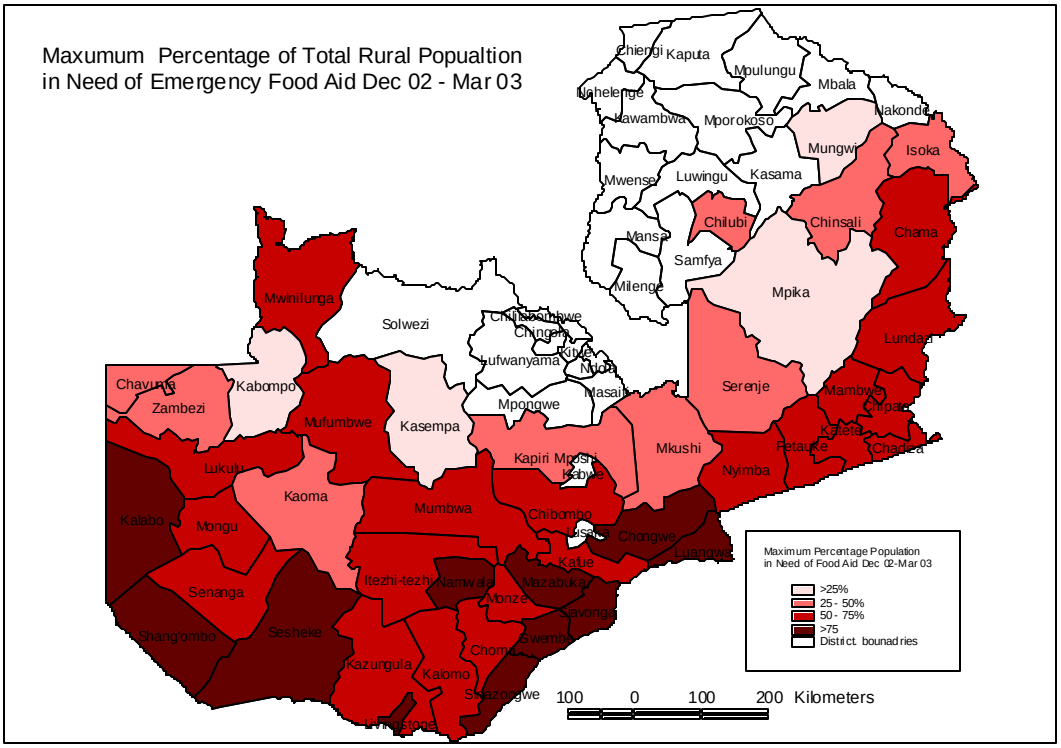
Copper belt	Ndola*	388,494	3,885	0%	0	0	9
Eastern	Nyimba	68,559	65,131	63%	41,280	1,981	5&4
Eastern	Petauke	233,684	222,000	63%	140,711	6,754	5 & 4
Luapula	Samfya*	156,666	137,866	0%	0	0	1
Western	Senanga	108,449	100,858	73%	73,690	3,537	13
Central	Serenje	131,871	121,321	39%	47,897	2,299	9, 8 & 4
Western	Sesheke	74,439	64,018	77%	49,509	2,376	14 & 13
Western	Shangombo	65,326	60,753	76%	46,224	2,219	15&13
Southern	Siavonga	56,073	43,737	78%	34,071	1,635	7
Southern	Sinazongwe	76,449	63,453	78%	49,430	2,373	7
N/western	Solwezi*	190,395	148,508	0%	0	0	11
N/western	Zambezi	62,972	57,305	43%	24,717	1,186	
Sub Total		9,771,887	6,182,295		**2,670,841**	128,200	
Urban (Orphans and Vulnerable Children)					97,000	4,656	
Total Population in Need of Food Aid					**2,767,841**	**132,856**	
Percentage of Rural Population in Need					28%		

* Fez not affected

** Percentage of population affected from previous assessments - no field survey

The increase in population requiring food assistance in a number of areas could be attributed to sharp increase in maize prices after August making the commodity inaccessible to most households. The critical shortage of maize in most rural areas also makes it difficult for those with the means, to purchase the commodity. Map 3 gives a spatial view of the populations needing food aid.

Map 3: Concentration of Population Needing Food Aid



The critical areas are in Southern, Western and Lusaka Province. Moderate areas are in central, parts of western and north - eastern parts of the country while the northern part of the country are non critical.

The VAC findings indicate that most affected districts in terms of food insecurity are in Southern, Western, Lusaka and Eastern province where at least 50% of the population is affected. The highest priority district areas are Sinazongwe, Gwembe, Siavonga, Mazabuka, Namwala, Livingstone (Southern Province), Sesheke, Shang'ombo and Kalabo (Western Province), Chongwe and Luangwa (Lusaka Province). In these districts more than 75% of the rural populations are in need of food assistance. This is clearly depicted in Map 3.

5.2 Social Targeting of Food Aid

The December survey shows that 70.5% women are currently in need of food aid as compared to 66% of men. Four categories based on marital status were identified as shown in Table 14.

Table 14: Population in Need of Food Aid by Gender and Marital Status

Marital status	Gender	Population not in need	Population in need
Married	Male	46	54
	Female	34	66
	Average	45	55
Widowed	Male	43	57
	Female	24	76
	Average	27	73
Single	Male	29	71
	Female	33	67
	Average	33	67
Divorced Separated	Male	18	82
	Female	27	73
	Average	24	76

At least 12% more married women are in need compared to their married male counterparts. A similar trend was seen in the widowed category where 19% more women were affected than men. The situation was different in the singles category. There were 4% more males than females in need. This scenario was also cited in the divorced/separated group where 9% more males than females were in need of food aid.

6.0 FOOD SECURITY AND RELATIONSHIP TO OTHER FACTORS

6.1 The Chronically Ill

Household interviews to assess the number of the chronically ill revealed high levels in zones, 6, 7, 8, 10, 11, 13, 15, 16, and 17 accounting for an average total of 26% for the chronically ill across the assessed areas. Table 15 shows the breakdown of households reporting chronically ill dependents. The major complaints were attributed to HIV/AIDS, malaria and diarrhea.

Table 15: Households with Chronically ill members

District	Zone	Percentage of Chronically Ill
Chinsali Isoka Mpika Mungwi	2	14.3
Lundazi Mambwe Mpika Nyimba Petauke Serenje	4	12.5
Chipata Katete Mambwe Nyimba Petauke Chadiza	5	17.3
Choma Chongwe Mazabuka Monze Kafue	6	40.0
Gwembe Kafue Luangwa Siavonga Sinazongwe	7	34.7
Chibombo Choma Chongwe Kafue Itezhi-tezhi Kapiri Mposhi Monze Mpika Mumbwa Kazungula	8	27.0
Itezhi-tezhi Kalomo Mazabuka Monze Namwala	10	45.0
Mufumbwe	11	25.6
Kaoma Lukulu	12	12.7
Kalabo Lukulu Mongu Senanga Sesheke Senanga	13	36.1
Kazungula Livingstone Sesheke	14	25.0
	15	22.7
Chavuma Zambezi	16	43.6
Chavuma Zambezi	17	10.3

Zone 10 at 45% is the most affected mainly due to social values governing some of the districts. Mazabuka district is host to a large number of immigrants from other provinces in Zambia that come to work on the sugar plantation. Most of them are unaccompanied by their spouses rendering both the immigrants and local community vulnerable to sexually transmitted infections. This picture is closely followed by zone 16 (43.6%). This is as a result of Angolan rebels that stray into the area. The zone also has poor infrastructure and lacks social amenities increasing chances of community members indulging in illicit behaviors. Unemployment is a common problem among the habitats of this zone.

Zone 6 (40%) has high levels of the chronically ill too. Choma District is both an agricultural and trade center hence attracts a lot of temporary immigrants; Monze and Kafue are transit points for the trucking business while Chongwe and Kafue to some extent are affected by their proximity to the capital city Lusaka. Lusaka is also a center of various trades including commercial sex. .

The percentage of the chronically ill for zone 13 is 36%. Its border towns with Angola and Namibia and illegal immigrants and refugee populations that are fusing into the local community mainly affect the zone. The zone is also host to fish traders especially in Mongu and Senanga, some of whom come from areas outside the zone.

Zone 7 has trailed zone 13 at 34.7% mainly because of Siavonga, which is a tourist site. Kafue is a transit point for the trucking business and its proximity to the capital city of Lusaka and its vices renders as it vulnerable to ill vices.

The VAC findings show that there is some relationship between areas with high percentage of chronically ill and those requiring food assistance for Southern, Lusaka and Western Provinces. However, this relationship does not hold for eastern Zambia where the percentage of chronically ill is relatively low and yet the percentage requiring assistance is high. (See annex 1 for linkage between chronically ill and population requiring food assistance.)

6.2 HIV / AIDS

Linkages between HIV/AIDS and food security are strong and many. Indeed, the relationship works in both ways: on one hand, HIV/AIDS increases food insecurity as it depletes the human, socio and economic capital of a given household; and on the other hand food insecurity increases exposure to HIV/AIDS infection as starving people are driven to adopt risky coping strategies in order to survive. Selected VAC data from household survey allows for the examination of four linkages between food security and HIV/AIDS. The four linkages addressed are: 1. Food insecurity increases the exposition to HIV/AIDS infections, 2. HIV/AIDS depletes human capital, 3. HIV/AIDS depletes financial capital, and 4. The presence of orphans decreases food security in already stressed households.

Taking these few relationships between HIV/AIDS and food security, the VAC has incorporated specific questions in the households survey instrument. Due to the social taboo associated with AIDS, the VAC could not successfully identify households affected by HIV/AIDS. Thus, selected possible impacts of HIV/AIDS - death, chronic illness and orphans - were used as proxies of HIV/AIDS. In other words, the results presented here are NOT specifically related to the impacts of HIV/AIDS but are rather related to potential impacts of HIV/AIDS. The core findings of the analysis of the August and December household survey data are highlighted below.

HIV/AIDS Reduces Human Capital

While 25% of rural households with chronically ill members did not harvest cereals during 2001/02, only 13% of households without chronically ill members did not harvest cereals. Further, the death of an adult (16 and 59 years) during 2002 is associated with a 16% reduction in the amount of land planted during this planting season as compared to last season.

Reduction in Income Earning Activities

The presence of a chronic ill member was related to a reduction of 58% on income from primary activity and 72% on income from cash crop sales. Not only the presence of a chronic ill member was related to significant reduction in income, but also the position of the chronic ill member in the household impacted on the reduction level. While households with chronic ill adults (not head of household) had a decrease of 42% on income from primary activity as compared to households without any chronic ill member, the reduction increased one-third once the head of households was chronically ill (65% reduction).

Increase in School Dropouts

Among households that had an adult member that died during the last year, 60% affirmed that they had children at primary school age not enrolled at school. For households without any

adults' deaths during the last year, the rate of primary education absence dropped 33%, with only 40% of households affirming abstention. When the question highlighted the school drop out over the last 3 months, the scenario was more radical: while 20% of households with an adult death affirmed that they had children that stopped studying over the last three months, only 8% of households without any adults' deaths affirmed the same. Further, 73% of households that had an adult member dying in 2002 identified lack of income as the main reason for the absence of primary children against 43% of households without any adult deaths identifying the lack of income as the main reason for primary school drop-out.

HIV/AIDS Depletes Financial Capital

While 87.5% of households with deaths among adults during 2002 had more than Kw 50,000 received through sale of livestock, only 49% of households without any deaths among adults received the same income from sale of livestock.

HIV/AIDS Increases Expenditures on Health and Funerals

In Zambia, while 42% of households with chronically ill members had unusually high expenses in health care, this was the case for only 14% of households without chronically ill members. For households that had at least one member dying during 2002, 76% of them indicated that they incurred high unusual expenses in funerals compared to 14% for households without any deaths.

In conclusion, the high prevalence rates of HIV/AIDS in Zambia are playing a fundamental role in dismantling the economic and social structure of rural society. As such the pandemic is central in deepening an otherwise serious food crisis into a complex and unique humanitarian crisis that will have lasting effects on both household and national level food security.

6.3 Water and Sanitation

Five main sources of drinking water were identified as shallow wells, hand pump, protected well, deep open well and river/stream. The actual proportions of sources of drinking water and collection are illustrated in the Tables 16 and 17.

Table 16: Source of Drinking Water

Main source of drinking water	% of households using this source
Shallow wells	38
Hand pump	20
Protected well	17
Deep open well	6
River/stream	18.
Other	0.4

The most popular source of drinking water is shallow wells followed by hand pumps and protected wells. Generally, the households interviewed (37%) have access to moderately hygiene water from either protected wells or hand pumps. The main sources of water are with easy reach by the majority of households as shown in Table 17.

Table 17: Time Households Take to Fetch Drinking Water

Time taken to fetch water from main source	% of households
Less than 30 minutes	78.5
30 minutes to 1 hour	12.3
1 to 2 hours	4.1
More than 2 hours	5.2

Only 27.5 % of the households changed their water source from the one they were using in August 2002.

In term of toilet facilities, the most popular toilet facility is the ordinary pit latrine, which accounted for 59% of the total. The least type of toilet facility in use is the river/stream recording 0.3%. Again the majority of households have access to moderately hygienic toilets (Table 18)

Table 18: Toilet Facility by Percentage of Households

Type of toilet facility	% of households
VIP latrine	2.3
Ordinary pit latrine	59
Bush	37.5
River/stream	0.3
Other	0.9

7.0 FUTURE AGRICULTURAL PRODUCTION PROSPECTS

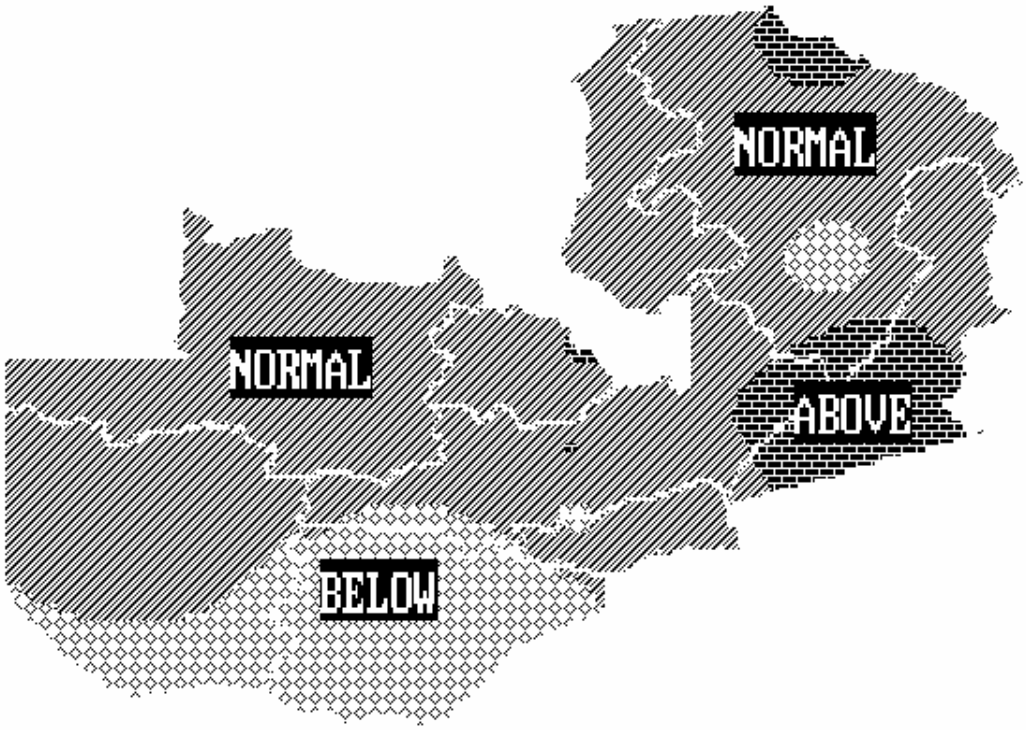
7.1 Climatic Conditions

The start of the 2002/2003 agricultural season was very disappointing as it was characterized by poor rainfall in terms of amounts received as well as distribution. After the first rains in late October to early November 2002, almost all parts of Zambia experienced a prolonged dry spell (agricultural drought) up to the first week of December 2002. This condition was unfavorable for proper germination and crop growth. The early-planted crop that had already germinated suffered severe water stress to the extent of reaching permanent wilting point. In many areas of the southern half of Zambia the lost crop resulted in replanting whereas in other areas farmers delayed planting until the rains fully established. There was a deliberate effort in the current season to promote early planting using conservation farming technology in southern Zambia.

A combination of most of the named factors will result in reduced expected yields for the current 2002/03 season's crop.

By the first dekad (1 to 10) of December 2002, many parts of the country had recorded below normal rainfall mostly in Eastern, Northern and Southern provinces. The rainfall deficits in these areas were so high (between -20% and -74%) that agricultural activities were disrupted. The deficits can be seen in Map 4.

Map 4: Rainfall Departure Map: Below, Normal and Above Normal Cumulative (July 1, 2002 to December 31, 2002)



Rainfall picked up towards the end of the first dekad (01-10) of December 2002. Nearly all areas of the country started receiving appreciable amounts of rainfall favorable for crop germination and growth. Due to widespread rainfall being received now countrywide, the situation has improved. There has been a general improvement in crop condition. As of end of December most parts of Zambia had received normal rainfall. Above normal rainfall was confined to Mbala district (Northern Province) and the southern half of eastern Zambia. Southern Zambia has continued to receive deficit rainfall. The deficit rainfall situation is a source of great concern and will need very close monitoring as the 2002/2003 season progresses.

7.2 Future Outlook

The Department of Meteorology issued a detailed rainfall forecast for the current growing season. The forecast for the second half of 2002/2003 rainy season indicates a likelihood of generally normal to above normal rainfall over the northern half of Zambia

The southern part is likely to experience normal to below normal rainfall. The principal factors taken into account are the current state of the near normal sea-surface temperatures in the Indian and Atlantic Oceans and the current development of a weak to moderate El Nino (warm-episode) conditions in the equatorial Pacific Ocean which is expected to continue into 2003.

During the second half of the season (January to March 2003), rainfall will be generally normal to above normal over Northwestern, Copperbelt, Luapula and Northern provinces including the northern districts of central province. The rest of the country, which includes, Western, Southern, Lusaka and Eastern provinces and the southern districts of Central province is likely to experience normal to below normal rainfall.

7.3 Availability and Accessibility of Agricultural Inputs

As compared to the non-agricultural season during the August assessment, the amount of labor and input/implements availability increased in the agricultural season during the December assessment. Generally the availability of inputs throughout the country was very thinly spread out with very few beneficiaries as compared to the number of applicants for food security packs. Over 65% of households either had no seed at all or did not have enough seed stocks to cultivate their total land holding. In areas with poor soils, failure to access fertilizer led to 44% of the households not to cultivate.

7.3.1 Fertilizer Program

At the beginning of the 2002/2003 Agricultural season, the Government put in place the "Input Support Programme" which was expected to deliver 48,000MT of fertilizer (half of basal dressing and the other half top dressing fertilizer) and 2,400MT of maize seed to 120,000 small holder farmers. These inputs were to be provided to the farmers at a 50% subsidy rate. The package comprised of basal and top dressing fertilizer for one hectare and 20kg maize seed. 400 kg per hectare of each type of fertilizer. On the basis of this targeting, the programme was expected to support a total of 120,000 hectares of maize with an expectation of increasing maize production by between 300,000 and 350,000 MT. This target seems to be ambitious since it assumes that all other factors such as good crop husbandry practices and good weather pattern remain constant. With the uncertainty that

surrounds these factors, the expected production increment is likely to be lower than expected.

By the end of December 2002, 95.6% (21,304MT) of basal fertilizer and 68.9(16,057MT) of top dressing fertilizer had been delivered to district centers. Except for Western province that received 83% of the targeted basal dressing, all the other provinces had received more than 95% of their targeted basal fertilizer with Luapula receiving 2% more than earlier targeted. On the other hand, the top dressing deliveries are still yet to be met by the program. Southern province which is one of the most food insecure area has received only 20% of the targeted top dressing fertilizer. Lusaka and Central provinces have received 32% and 55% of the top dressing fertilizer respectively. The rest of the provinces had received above 70% of the targeted top dressing fertilizer with Western and Northwestern receiving all their top dressing requirements for the programme.

The subsidized fertilizer in Lusaka and Southern Province was selling at K30, 000.00 (US$6.67) per 50-kg bag on average compared to an average of K40, 000.00 (US$8.89) per 50-Kg bag in the rest of the country. The price in Lusaka and Southern provinces was lower because the source was Nitrogen Chemicals of Zambia (NCZ) located in Lusaka Province. The bulk of the fertilizer for the program will need to be imported as NCZ only supplied 42% of the required amount.

Whilst fertilizers from the Government programme had reached district centers, there were reported logistical problems related to deliveries to remote centers. With the onset of rains, some areas will not be reached on time.

Even if the fertilizer was available at the district center, farmers had complained that the 50% subsidy on Government Fertilizer was still unaffordable. This was related to the recommendation that to qualify for the subsidy, a farmer would have to plant a minimum of one hectare, requiring the application of four 50-Kg bags basal fertilizer and four 50-kg bags Urea. The subsidized cost of this amount is K280, 000.00 per hectare. Most farmers simply cannot afford this input, especially in view the previous seasons' performance, which left them with no savings. In addition some farmers indicated that the package was restrictive since those who normally do not use fertilizer were unable to request for only seed.

Apart from this Government program, some NGOs had also been supplying fertilizer in the outlying areas. The Programme Against Malnutrition, under the "Food Security Pack", had supplied a total amount of 3,334MT of basal and 1,188MT of top dressing fertilizer throughout the country.

7.3.2 Seed Program

Maize seed deliveries under the Government input support program started in mid-November 2002. By the end of December, only 50% of the targeted 2,400MT of maize seed had been delivered to the designated points. The highest proportion delivery of this seed is in North-western province (85% of the target) and the lowest was in Eastern province (25% of the target). Generally, the country was short of seed for various crops. This has been attributed to the high demand on the part of NGOs participating in various drought relief programs. A total of 1,252 MT remains undelivered. The highest balances yet to be delivered are in Eastern (75%) and Western (60%) provinces. These areas definitely needed seed and planting period for maize in now over. However, there was a high possibility that the Government and NGOs were targeting the same farmers.

PAM also distributed maize and groundnut seed amounting to 518MT and 598MT respectively. Other seed distributed by PAM included beans, millet, sorghum, soyabeans and rice. However, the quantities for these other crops were too small as they did exceed250MT for the whole country. It was reported that PAM had failed to source adequate seed for the season.

Local seed companies had running out of seed and there was need to import. However, the shortage of seed did not result into a general rise in the price of seed, however. The price of seed had not significantly risen from the previous season. The average price per Kg was still around K4, 500.00 (US$1) for popular varieties. The slow price response implied that the shortage was not anticipated and caught the seed companies by surprise. The slow reaction by seed companies was expected because foreign seed companies (mostly multinationals) had dominated seed sales including importation. In general, formal seed sales had dropped in the past season due to lack of effective demand (unless under special Government program). The reasons cited for low effective demand included stagnation in producer prices and lack of sustainable credit facilities for major buyers like commercial farmers. Further, it is an observed trend that seed of improved varieties does not reach the vast majority of farmers. This fact underscores the critical need for informal seed programs to fill the gap.

There was general concern from communities that some NGOs were prescribing pot holing methods (conservation forming techniques) of as a condition for receiving inputs, tools and fertilizer. Most farmers indicated potholing was only effective when done in early winter and depended on the type of soil. They feared getting poor yields since pot holing has been done at a wrong time; agricultural extension workers in some zones visited supported this argument. There were also isolated cases of beneficiaries eating the seed meant for planting because of the desperate hunger situation. In its agricultural recovery project, GTZ was providing a 50Kg bag of relief maize for food to avoid consumption of seed input by the beneficiaries. In some cases some beneficiaries were not applying fertilizer to their crops because chances of accessing it were very limited. Others were not using fertilizer for fear of reducing natural soil fertility.

8.0 GOVERNMENT POLICY IN RELATION TO FOOD SECURITY

The Zambian Government Policy on Agriculture is generally to facilitate and support the development of a sustainable and competitive agriculture sector that assures food security at national and household levels as well as maximizing the sector's contribution to Gross Domestic product (GDP) and hence contribute to increase in disposable incomes.

With regard to the policy of ensuring household and national food security the strategy for realizing the policy objective is by supporting all categories of farmers to engage in dependable annual production of adequate supplies of basic foodstuffs at competitive costs. There are three main categories of farmers in Zambia, namely; small scale, medium and large scale. Small-scale farmers encompass almost all the vulnerable households in the country.

Other key policy objectives related to food security include:

- Strengthening emergency preparedness. This recognizes the fact that Government has a role to play in helping farmers to mitigate against unstable weather conditions such as drought and the control of pests, crop and livestock diseases.
- Regulate the introduction and use of biotechnological products, in particular Genetically Modified Organisms (GMOs).
- Maintaining agro-biodiversity.

Government position on genetically modified foods has been that GMOs should not be accepted into the country until a bio-safety framework and guidelines have been developed for screening genetically modified products that should be allowed into the country. These guidelines have been developed and are awaiting Cabinet approval.

Following the liberalization of the Zambian economy which started in 1992, the Government adopted a policy of promoting private sector participation in distribution of agricultural inputs and agricultural marketing. While the private sector has been mainly involved in the sale of agricultural inputs in urban areas mostly to medium and large-scale farmers, Government had to continue to supply hybrid seed and fertilizer on loan basis to small-scale farmers in rural areas. The Government supported credit input programme has been implemented through the Food Reserve Agency, which is a Government parastatal.

In the mean time Government in 2002 initiated a three-year Fertilizer Support Programme. In 2002 the Fertilizer Support Programme made seed and fertilizer inputs available to qualifying farmers at a fifty percent Government subsidy made available upon a down payment of another fifty percent by farmers. However, there were a lot of complaints from farmers and other stakeholders regarding the constraints associated with raising the fifty percent cash for the required down payment. This arrangement was intended to be stop-gap measure to be put in place while the ground work is still being prepared for establishment of the Agricultural Development Fund.

While Government has undertaken to remove consumer and producer subsidies, It exercised flexibility by temporarily offering consumer and producer subsidies as an integral part of the response measures to mitigate the food deficits experienced consecutively in the 2000/2001 and 2001/2002 agricultural seasons. Following poor harvest in the 2000/2001 agricultural season Government offered a consumer subsidy in form of market support to

importers/millers of maize grain towards the end of 2001and beginning of 2002. This was intended to stabilize food prices thereby enhancing access to food the country's population in spite of poor food production that was caused by unfavorable weather conditions. However, this market support did not correspondingly translate into reduced mealie meal prices and therefore did not benefit the consumers as was intended but rather benefited maize importers and millers.

On the other hand a producer subsidy was available in the 2002/2003 agricultural season in form of a fifty percent Government subsidy on fertilizer and seed made available upon a down payment of another fifty percent by farmers. This was intended to cushion farmers from an eroded income base emanating from poor harvests experienced in two consecutive seasons.

Government has proposed the establishment of the Crop Marketing Authority (CMA) through Legislation that was tabled before Parliament towards the end of 2002. The CMA was proposed to perform functions that would enable Government to put in place interventions that would address problems of market failure and natural disasters. The CMA was thus designed to perform the following main tasks:

- Be buyer of last resort for major food crops especially in far outlying areas of the country.
- Be responsible for input distribution to farmers;
- Be responsible for maintaining the national strategic food reserve; and
- Undertake drought mitigation activities through food relief distribution and disaster management.

However, when the CMA bill was presented in parliament the members of Parliament rejected it on the following grounds:

- That the CMA had been lumped with too many enormous responsibilities that may inhibit its ability to be effective. It was felt that two separate institutions should handle Crop Marketing and input distribution.
- That it was not indicated in the bill how liabilities of the Food Reserve Agency (FRA) would be liquidated. It was felt that CMA should start on a clean slate.
- That there is a need to consult widely regarding the CMA proposal.
- That too many powers were vested in the Minister of Agriculture regarding appointment of the Board and members of staff for the CMA as opposed to making the institution more autonomous.

Currently a Government Constituted Task Force has been set up to revise the CMA document in line with concerns and interests of various stakeholders including members of parliament.

9.0 RECOMMENDATIONS

9.1 Role of Government

- Government should facilitate supply of commercial grain to the rural areas through an appropriate mechanism. Currently all the maize that has been imported (official/cross border trade) is only servicing the urban market leaving the rural areas in severe commercial grain shortfall, which has drastically pushed up prices.

- Government needs to work in close collaboration with the private sector to ensure adequate supply of grain/meal on the market without triggering a market failure, which would have a long-term negative impact on grain production.

- There is need to set up a system to monitor inflow of grain imports through informal trade. This would assist in getting a better estimate of the actual commercial maize imports. There was need for an existing organization to keep track of commercial imports; currently the information of commercial imports is scanty and confusing.

- Government needs to learn from the shortcomings in the input support system and commercial market state. The input package should be flexible to allow farmers who do not need fertilizer to just receive seed and provision of the package should be made well before the planting season starts. Government needs to put in place firm contingency measures such as strengthening the strategic food reserve to deal with food crisis instead of the country only reacting when there is a serious food crisis.

- There is need for Government to strengthen the early warning systems in particular the meteorological department and the crop forecasting exercise under the Ministry of Agriculture and Cooperatives by providing adequate and timely funding.

- Government needs to take a leading role in further strengthening crop diversification especially in Southern Province. In addition, there is a lot of emphasis being put on the production of crops like tubers; however, the demand side needs to be seriously addressed in order for crop diversification program to succeed.

- Strengthen the National Early Warning Technical Committee to ensure it provides credible and timely information to avoid conflicting figures.

9.2 Role of Cooperating Partners

- Cooperating partners should respond more timely to food crisis once availed credible information on pending food crisis.

- There is need for closer collaboration when dealing with issues of data collection and harmonization among all stakeholders.

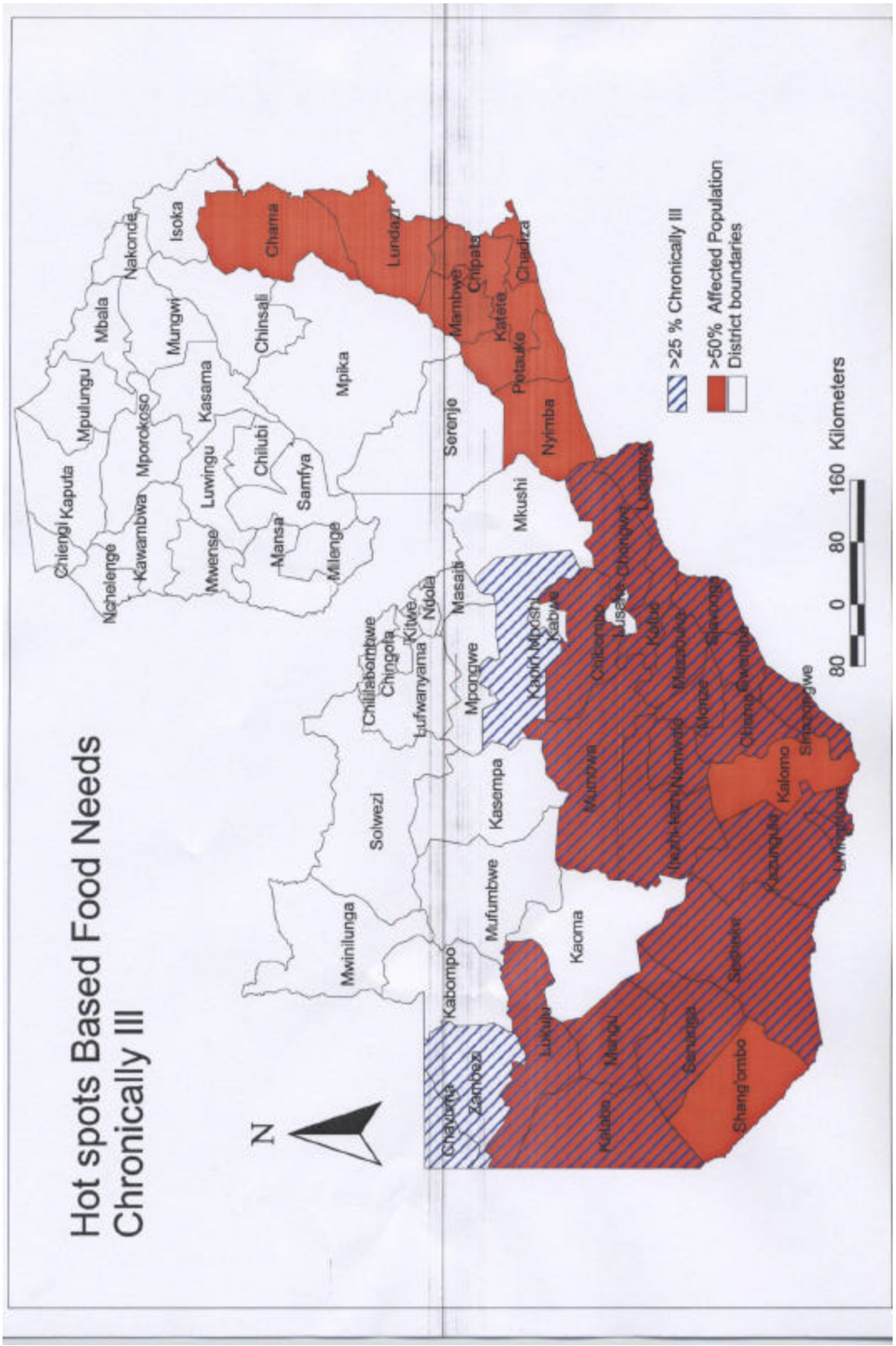
- Cooperating partners should speed up in honoring their pledges towards the current food relief program and be prepared for the possibility of continued relief beyond the current period for specific hot spots.

- There is need to harmonize the targeting system and strengthen monitoring using the common options; food for free, food for sale and food for work.

- We acknowledge that there has been great improvement in relief distribution in terms of increased quantities of food reaching the households. However, there is need for relief organizations to make immediate follow up in areas where distribution problems have been observed.

**

Annex 1


Hot spots Based Food Needs
Chronically Ill
N
>25 % Chronically Ill
>50% Affected Population
District boundaries
80 0 80 160 Kilometers
Isoka
Nakonde
Chama
Lundazi
Mbala
Mpulungu
Mungwi
Chinsali
Chipata
Chadiza
Mambwe
Katete
Petauke
Nyimba
Kasama
Mporokoso
Luwingu
Chilubi
Mpika
Serenje
Samfya
Mansa
Mwense
Kawambwa
Nchelenge
Chienji Kapufa
Milenge
Mkushi
Masaiti
Nkola
Kitwe
Chililabombwe
Chingola
Lufwanyama
Mpongwe
Kabwe
Kapiri Mposhi
Chisamba
Lusaka
Chongwe
Luangwa
Kafue
Mazabuka
Monze
Siavonga
Gwembe
Chirundu
Sinazongwe
Kalomo
Kazungula
Livingstone
Mumbwa
Itezhi-tezhi
Namwala
Solwezi
Kasempa
Mufumbwe
Mwinilunga
Kaoma
Kabompo
Chavuma
Zambezi
Lukulu
Mongu
Kalabo
Senanga
Sesheke
Shang'ombo