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Acknowledgements

Reaching conclusive findings of any analysis requires varied contributions from many different partners. In fact, the findings reached here were thanks to the dedicated efforts of many people and institutions that the VAC would like to acknowledge publicly. It is thus just and reasonable to acknowledge the strong contribution of the technicians in the Provincial Directorates of Health and of Agriculture & Rural Development in the provinces of Tete, Manica, Sofala, Inhambane, Gaza and Maputo, who played an exemplary role as both enumerators and supervisors.

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This report is based on the first analysis of the data collected and focuses on food security. Additional, more detailed analysis is being carried out on the final data set, in part to further examine the links between household food security, nutrition and health status, and the impact of HIV/AIDS. Additional papers examining these more detailed analyses will be published at a later date.

This document is a translation of the original report, which was produced in Portuguese and is available from the VAC. The VAC wishes to thank the translator, Frances Christie, for her hard work.

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EXECUTIVE SUMMARY

The 2002/2003 agricultural season in Mozambique was marked by one more year of drought and crop loss in the South and Central regions of the country. In addition to climatic irregularities, food security faces other threats. The combined effects of HIV/AIDS and natural disasters have considerably increased the vulnerability of poor populations. Sixty-seven percent of the population affected by the drought live in the four provinces with the highest poverty prevalence rates in the country namely Manica, Tete, Sofala and Gaza Provinces.

The present study carried out by the National Vulnerability Assessment Committee (VAC) reviews these factors through an analysis of the nutrition and food security situation at the household (HH) level.

This report had the following objectives:

- To evaluate the current food security and nutritional situation of households in the drought affected districts.
- To update the information gathered by the Vulnerability Analysis Committee in November/December 2002.
- To make available sufficiently detailed information to facilitate the implementation of action plans and assistance at the local/district level.
- To provide guidance to decision makers and other stakeholders regarding humanitarian assistance priorities based on a combined emergency and developmental perspective.

This report presents major findings regarding the current food security and nutrition status of vulnerable populations along with projections about likely trends in food security between now and the next harvest in early 2004. The main source of information used to compile this report came from primary data collected in a multi-disciplinary survey carried out in May 2003. Additional information was taken from several secondary sources including national agricultural production and price data,

The May 2003 food security and nutrition survey included socio-demographic indicators for each HH such as levels of dependency, chronic illness, mortality (adults and children), morbidity, nutritional status, infant feeding, and vitamin A supplementation. In addition, information was also gathered concerning food consumption (through a 24 hour recall), food stocks, expectations for second season production, cassava production, livestock, income sources, extreme coping strategies and mitigation programmes.

The survey was carried out in 29 of the 48 districts affected by the drought in the provinces of Sofala, Manica, Tete, Inhambane, Gaza and Maputo, with a total of 5165 households surveyed. Owing to the random sampling, the number of

interviews in each province varied, with 22% in Inhambane, 19% in Maputo, 18% in Sofala, 15% in Tete, 14% in Gaza and 12% in Manica.

The food economy zones (FEZs) were used as the analytical basis for the food security analysis, while provinces were the analytical basis for the socio-demographics and nutrition portions. By definition, FEZs are geographical areas in which people share similar options for acquiring food and income, expenditures and are subject to the same type of hazards. The analysis was subsequently applied at the district level by grouping the Administrative Posts covered by each FEZ. The information obtained was also compared with data from baseline studies and the District Profiles. In this way, it was possible to locate the most food insecure groups at the level of the administrative posts in affected districts. This identification can facilitate intervention priorities for technical and humanitarian assistance.

The results of the multi-disciplinary survey provide key information regarding demographic characteristics and vulnerability. The relevant results include the following: child-headed households represent less than 1% of the total with the exception of Inhambane Province (1,3%) and HH headed by elderly persons represent 7,3% of the total. The percentage of HH with adult(s) debilitated by chronic disease is particularly high in Gaza (2,5%) and Maputo (2,1%)

Although the overall proportion of maternal orphans under fifteen years of age in the areas studied is similar to the numbers observed in the Demographic Health Survey of 1997 (DHS), there are some differences that warrant emphasis. The percentages in the sampled areas of Maputo and Tete provinces were twice that found in these provinces in general, while Sofala and Manica provinces have lower percentages. On the other hand, the percentage of paternal orphans under fifteen years of age increased, particularly in Maputo province. The percentage of children who lost both father and mother is similar to the situation observed in the DHS, except in Maputo province, which showed a distinct increase.

The level of global acute malnutrition found in the affected areas (6.4% overall) in May 2003 (immediately following the harvest period) remained stable in comparison to the November-December VAC survey (the normal 'lean' period), contrary to expectations. Some provinces did show improvements, such as Gaza (4.9% in May 2003 compared to 11.2% in November-December 2002), and Manica (4.3% in May compared to 6.7% in Nov/Dec). On the other hand, the level of malnutrition in Tete Province (7.8%) is now of particular concern.

In general, children between 6-23 months, who are normally being weaned, are at greatest risk of malnutrition as they still require frequent feeding. However, in the areas included in the assessment, only 30.5% of the children in this age group were receiving three meals or snacks a day, and only 3.3% are fed the recommended four times a day or more. The high level of malnutrition in women in Tete Province (22.4%) highlights that the nutritional status of adults is also of concern, in particular as the assessment found that the overwhelming majority of HH have a 'poor' or 'very poor' diet. In some areas, up to 50% of HH had not consumed any type of staple food (cereals, cassava, etc) during the 24-hour recall period.

The overall rate of mortality in the affected zones is 30,6 per annum for every 1000 inhabitants. This is nearly double the mortality rate reported in the 1997 Census.

The consistently high levels of chronic malnutrition and morbidity (including endemic malaria) represent a very real threat to the well being of these communities, in particular taking into account the high HIV prevalence in the worst affected areas and the documented food shortages. Access to preventative and curative health services is critical for communities to cope with these threats. The assessment found, however, relatively low numbers of children with health cards.

The majority of HH appear to be dealing with the second consecutive production shock in various ways, by expanding some of their coping strategies, such as selling small livestock or increasing informal employment (*ganho-ganho*); by adopting extreme survival strategies such as going a whole day without eating, eating seed stock, selling farming instruments, and/or becoming more and more dependent on food assistance.

It is important to take into account the time period in which the study was carried out in order to interpret the current and future food availability and food access among the different HH. The study was done in the period of May-June which is just one to three months after the main (first season) harvest in a normal year (in the South of Mozambique, the harvest normally occurs in January-February and March-April in the Central region of the country.)

From first season crops already harvested, 65% of the HH have less than one month of available food stocks. For the FEZs south of the Save River region, around 80% of the families have less than one month of food reserves. The FEZs located in the region to the north of the Save River show a mixed situation, but the majority of the families have up to three months of food reserves. When crops already harvested and projected second season harvests are considered, 75% of the HH do not have reserves or potential reserves sufficient to cover needs until the next harvest.

Animal ownership is low among the majority of the zones visited with only 20% of the HH having cattle and 50% having goats. While a high percentage of the HH have poultry (around 80% of the total sample), nevertheless there are areas where the HH have no poultry whatsoever (FEZs 21, 22 and 23). In this situation, potential income from the sale of animals is very unlikely for the majority of the HH. It should be noted that there was not a substantial reduction in the animal stocks between 2002 and 2003.

Income sources are another important indicator of food security and in this regard, there have been significant changes due to the drought conditions. Among these changes, the marked reduction in the sale of agricultural produce as the principal source of outside income is notable, as is the increased dependence on informal employment as a survival strategy.

More than one-third of the HH resorted to extreme coping strategies to get through the current food stress. In some zones, more than 50% of the families have had to use strategies such as passing a whole day without eating, and eating all of their seed stock. The survey intentionally asked families only about the extreme coping strategies, not normal seasonal strategies.

Drought mitigation programmes were found to have reached 44% of the households. Of the various types of drought mitigation activities, food for work was by far the largest programme reaching 39% of the households, while the other types of agricultural mitigation activities (provision of seeds, tools, livestock, cash, irrigation and others) reached only 5% of the households surveyed. Effectively, a large percentage of the HH managed to minimise the effects of the drought through access to food assistance programmes. The cumulative number of food aid beneficiaries between June 2002 and June 2003 is slightly less than three million. The largest number of beneficiaries in a single month was in May 2003, when 469,000 persons were reached followed by a slight reduction to 439,000 persons in June.

The integration of food assistance with programmes to strengthen coping mechanisms, if properly combined from both an emergency and a developmental standpoint, could begin to have demonstrable impacts in terms of vulnerability reduction.

In summary, the current round of VAC adopted an integrated perspective in the analysis of food insecurity and vulnerability. The nutritional aspects served to diagnose the magnitude of the current problem, but the need to analyse the root causes and trends that could lead to future malnutrition remained. On this basis, an analysis of the availability and access to food was undertaken, in addition to utilization. An evaluation of the quality of the current diet was undertaken. Indirect methods of food access were analysed, particularly with regard to the sources of income and changes between a reference year and the years 2002 and 2003. Data on nutrition, health and HIV/AIDS was collected, and the links between these and food security will be analysed further in the

coming months. Finally, drought mitigation activities were studied, with particular focus on the role of food assistance.

When these indicators were combined, an extremely important challenge arose: **Which HH need assistance? How many and where are they? And how should one stratify the different groups in order to facilitate appropriately targeted interventions?** Through this analysis, the VAC identified around 659,000 persons in 40 districts who are considered to be in a situation of extreme food insecurity, requiring both immediate food assistance and continued support until the next harvest.

The districts in Tete Province (Changara, Cabora-Bassa, and Magoe) that have been affected by the drought represent the highest index of food insecurity, with 29% of the total population. The provinces of Gaza, Inhambane and Zambézia (Chinde and Inhassunge Districts) follow with an index of 22%, then Manica with 17%, Sofala with 16% and Maputo with 14%. Despite the serious drought affecting many districts in Maputo Province, the province has comparative advantages over other areas due to its good market access and multiple, informal sources of income available. These alternatives can minimize of the impact of food insecurity in this particular province.

The VAC also identified, based on a combination of indicators, an additional 254,779 people at-risk of food insecurity. While this group has not yet reached the stage of extreme vulnerability, the situation could deteriorate quickly so close monitoring until the next harvest is essential.

The slight differences between VAC and CFSAM can be understood in light of the different methodologies employed, the weight given to the various indicators and the differences in perception with regard to agricultural performance after the first growing season. Compared with the assessments done in 2002, the total number of persons requiring food assistance has increased, with an improvement in some of the districts and a deterioration in other districts.

The VAC plans to carry out additional in-depth analyses using some of the data collected during the 5000 household interviews, to fill gaps in understanding of different aspects of vulnerability and food insecurity. It was not possible to complete all of the analysis for the present report. This additional analysis will aim to determine the numbers of people in need of immediate assistance and to identify the priority actions for immediate and long-term impact that are needed to compliment food assistance.

On the other hand, and notwithstanding the multiple programmes dealing with HIV/AIDS, there is a notable lack of understanding of the linkages between food insecurity and HIV/AIDS. This survey was not specifically designed to provide information on this critical topic, although the limited linkages that could be drawn are included in the main report. The definition of a strategy that more adequately analyses the vicious circle that links HIV/AIDS with food production and food insecurity is both opportune and relevant. The leadership in this process should be clearly defined, since case studies and area studies require specialised technical assistance and effective co-ordination in order to guarantee that the results are quickly integrated into policies both at the central and provincial government levels as well as accepted by the international agency partners, NGOs and the general public.

The VAC further recommends that intervention plans be differentiated at three distinct levels with a focus on the following:

For the population (659,000 people) in a situation of **extreme food insecurity**:

- Immediate free food or food for work until the next harvest. The choice of distribution mechanism should depend on the profile of the particular household and the stage in the crop cycle. Food for work may not be appropriate when land preparation and planting gets underway.
- Reinforce community capacities to care for children through education programmes on good hygiene and nutrition, and through supplementary feeding programmes targeting children under five years and mothers, particularly in the most critical districts. This should be combined with other vulnerability reduction activities such as Vitamin A supplementation and de-worming.
- Immediate attention should be given to all mechanisms that will help drought-affected households prepare for the next planting season.
- Reinforce access to basic health care (preventative and curative), in particular treatment for severe malnutrition, and prevention and treatment of communicable (measles) and diarrhoeal diseases.
- Provide support for people living with HIV/AIDS in order to ensure that they are included in food aid programmes, and receiving home-based care and nutrition counselling, as well as social support for their families.
- Given the high level of vulnerability of the people in this group, HIV/AIDS prevention activities should be expanded in the areas of high food insecurity.

For the population groups (254,779 people) **at risk of food insecurity**:

- Closely monitor the food security of this group until the beginning of the first season harvest in early 2004.

- Monitor the trends in nutritional status and mortality rates.
- Provide assistance to support and maximize the first season planting.
- Design interventions based on the lessons learned about the different coping strategies adopted by families at the community level.
- Reinforce the food for work programmes, defining activities that increase family income and improve services.
- Promote activities that lead to the diversification of income sources.
- Introduce and distribute drought resistant crops and short cycle crop varieties.
- Increase the distribution of sweet potato and cassava planting materials.
- Promote the planting of small gardens (small vegetable gardens in the household yards).
- Wherever possible, encourage the establishment of small irrigation systems.
- Promote small stock raising, with systems of community sharing.

In addition, more coordinated monitoring is recommended. To achieve this goal, it would be opportune to define a mechanism that can monitor the different types of interventions and the respective impacts on people, including the most vulnerable.

This report has multiple applications -- as a basis for planning by MADER for the next crop season and as an essential support for INGC planning. In addition, this report should serve as a basic instrument for WFP in terms of both co-ordination with donors and partners and the design of intervention strategies.

The full analysis should also support intervention planning for emergency response and mitigation programmes implemented by NGOs and should serve as a reference tool for sectors such as Agriculture, Health, Public Works, Social Welfare; and other supporting institutions such as FAO and UNICEF. **The supplementary, topic-oriented publications to be prepared by the VAC may be particularly useful in this regard.** Broad distribution and discussion of the contents of this report is encouraged to provide greater synergy toward the goal of providing assistance to vulnerable groups.

1 INTRODUCTION

The Vulnerability Assessment Committee (VAC) of the Technical Secretariat of Food Security and Nutrition (SETSAN) conducted its third multi-sectoral assessment of the food security and nutrition situation in Mozambique from May to July 2003, in coordination with the SADC Regional Vulnerability Analysis Committee (RVAC). The main objectives of the assessment were:

- Evaluation of the current household food security and nutritional situation;
- Updating the information gathered for the vulnerability analysis carried out in November/December 2002;
- The provision of sufficiently detailed information to facilitate the implementation of action plans and give support at the local/district level;
- To advise decision makers and other stakeholders about the priorities for humanitarian assistance from a combined emergency and development perspective.

This assessment received technical and financial collaboration from RVAC, UNICEF, Save the Children (UK), WFP, FAO and FEWS-NET in Mozambique.

The survey to collect the data was done in May 2003. The data collection fieldwork was done by technicians from the Provincial Directorates of Health and of Agriculture and Rural Development in the worst-affected districts of Maputo, Gaza, Inhambane, Sofala, Manica and Tete provinces, covering a total of 29 districts. It should be noted that this work was carried out about one month after the joint FAO/WFP crop and food supply assessment mission (CFSAM), which allowed the incorporation of more consolidated data on food availability.

The analysis was done and the report was written at central level in Maputo. Technicians and representatives from the Ministry of Agriculture and Rural Development (National Directorates of Agriculture and of Livestock), the Department of Nutrition of the Ministry of Health, the National Institute for Disaster Management (INGC), the World Food Programme (WFP), the UN Food and Agriculture Organisation (FAO), FEWS-NET Mozambique, UNICEF, Save the Children Fund (UK) and the UN Office for the Coordination of Humanitarian Affairs (OCHA) participated in that process.

It should be emphasised that the whole process, from the design to the questionnaire through the data analysis to writing the report, actively involved these various institutions, which allowed us to form an integrated view in interpreting the present situation of vulnerability and food insecurity.

The findings from the analysis took into account many indicators of food security and nutrition, namely household socio-demographic indicators, mortality (adult

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and child), anthropometric measurements, infant feeding, vitamin A supplements, household food consumption (24 hours), food reserves, forecasts of second season crops in the 2002/03 crop year, including cassava production, livestock, sources of income, coping mechanisms and mitigation programmes. The household food security data showed that some 659,000 people need immediate and continuing assistance until the next harvest, which begins in January in the south and in mid-February to March in the centre of the country.

The VAC urges close monitoring of the situation in the months before the harvest (October to December), since these are the months when food is scarce for many poor rural households, even in years when production is good.

2 METHODOLOGY

Description of the process

The Vulnerability Analysis Survey was conducted from April to July 2003, in separate stages: 1) Preparation; 2) Participation in the regional VAC meeting; 3) Information gathering and preparation of the questionnaire; 4) Selection of population clusters where the survey will be done; 5) Selection and training of provincial technicians on the questionnaire and testing of the questionnaire; 6) Data collection (interviews); 7) Primary processing of questionnaire data; 8) Statistical analysis of the data and writing the report on the analysis of food insecurity and vulnerability in Mozambique.

The members of the VAC were actively involved in the preparation of this report. Participation in the regional meeting allowed us to learn about plans and suggestions from all the countries in the region, and their experience was taken into account for the survey in Mozambique.

A consultant from SCF-UK coordinated the preparation of the questionnaire. The enumerators, 18 technicians selected from the Provincial Directorates of Health and of Agriculture and Rural Development, then received four days of training in Maputo on the methodology and procedures to follow and the questionnaire was tested and adjusted accordingly. The instructions on the survey were set out in detail in a manual that was given to the enumerators. Supervision at provincial level was the responsibility of the head of the provincial agricultural services, except in Tete province, where a technician from the Provincial Directorate of Health took on the job, making a total of six supervisors. The training, the preparation of the training materials and the manual were done by the SCF-UK consultant, with support from UNICEF.

The survey was conducted in the six provinces in the centre and south of the country regarded as the worst affected by drought, namely Maputo, Gaza, Inhambane, Sofala, Manica and Tete.

Following the methodology used for nutrition surveys, 30 population clusters were randomly selected in each province using systematic sampling with probability proportional to size (PPS), based on the data of the 1997 Census. The survey of a cluster was considered complete when unbiased interviews have been conducted with 45 households or 30 children aged under five years of age.

Because the sample was randomly chosen, the proportion of interviews per province was variable, with 22% in Inhambane, 19% in Maputo, 18% in Sofala, 15% in Tete, 14% in Gaza and 12% in Manica, while 29 of the 40 affected districts were covered. In all 5,165 questionnaires were filled in and analysed.

It should be pointed out that the survey was conducted after the main season crops had been harvested and there were second season crops in the ground

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(either sown or replanted) and in areas with food aid.

Survey

Data to provide socio-demographic indicators on the households were also collected in this food security and nutrition survey, including levels of dependency, chronic illness, and mortality (adult and child); as well as data on morbidity, nutritional status, infant feeding, vitamin A supplementation, household food consumption (24 hours), food reserves, prospects for the second season crops in the 2002/03 crop year, cassava production, livestock, sources of income, coping mechanisms and mitigation programmes.

The food security component of the survey included questions that sought to give a clearer idea of how households have dealt with the production failures up to that time of the year and how they expect to cope in the coming 6- 9 months, in other words until the next harvest. The survey was done at the end of May and the beginning of June, one to three months after the normal harvest period (the harvest in the south is regarded as normally taking place from January and lasts until March, in the centre it lasts until February/March). This is therefore the second year of crop failure, considering that last year was also one of drought in the south and centre of Mozambique.

Data processing and analysis

The primary processing of the questionnaires was done by a specialised outside service. Analysis of the demographic, nutrition and health data was caared out by a UNICEF consultant. This anaylsis was done at the provincial level.

The regional VAC consultant sent to Maputo ensured the work of cross-tabulating the food security indicators and was assisted in this by the UNDP-Mozambique consultant. Food economy zones (FEZ) were used as the unit of analysis. The food economy zones are by definition geographical areas in which the population share similar opportunities to obtain food and cash income and are subject to the same sorts of risks.

The findings of the food security data were grouped by food economy zone, thus permitting the evaluation of the current situation and of the expectations of the respondents regarding the next three, six and more months in areas not covered by the survey, but having the same characteristics as the places selected. The analysis of the food economy zones was then transposed to the districts by grouping the administrative posts included in each food economy zone. The information obtained was also compared to baseline studies and to the District Profiles of the districts included in each food economy zone. In this way it was possible to locate the more food insecure groups at the level of administrative post in the districts worst affected by natural disasters, which could make easier to establish priorities for technical and humanitarian assistance.

The data were also grouped by province to allow analysis and comparison with the findings of the VAC inquiry of November 2002 and of the food crop and supply assessment mission of 2003.

3 MACROECONOMIC INDICATORS

The food security and nutrition situation in Mozambique requires coordinated multi-sector intervention, in order to be comprehensive and take appropriate measures aimed at alleviating the food insecurity and malnutrition among the population.

The Mozambique government and its partners have, in the course of time, been implementing a series of activities aimed at identifying the nature of the causes of food insecurity and malnutrition in order to understand better the strategies used by households to mitigate the problem, specifically to strengthen the capacity of rural households for production, to generate cash income, and their coping mechanisms. This knowledge allows better linkages between food aid and development activities, with a view to encouraging the development of the market.

As some 80% of the population of Mozambique live in rural areas, and by inference depend on agrarian activities (particularly agriculture and livestock), the macroeconomic analysis in this report includes aspects of production and stocks for the purpose of assessing the availability of, access to and use of food, in order then to associate these with aspects of policy, functioning of markets and food aid, which are key factors for developing a macroeconomic understanding of the current vulnerability to food insecurity in the country in 2003.

3.1 2002/03 CROP YEAR

The climatic conditions were not favourable for agriculture, or for restoring the water tables. The water level in the current season is lower than in the last rainy season, which was also regarded as one of drought (DNA, 2003).

The low rainfall affected the availability of water, particularly in the Incomati, Umbeluzi and Maputo River basins and a considerable area in the Limpopo Valley. This situation is reflected in the lives of the population in the affected areas, particularly with regard to access to sources of clean water, which is increasingly difficult.

The total rainfall in the 2002/03 rainy season was 50% below normal in most of the south and parts of the centre of Mozambique, with direct effects on the cultivation of food crops, which are largely rain fed.

The 2002/03 crop year was characterised by adverse factors, including the drought that struck the south and parts of the centre of Mozambique, and the occurrence of cyclones (*Delfina* and *Jaffet*) that affected coastal areas in Nampula, Zambezia, Sofala and Inhambane provinces.

The crop areas lost, mainly because of drought, were estimated at some 237,000 hectares, equivalent to 6% of the crop area in the current season at national level.

Despite the factors that negatively influenced the crop year, the Ministry of Agriculture and Rural Development estimated that production levels rose by 2% for cereals, 1% for pulses and 4% for cassava at national level. These results depend on high yields observed for crops sown in the northern provinces of the country. It should be noted that these estimates were confirmed by the latest FAO/WFP food crop and supply assessment mission (See **table 1**).

Table 1: Production differences in the 2001/02 and 2002/03 crop years

Crops	Crop area 2002/03 (Ha)	Production 2001/02 (Tonnes)	Production 2002/03 (Tonnes)	Production Difference (%)
Cereals	2,153,000	1,767,000	1,811,000	2
Pulses	717,000	287,000	289,000	1
Cassava	1,046,000	5,925,000	6,148,000	4

Source: Department of Early Warning for Food Security

Analysis of aggregate production figures often mask reality and do not show the variation in the productivity of crops at local level. Crop losses were reported in the current crop year, mainly because of the effects of drought. **Table 2** shows that the provinces of Maputo and Gaza were the worst affected by the drought and suffered losses in the order of 32% and 31%, respectively. In contrast, Sofala (with 3%) was the province with the lowest loss of crop area.

Table 2: Areas sown, lost and output of cereals, pulses and cassava in the 2002/03 crop year

Province	Maputo	Gaza	Inhambane	Sofala	Tete	Manica
Area (Ha)						
Total crop area	109,000	309,000	355,000	248,000	332,000	291,000
Area of cereals	68,000	171,000	152,000	196,000	259,947	275,138
Total area lost	35,400	96,000	38,000	7,900	16,600	34,920
Percentage %	32	31	11	3	5	12
Output (tonnes)						
Cereals	19,000	45,000	42,000	157,000	221,000	211,000
Maize	16,000	31,000	28,000	80,000	221,197	210,547
Pulses	6,000	12,000	33,000	12,000	22,000	2,700
Cassava	13,000	123,000	346,000	82,000	7,800	7,700

Source: Department of Early Warning for Food Security

The supply of food should be complemented with information on food needs in order to have a clearer view of the deficit/surplus areas and the potentially vulnerable households.

3.2 CEREAL FOOD BALANCE

According to the food balance sheet for the 2003/04 market year (March to April) three separate scenarios may be observed:

- North (Cabo Delgado, Niassa, Nampula and Zambezia¹) showed a cereals surplus of 344,000 tonnes, which represents an increase of 26% compared to the 2002/03 marketing year. In the case of maize, the region was found to have a surplus of some 380,000 tonnes, meaning an increase of 23% over the 2002/03 marketing year (**Table 3**).
- Centre (Tete, Manica and Sofala) showed a deficit of 115,000 tonnes, representing a worsening of the deficit by 7% compared to the 2002/03 marketing year. In the case of maize, a deficit of about 58,000 tonnes was noted, meaning an increase of 49% compared to the 2002/03 marketing year (**Table 3**).
- South (Inhambane, Gaza and Maputo) showed a significantly high deficit of cereals of 727,000 tonnes. This represents a worsening of the deficit by 19% compared to the 2002/03 marketing year. In the case of maize, the deficit was observed to be about 381,000 tonnes, which represents an increase 30% compared to the 2002/03 marketing year (**Table 3**).

¹ *Because of similarities in the functioning of the market, Zambezia province is treated as belonging to the northern region of the country in the analysis of the food balance sheet.*

Table 3: Annual food balance (x 000 Tonnes) by region in Mozambique

PRODUCT	Maize		Cereals		Pulses		Cassava	
	2002/03	2003/04	2002/03	2003/04	2002/03	2003/04	2002/03	2003/04
Market year								
North								
Total supply	662	749	1000	1102	201	199	4700	4804
Consumption needs	353	368	728	758	193	191	4114	4417
Deficit/Surplus	309	380	273	344	8	8	587	387
Centre								
Total supply	461	447	622	623	38	60	210	103
Consumption needs	500	505	728	737	36	57	385	384
Deficit/Surplus	-39	-58	-107	-115	2	2	-176	-286
South								
Total supply	130	80	189	135	59	51	470	514
Consumption needs	422	461	801	862	71	60	530	487
Deficit/Surplus	-292	-381	-612	-727	-13	-9	-60	27

Source: National Directorate of Trade/Ministry of Industry and Trade

In short, the balance sheet for the country as a whole presents the following overview:

- A cereals deficit in the order of 497,000 tonnes in the 2003/04 marketing year, including a deficit of 59,000 tonnes of maize, which corresponds to a cereals deficit of 11% compared to the last marketing year.
- Pulses and cassava registered surpluses of 57,000 tonnes and 142,000 tonnes, respectively.

The National Directorate of Trade forecasts a need for commercial imports in the south to cover the deficit. Despite the final reserves appearing adequate, especially in the north and centre, to meet consumption needs in the country, localised deficits will persist because of a combination of adverse factors (for example, high transport costs) and the inability of some households to cover the deficit through purchases.

3.3 PRICES

Prices are directly correlated with supply and demand of the product, which, by inference, are strongly affected by production trends. In this document, we illustrate only the price trends for maize, since this is the staple food of the majority of households in Mozambique. Maize is the product that absorbs the greater part of household income, especially in "bad years", as well as being an important source of income in rural areas in years with a good harvest.

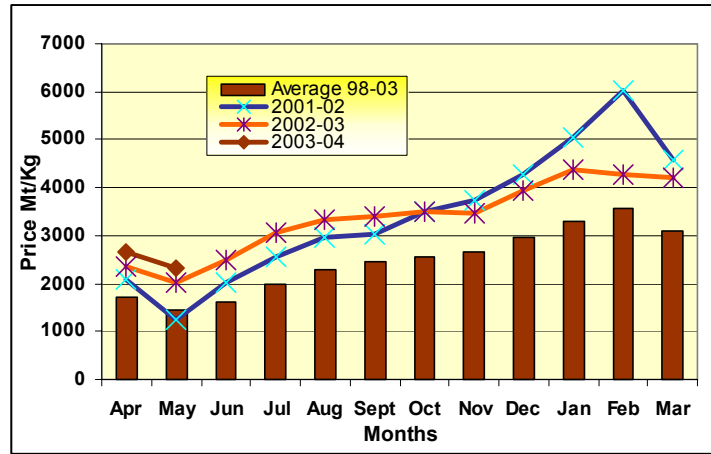
As a general rule, the retail price of maize tends to rise in the period from November to March, fall sharply at harvest time, beginning in April, then rising gradually as the year progresses. However, this trend is sharpened in years of scarcity. This is why we want to analyse prices in the provinces considered most vulnerable. Among them, the following provinces are notable:

MAPUTO

An analysis of the price of maize in this province was made, taking account of production, imports and food aid (one of the principal factors determining price fluctuation).

Figure 1 shows that in the 2002/03 marketing year (March to April) the price was higher than in the 2001/02 marketing year, except in the period November and December, when it was lower than in the same period the year before. The reasons for the fall in that period were attributed to food aid programmes and to an increase in levels of imports.

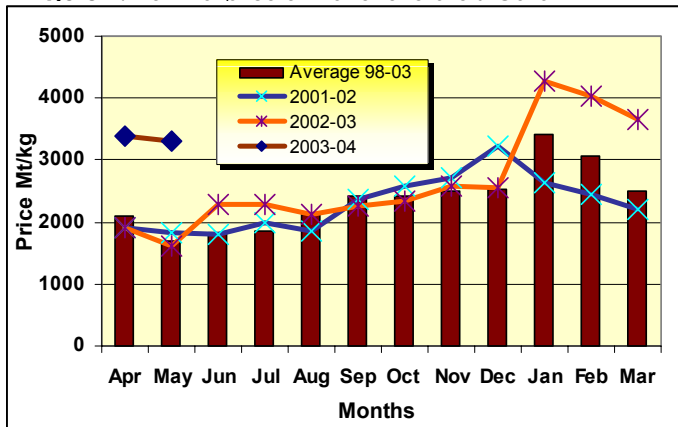
Figure 1: Nominal price of maize to retailers -Maputo 98-2004



During the 2002/03 marketing year, there were notable price fluctuations. From August to October, a substantial increase was recorded, from 4200 Mt to almost 6500Mt, an increase of some 55%. Meanwhile, it was further noted that in the 2003/04 marketing year (April/March) the prices of maize are much higher than the average, with prices above 5000Mts/Kg reported in the months of April and May.

Gaza

Figure 2: Nominal price of maize to retailers-Gaza



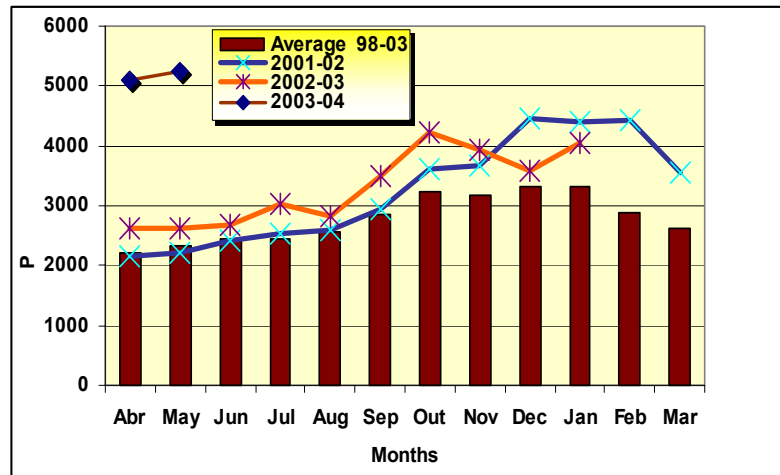
In this province, the prices of maize in 2002/03 showed a pattern of being slightly higher than in the previous market year, mainly because of low production of this cereal (Figure 2). In the 2003/04 marketing year, the rise will probably be even greater since they have already increased to almost 3500Mts/Kg in the months of April and May 2003.

This observation suggests that more careful monitoring of that market is needed since consistently high prices could change purchase patterns and reduce the consumption of maize, in particular for poorer households.

Sofala

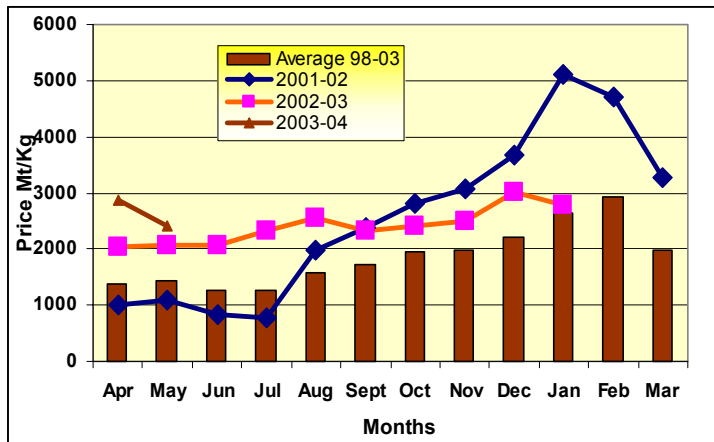
While the 2002/03 marketing year showed considerable price fluctuations. The prices were lower than those observed the year before, probably because the harvest was better in 2001/02 than in 2000/01 (Figure 3). The price of maize at the start of the current market year (April 2003/04) was relatively low compared to the year before. The reasons for this trend are: (a) relatively good maize production in the 2001/02 crop year, compared to 2002/03 (b) regular entry of alternative products (such as rice), and c) good maize harvests in neighbouring countries such as Malawi and Zambia.

Figure 3: Nominal price of maize to retailers–Beira 98-04



TETE

Figure 4: Nominal price of maize to retailers Tete 98-04



Maize prices at the start of the 2003/4 marketing year were observed to be 8% lower in May 2003 than the price recorded in April 2003 (Figure 4). It may be that the good harvest in Malawi, the main buyer of maize in Tete, is causing demand to fall. It is therefore important to motivate the market within the province to buy maize in districts with surplus for the districts with deficits.

3.4 LIVESTOCK

Livestock is an important complement to arable farming, particularly with regard to its role in helping households to fight poverty, in addition to its contribution to development of the national economy. An estimated three million rural households in Mozambique keep livestock, which is important in raising the level of food security and generating income. When a crisis happens, or in “bad years”, households fall back on their livestock as an alternative to mitigate the effects of low output of crops. Above normal sales of animals is an indicator of serious food production problems, and this strategy has a negative impact on future household food security because of difficulties in replacing the livestock after the crisis has passed.

According to data from the 1999/00 agriculture census, there are an estimated 700,000 head of cattle in the central and southern regions of the country and five million goats in the centre alone. The census further found some 2.4 million pigs and 174,000 sheep. Poultry, which is found throughout the country, also represents an important source of income, particularly for poorer households.

The government's National Directorate of Livestock has focused attention on areas where drought is recurrent and where floods also occur. The following current activities should be highlighted: a) promotion of cattle farming to raise the production of both beef and milk; b) promotion of small livestock, particularly local breeds of poultry; and c) veterinary vaccination programmes, notably against Newcastle disease and more recently against foot and mouth disease.

3.5 HIV/AIDS AND FOOD SECURITY

Mozambique has one of the highest prevalence rates of HIV/AIDS in the world. Data from the vigilance posts in 2001 (INE/MOH 2001) show that 13% of the adult population (15-49 years) is HIV positive – 17% in the centre, 14% in the south and 6.9% in the north of the country. An estimated 1.2 million people were living with HIV/AIDS in 2001, of whom approximately 7% were children (0 to 14 years of age), resulting from vertical infection (infection passed from mother to child).

It is further estimated that over 500 more people are infected every day with HIV, mainly among the population aged below 29 years. Approximately 57% of the adult (15 to 49 years) Mozambicans living with HIV/AIDS are women. The gender imbalance is even more acute among 20-24 year olds, where the proportion of women living with HIV is in the order of four women for every man. More than 230,000 children lost their mother or both their parents to AIDS in 2001.

The combined effects of HIV/AIDS and natural disasters, including the present drought, have significantly increased the vulnerability of the poor (67% of the population affected by the drought live in the four provinces with the highest prevalence rates in the country of HIV infections, namely Manica, Tete, Sofala and Gaza provinces).

Households affected by HIV/AIDS show a general tendency to have low productive capacity, which limits their self-reliance. Children and adults alike who live with HIV/AIDS are extremely vulnerable to adverse conditions. The probability of opportunistic infections is greater when there is a combination of inadequate nutrition, scarcity of water, poor sanitation and a greater workload. The increase in illness and death among young persons, and the consequent fall in productivity, hamper progress of households and communities towards escaping from poverty.

3.6 POLICIES

The application of policies aimed at securing monitoring and evaluation of the food security and nutritional situation in Mozambique is important because monitoring and evaluation contribute towards developing responses to reduce the high levels of vulnerability in the country. This chapter presents a summary of the main policies with direct bearing on the implementation of timely and appropriate activities aimed at reducing food insecurity.

Institutional Coordination of SETSAN (Technical Secretariat on Food Security and Nutrition)

The government and its partners, (mainly FAO, FEWSNET and GTZ) have put great effort into strengthening institutional coordination through the Technical Secretariat on Food Security and Nutrition (SETSAN). The purpose of strengthening institutional coordination is:

- To strengthen the coordination of activities related to food security and nutrition;
- To standardise methodology in order to validate the findings, which in turn will facilitate decision-making, planning and implementation regarding activities aimed at reducing food insecurity and malnutrition, particularly among the more vulnerable sections of the population.

Mitigation plans

The National Institute of Disaster Management (INGC) and its partners have been using participatory methods to prepare and implement contingency plans for natural disasters since 1999-2000, in order to reduce their impact. The plan is a useful tool that helps to prepare interventions aimed at assisting people affected by natural disasters (flood, drought and cyclones) and helping them to bring their lives back to normal.

Seed programmes

Agricultural production in Mozambique basically depends on the availability of seeds, which often constitutes the determining factor in guaranteeing production and productivity. Because of the low purchasing power of

Mozambican peasant farmers, the main source of their seeds is their own reserves, boosted sometimes by the sporadic distribution of seeds by NGOs and some government institutions. However, the combination of drought and floods in the last three crop years has weakened traditional seed supply systems. At the same time, alternative sources of supply through humanitarian assistance have not been shown to be sustainable.

For this reason, the National Directorate of Agriculture and the National Institute of Agrarian Research of the Ministry of Agriculture and Rural Development have been working to improve access to good quality seed through the local production of seeds and holding community fairs for this important input. FAO and ICRISAT (International Crops Research Institute for the Semi-Arid Tropics) are giving assistance to this work. Fairs are being introduced as the principal component of this scheme, which is showing several advantages, even though it is at an embryonic stage.

Action plan to mitigate the drought

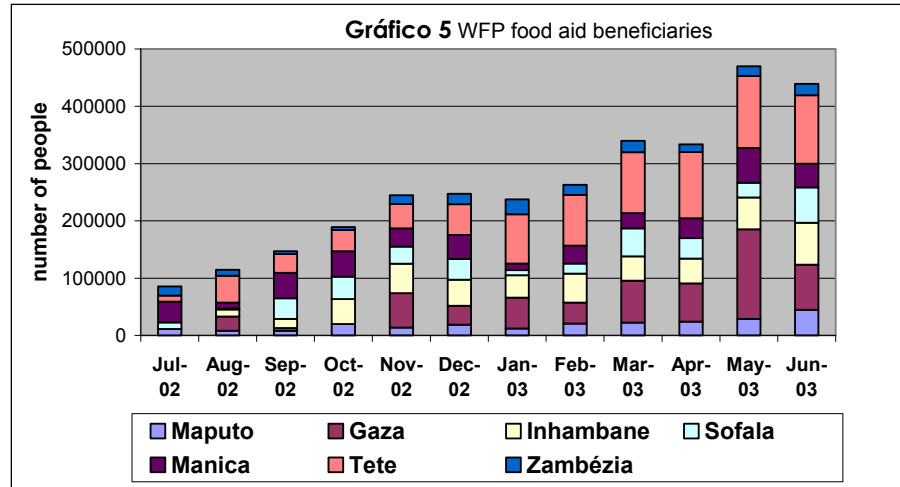
The importance of implementing sustainable programmes to counter the country's weakness in relation to natural disasters is becoming ever clearer. In that context, the Ministry of Agriculture and Rural Development drew up its Action Plan for Drought Mitigation, which identifies several types of intervention resulting from a broad consultative process of dialogue with all the stakeholders at different levels with interests in reducing the country's vulnerability to food insecurity. Among the more important activities included in the plan are:

- Increasing the area of perennial crops by producing and distributing seedlings;
- Intensive production of vegetables and other annual crops;
- Production of sweet potato and cassava cuttings, as they are drought resistant, and also to replace varieties of cassava that are prone to root rot;
- Local production and reproduction of seeds;
- Holding seed fairs;
- Acquisition and supply of kits of equipment to protect against pests and diseases;
- The intensive use of water resources by means of the construction or rehabilitation of irrigation systems, dams and water sources, as well as the purchase and installation of irrigation equipment, such as foot pumps, in order to ensure that activities are sustainable.

The current action plan has a long-term structural perspective, since it takes account of the fact that many districts affected by these agro-ecological conditions are not suited to rain-fed farming. Thus irrigation techniques are being disseminated that could lead to improvements in production systems and allow diversification and consequently improvement in the household diet, particularly among people living in areas susceptible to drought.

3.7 FOOD AID

In response to the drought last year, the World Food Programme and its partners continued to expand the food programme to include the growing number of beneficiaries receiving food rations since the emergency operation began in July 2002, as figure 5 illustrates. The total number of food rations distributed since July was a little under three million. The greatest number of beneficiaries in any month was in May, when the programme reached 469,000 people, followed by a slight decline in June to 439,000 beneficiaries.



Source: World Food Programme

This food aid is being distributed in the 38 worst affected districts in the south and centre of Mozambique. From June onwards, about 20% of the beneficiaries received their rations through feeding programmes for vulnerable groups and the rest through food-for-work programmes. The total quantity of food distributed in the 12 months to June was 48,000 tonnes. From February 2003, 115,000 more children under the age of five years and pregnant and nursing mothers were included in a supplementary feeding programme supported by the WFP, UNICEF and their implementing partners. The number in that programme is expected to rise to 211,000 in October (this is not the case due to CSB shortage....can we change? Would be to approx 160,000). All the beneficiaries receive a ration of fortified corn-soya blend, accompanied by a package of complementary activities such as Vitamin A supplementation, de-worming treatment and participatory education of good hygiene and feeding practices.

4 FINDINGS OF THE SURVEY ON FOOD SECURITY AND NUTRITION

4.1 CURRENT SITUATION OF HEALTH AND NUTRITION

4.1.1 Demographic aspects

Table 4: Dependency ratio and effective dependency ratio

All residents	n	Dependency ratio ²	Effective dependency ratio ³
Total	5174	1,48	1,50
Maputo	989	1,35	1,38
Gaza	717	1,47	1,50
Inhambane	1154	1,19	1,20
Sofala	905	1,53	1,54
Manica	621	1,55	1,56
Tete	788	1,62	1,63

The dependency ratio calculated in this study measures the ratio per household of children under the age of 18 years and adults aged 60 years and above, on the one hand, to the total of adults aged from 18 to 59 years on the other. The effective dependency ratio differs only in the fact that sick adults are transferred from the denominator to the numerator. The dependency ratio among the target population as a whole was 1.48, with small differences among the provinces (See **table 4**).

Table 5: Household Vulnerability Ffactors

Households	Nº	Child-headed households	Elderly-headed households	Women-headed households	Households headed by chronically sick adults	Households with orphan/s <15 years
Total	5174	0,9%	7,3%	23,7%	1,5%	15,7%
Maputo	989	0,8%	13,8%	31,2%	2,1%	23,5%
Gaza	717	0,9%	10,2%	28,9%	2,5%	19,3%
Inhambane	1154	1,3%	7,4%	33,8%	1,7%	14,6%
Sofala	905	0,5%	4,7%	16,7%	0,8%	9,5%
Manica	621	1,0%	5,2%	21,0%	1,1%	14,0%
Tete	788	1,0%	3,1%	14,1%	0,4%	12,6%

Female-headed households represent 23.7% of all households in the target population. The proportions of these are particularly high in Inhambane (33.8%) and in Maputo (31.2%). Child-headed households represent overall less than one

² *Dependency ratio = ((children < 18 yr) + (adults ≥60 yr)) / (adults 18-59 yr)*

³ *Effective dependency ratio de dependência = ((children < 18 yr) + (adults ≥60 yr) + (sick adults 18-59 yr)) / (healthy adults 18-59 yr)*

percent of the total, with the exception of Inhambane (1.3%).

Households headed by elderly persons were defined here as those where the head of the household was aged 60 years or over, including at least one member was a child under 18 years of age, and with no healthy adults between 18-59 years. The proportion of these households in the areas studied was 7.3%, with notably higher percentages in Gaza and Maputo. For households headed by chronically sick adults, the percentages were higher in Gaza (2.5%) and Maputo (2.1%), in contrast to the other areas studied where the overall percentage was 1.5%. Households taking care of at least one orphan (<15 years) account for 15.7%. The percentage of these households is very high in the provinces of Maputo (23.5%) and Gaza (19.3%) (See **table 5**).

Table 6: Orphans aged under 15 years

Children	N° (<15 years)	Orphan (mother)		Orphan (father)		Orphan (both parents)	
		VAC May 2003	DHS 1997	VAC May 2003	DHS 1997	VAC May 2003	DHS 1997
Total	12252	3.8%	2.5%	10.0%	5.2%	1.4%	1.0%
Maputo	2386	5.1%	0.2%	16.3%	4.9%	2.5%	1.1%
Gaza	2135	3.7%	2.6%	11.3%	8.0%	1.2%	1.4%
Inhambane	2018	5.5%	3.8%	10.4%	4.8%	1.6%	1.1%
Sofala	2208	2.0%	5.2%	7.0%	4.1%	0.6%	1.7%
Manica	1882	2.9%	1.8%	6.0%	7.3%	1.6%	1.0%
Tete	1623	4.3%	2.3%	9.6%	5.4%	1.7%	1.0%

Table 7: Orphans aged under five years

Children	N° (<5 years)	Orphan (mother)		Orphan (father)		Orphan (both parents)	
		VAC May 2003	DHS 1997	VAC May 2003	DHS 1997	VAC May 2003	DHS 1997
Total	5394	2.4%	0.7%	6.5%	5.2%	0.7%	1.0%
Maputo	965	3.8%	0.1%	12.0%	4.9%	1.8%	1.1%
Gaza	964	2.4%	0.3%	6.4%	8.0%	0.4%	1.4%
Inhambane	744	3.1%	0.3%	5.6%	4.8%	0.6%	1.1%
Sofala	1022	1.4%	1.2%	5.9%	4.1%	0.2%	1.7%
Manica	912	1.5%	0.6%	3.5%	7.3%	0.6%	1.0%
Tete	787	2.7%	1.2%	6.6%	5.4%	0.9%	1.0%

Although the proportion of children under the age of 15 years who lost their mother in the areas studied is similar to that found in the 1997 Demographic and Health Survey (DHS), some differences should be noted. The areas sampled in Maputo and Tete showed rates that were twice as high as the general levels in those provinces, while Sofala and Manica had lower rates.

In general, the percentage of children (under 15 years old) who lost their father

increased, particularly in Maputo province. Moreover, it is notable in Maputo province that there were twice as many children aged under five years who lost their father as found in the DHS.

The percentage of children who have lost both their parents is similar now to the situation found in 1997. However, Maputo province shows a serious increase in that regard (See **tables 6 and 7**).

The percentage of orphans among younger children is higher in most provinces, which suggests that this is a recent phenomenon in the areas studied. Such a situation makes communities that have been unable to adapt to these losses more vulnerable and could suggest a trend towards an increase in the number of deaths among adults.

5.1.2 Mortality

Table 8: Annual mortality rate per one thousand inhabitants

Population	N°	Total (p/1000)	Census 1997	0-4 years (p/1000)	5-14 years (p/1000)	15-49 years (p/1000)	50+ years (p/1000)
Total	29584	30.6	21.2	65.1	10.6	33.2	143.1
Maputo	5794	34.5	5.0	51.0	8.1	35.4	99.5
Gaza	4643	28.4	20.1	72.5	9.8	14.1	99.6
Inhambane	6174	35.6	19.9	56.1	22.5	42.5	212.4
Sofala	4679	51.3	21.6	88.1	23.2	84.7	264.5
Manica	3933	31.5	20.7	90.5	8.1	26.3	111.1
Tete	4361	15.6	20.5	35.4	0.0	25.0	129.0

The total mortality rate in the affected areas is 30.6 per 1000 per year. This is almost twice as high as the mortality rate found in these provinces during the 1997 Census (See **table 8**).

5.1. 3 Nutritional situation

Acute malnutrition in children aged from 6 to 59 months

Acute malnutrition (low weight for height) indicates current or recent nutritional deficiency. This is therefore the most useful of several indicators for identifying current malnutrition rates. Acute malnutrition is determined through the comparison of the ratio of weight to height of a child with that of an internationally defined reference population. When the finding shows two standard deviations or more from the expected mean, the child is considered to be suffering from acute malnutrition. Two or more standard deviations are defined as global acute malnutrition, while three standard deviations indicate serious acute malnutrition. All children with oedema are regarded as having acute malnutrition.

Table 9: Prevalence of acute malnutrition in children aged from 6 to 59 months

Children aged 6-59 months	N°	VAC May 2003		Global acute malnutrition $\leq -2SD$	
		Global acute malnutrition $\leq -2SD$	Severe acute malnutrition $\leq -3SD$	VAC Nov- Dec 2002	QWI 2000/1
Total	5223	6.4%	2.9%	6.4%	5.5%
Male	-	6.8%	3.2%	6.7%	5.5%
Female	-	5.9%	2.6%	6.2%	5.5%
Maputo	905	14.8%	11.5%	8.0%	3.3%
Gaza	865	4.9%	2.5%	11.2%	3.9%
Inhambane	689	4.5%	2.3%	4.6%	4.4%
Sofala	933	4.8%	1.8%	4.0%	3.8%
Manica	907	4.3%	0.7%	6.7%	4.5%
Tete	924	7.8%	1.8%	6.7%	6.1%
Orphans (mother)	113	15.9%	9.7%	9.3%	

The prevalence of global acute malnutrition in children aged 6-59 months is 6.4%. The rate reflects a worrying situation, as according to WHO standards, 6.4% shows a 'moderate' level of malnutrition among this population.⁴ Maputo and Tete were the provinces with the highest rates of malnutrition, although the findings for Maputo should be interpreted with caution, since 10% of the global acute malnutrition is attributed to the presence of oedema, which indicates a possibility of mistaken diagnosis of oedema by the team in that province.

There appears to be no significant difference between boys and girls, which is in line with previous studies done in Mozambique. In the case of maternal orphans, the prevalence is considerably higher (15.9%) than the overall population rate (6.4%), highlighting the extreme vulnerability of these children. This finding should be interpreted with caution because of the small number of individuals in the sample.

In comparison with the situation in Nov-Dec 2002, the overall situation has remained stable. However, comparing the data at provincial level, it can be seen that prevalence rates in Maputo increased from 8% to 14.8% (however 10% of this was due to the presence of oedema), and Gaza decreased from 11.2% to 4.9%, which reflects an improvement in the nutritional status of children under five years of age. For the other provinces, the changes were less significant (See **table 9**).

⁴ According to the World Health Organisation, the severity of acute malnutrition in a given community may be classified as follows:

Prevalence of acute malnutrition (% below the mean – 2SD)	Severity of malnutrition
<5%	Acceptable
5-9%	Moderate
10-14%	Severe
$\geq 15\%$	Critical

Source: *The Management of Nutrition in Major Emergencies*, World Health Organisation, 2000, p.40

Chronic malnutrition in children aged from 6 to 59 months

Chronic malnutrition, also called stunting (low height for age), shows a lack of adequate growth, normally because of long-term or past nutritional deficiency and/or recurring illness. This indicator is the most appropriate for identifying long-term vulnerability. Chronic malnutrition is determined by comparing the ratio of a child's height to age to that of an internationally established reference population.

When the finding deviates from the expected mean by two standard deviations or more, the child is considered to be suffering from chronic malnutrition. Two or more standard deviations are defined as global chronic malnutrition, while three standard deviations indicate severe chronic malnutrition. **Table 10** shows the high prevalence of chronic malnutrition in all provinces. The prevalence of global chronic malnutrition, 37.5%, is slightly lower than that of Nov-Dec 2002 (37.9%). Children who have lost their mother show slightly higher prevalence rates than the general average, but the difference is not significant in statistical terms, because of the small size of the sample.

Table 10: Prevalence of chronic malnutrition in children aged from 6 to 59 months

Children aged 6-59 months	N°	VAC May 2003		Global chronic malnutrition $\leq -2SD$	
		Global chronic malnutrition $\leq -2SD$	Severe chronic malnutrition $\leq -3SD$	VAC Nov-Dec 2002	QWI
Total	5223	37.5%	15.5%	37.9%	43.8%
Male	-	38.6%	15.9%	39.4%	46.7%
Female	-	36.1%	14.9%	36.4%	41.2%
Maputo	905	39.8%	20.0%	32.7%	26.2%
Gaza	865	37.7%	17.2%	31.9%	35.0%
Inhambane	689	38.3%	15.2%	37.0%	31.2%
Sofala	933	37.3%	15.8%	34.8%	44.6%
Manica	907	33.6%	13.0%	41.7%	40.1%
Tete	924	38.1%	12.3%	42.0%	44.5%
Orphans (mother)	104	43.3%	25.0%	46.2%	

Maputo, Gaza and Sofala provinces all now have a higher rate of chronic malnutrition in comparison to Nov-Dec 2002. However, Manica and Tete provinces have lower rates.

Acute malnutrition among non-pregnant women (put as sub-title)

|

In Tete province only, non-pregnant women aged from 15 to 45 years were also measured. Two indicators were used for this group: the body mass index, which is found from the ratio of weight to height (BMI = kg/m); and the height shorter than 145 cm, which reflect chronic malnutrition.

Table 11: BMI for non-pregnant women (15-45 years)⁵

Non-pregnant women aged 15-45 years in Tete Province (n=675)	VAC May 2003	DHS 1997
Height < 145cm	3.8%	4.3%
BMI < 18.5 (malnutrition)	22.4%	13%
BMI: 17.0 – 18.49 (slight malnutrition)	14.2%	
BMI: 16.0 – 16.99 (moderate malnutrition)	4.6%	
BMI < 16.00 (severe malnutrition)	3.6%	
Mean BMI of the women measured	20.3	20.9

While the percentage of women less than 145 cm tall declined in comparison with the data in the Demographic and Health Survey (DHS) of 1997, the proportion of women with a body mass index of less than 18.5 increased from 13% to 22.4%. The mean body mass index of the women measured is now 20.3 against 20.9 of the 1997 DHS. It should be remembered that only areas affected by the food crisis were included in this assessment and not the whole of Tete province; this may explain the rise in the malnutrition rates recorded (See **table 11**).

5.1.4 Practices in the provision of care

Younger children need to eat more often than adults in order to have adequate nutrition; the minimum necessary for healthy growth is normally considered to be four times a day (including meals and snacks), in addition to breast milk, for children aged from 0 to 23 months.

Table 12 below shows the percentage of children aged from 6 to 23 months who were still being breast fed and the frequency of feeding by age group. The global index of breast feeding in the areas studied is 69.6%. As expected, the breast feeding index falls gradually with age, from 75.2% in the 6 to 11 month group to 58.8% in the 18 to 23 month group. Only 33.8% of the children in the 6 to 23 month age group have three or more meals a day and only 3.3% are fed four or more times a day as recommended. About a quarter of the children do not have more than one meal a day.

The fact that 4.6% of the children aged from 11 to 17 months and 3.2% of the children from 18 to 23 months received no meal whatsoever on the day before the survey is cause for concern.

⁵ WHO (1995), "Physical Status: The Use and Interpretation of Anthropometry", WHO Technical Report Series #845.

Table 12: Frequency of feeding of children aged 6 to 23 months (on the day before the survey) by age group

Children aged 6 to 23 months	N	Age group			
		6-23m	6-11m	12-17m	18-23m
Breast feeding	2064	69.6%	75.2%	72.6%	58.8%
Fed 0 times/day	2003	6.1%	9.6%	4.6%	3.2%
Fed 1 time/day	2003	18.6%	21.7%	19.7%	13.5%
Fed 2 times/day	2003	41.5%	41.1%	43.0%	40.6%
Fed 3 times/day	2003	30.5%	24.9%	29.5%	38.9%
Fed 4 times/day	2003	2.1%	1.0%	2.4%	3.0%
Fed 5 times/day	2003	0.7%	0.6%	0.8%	0.5%
Fed 6+ times/day	2003	0.5%	0.9%	0.2%	0.3%

5.1.5 Morbidity

Diarrhoea and fever

The prevalence of diarrhoea is as a good indirect indicator of hygiene conditions and practices. It is also an important indicator because of the significant impact that diarrhoea can have on the nutritional status of an individual. Fever was included in the assessment because of the highly endemic nature of malaria in Mozambique.

Table 13: Prevalence of diarrhoea in children aged 6-59 months

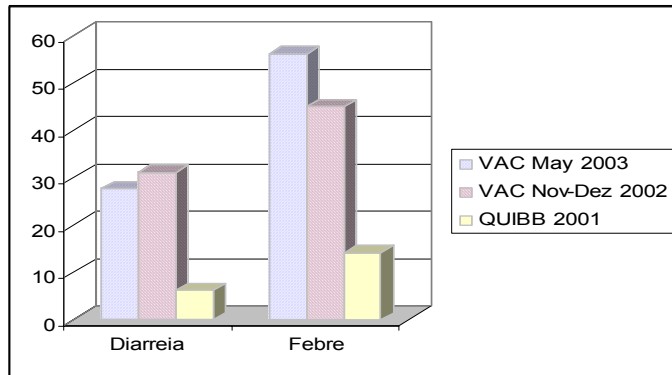
Children aged 6-59 months	n	Prevalence of diarrhoea	Prevalence of fever
Total	5595	27.6%	56.2%
Male	-	28.4%	56.1%
Female	-	26.7%	56.2%
Maputo	963	25.0%	47.8%
Gaza	953	30.5%	51.0%
Inhambane	799	30.7%	64.6%
Sofala	970	23.7%	56.6%
Manica	927	22.3%	57.4%
Tete	983	28.8%	62.1%
Orphans (mother)	124	32.3%	58.1%

Table 13 above shows that in the areas studied, the global prevalence of diarrhoea in the two weeks preceding the survey was 27.6%. The prevalence by province ranges from 22.3% (Sofala) to 30.7% (Inhambane). The difference between boys and girls was not significant.

With regards to fever, the global prevalence in the two weeks preceding the survey was very high, averaging 56.2% in the areas studied. The prevalence by province ranged from 47.8% (Maputo) to 64.6% (Inhambane). The difference between boys and girls was not significant. While the possibility of mistaken diagnosis of fever and the fact that it is a common symptom of other diseases

must be taken into account, the prevalence is extremely high and seems to highlight the endemic nature of malaria in Mozambique and the risk it represents for children who already live in vulnerable conditions.

Figure 6: Comparison of findings from VAC and QUIBB 2001



Comparing the data from the national Questionnaire on Welfare Indicators (QUIBB) survey with the current assessment shows rates of diarrhoea and fever that are three to four times higher than in the two weeks preceding the QUIBB.

4.2 CURRENT SITUATION OF FOOD SECURITY

The characteristics of the nutritional trends described earlier mirror the results of the current food insecurity found among households. Without attempting to enumerate and analyse the factors causing the problems underlying people's current nutritional status, some of the most relevant food security issues should be mentioned, notably consumption patterns, in other words the quality of the diet, the availability of food from own production and the importance of livestock and sources of income. Moreover, it would be opportune at the same time to assess household coping mechanisms in the face of constraints that have contributed towards the worsening of food insecurity, and, linked to that aspect, measure the scale and the coverage of mitigation programmes to alleviate the vulnerability of communities to food insecurity.

The period in which the the survey was conducted should be taken into account when considering the present trends in availability of and access to food for the different households. The survey was held in May and June, one to three months after the normal harvest (in the south the crops are normally harvested in January and this is extended to February and March in the centre). At the same time, it should be mentioned that the harvest was much below normal in most areas of the south and centre of the country, some of which are suffering their second year of crop failure. As a result, the majority of households seem to be dealing with the second crop failure in a row in various ways, notably including:

Note to readers:

In order to locate better the Food Economy Zones used in this analysis, please consult the map at the end of this document.

- Broadening some of their coping mechanisms, such as the sale of small

- livestock (mainly chickens and goats) or odd jobs (informal day labour paid in food or cash);
- Adopting extreme survival strategies (going a whole day without food, eating seed reserves, selling farming tools, etc.),
- Becoming increasingly dependent on food aid.

5.2.1 Consumption and sources of food: quality of the diet

The sources of and the types of food consumed reveal the nutritional fragility and food insecurity among the households interviewed. In order to understand these two aspects, the respondents were asked to recall what foods they consumed in the 24 hours before the interview and the source of that food. For the purposes of analysis, the food was grouped according to its nutritional value, using a methodology developed and tested by the Ministry of Health in earlier surveys. Thus the following food groups were established:

1. Vegetables, leaves, fruit, juice, oils/fats, sugar/glucose, butter, jam, condensed milk
2. Staple foods (cereals, roots, tubers, bread, cake)
3. Pulses, nuts, coconut
4. Meat, fish, shellfish, eggs, fresh milk, yogurt.

The methodology also establishes a system of points for each type of food and an overall classification for all the foods consumed indicating the quality of the diet. A balanced diet that includes foods rich in protein and energy would have the highest classification, while a diet restricted to the first two categories would have a lower classification⁶. The Ministry of Health uses three categories to classify the quality of diet:

Below 12 points = very poor quality diet
Between 13-24 points = poor quality diet
Above 24 points = acceptable diet.

⁶ *Items rich in energy that appear in the category are consumed in very small quantities and so the Kcal count is low. Their contribution consists in the way they are combined with the other foods mentioned.*

Figure 7: Quality of diet

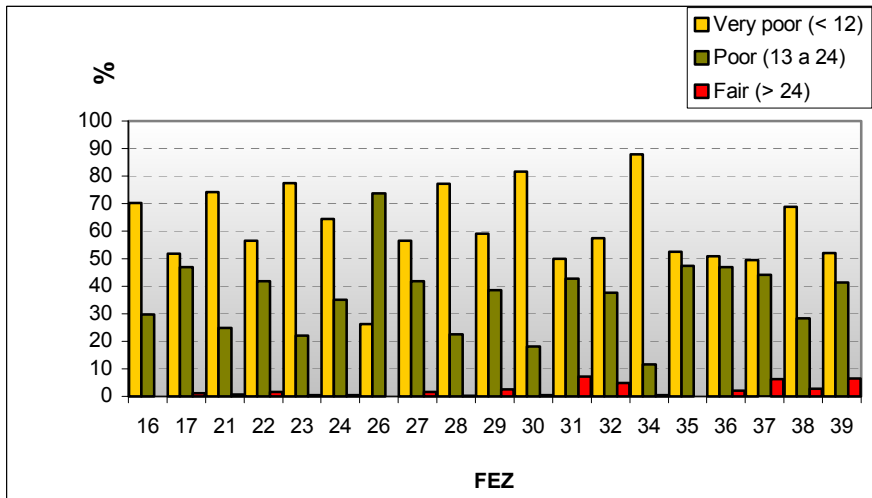
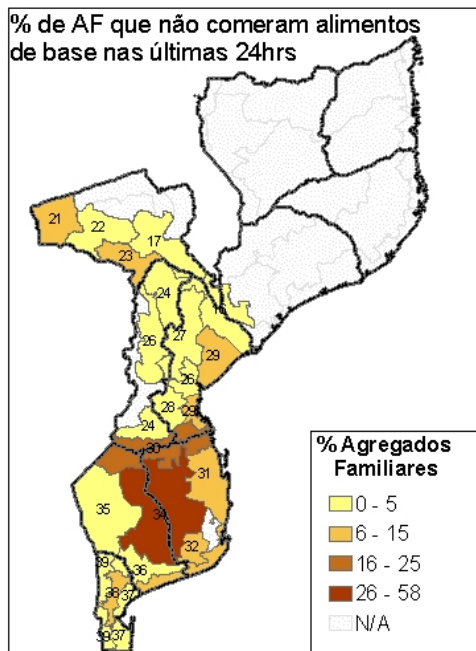


Figure 7 shows the findings from the analysis by food economy zone (FEZ). For more detail on the coverage of the FEZ at district level, see the annexes. It may be noted that the majority of households in most zones has

a diet regarded as very poor and/or poor quality. The percentage of households in the very poor quality group ranges from 50% to 90%, with the exception of FEZ 26 (in the centre of Manica province) which had a lower percentage for this category (23%). However, that particular FEZ showed that the remaining 77% of the households had diet regarded as poor quality.

Map 1: % of households that did not eat staple foods in the last 24 hours



Zone 34 (Chigubo, Mabote, Funhalouro and Chibuto) displays the extreme case of almost 90% of households consuming a diet classed as “very poor quality” in nutritional terms. The negative trend in terms of quality is further supported by the fact that less than 10% of all households interviewed in all the FEZ showed an acceptable standard of diet.

For purposes of comparison, it should be mentioned that a similar survey was done in Nampula and Cabo Delgado provinces in which 61.3% of the households revealed poor or very poor quality diets. Meanwhile, the value for those same categories in this survey is about 98%; this extremely high percentage may be taken as evidence of the current acute food crisis.⁷

⁷ The report of the WFP Summit (2002) states that the mean available calories/Adult Unit Equivalent/day in the household is 2761 kcal and the median consumption of energy is 2420 kcal. This is well below the recommended 3000 calories/AUE/Day.

Access to staple foods (cereals, bread, root crops, and tubers) could serve as an indicator of the severity of the food scarcity⁸.

Map 1 shows that a large percentage of households did not have access to these basic products, with an even more serious situation noted in FEZ 34 (Chigubo, Mabote, Funhalouro and Chibuto) where more than half of households said they had not consumed any basic products in the 24 hours preceding the interview. A similar situation was found in FEZ 30 (Machanga, Govuro and Massangena), with 30% of households in that state. Government institutions and non-governmental organisations active in the region should immediately investigate the high percentage in zone 34.

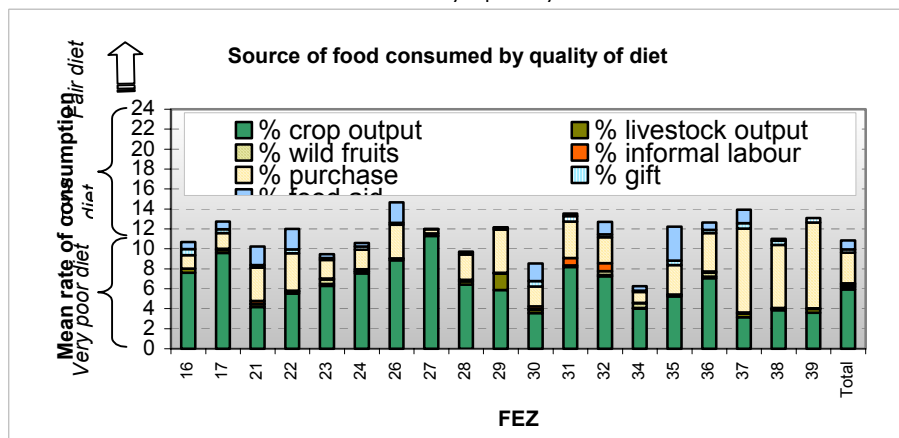
Source of food

The source of food is another way of measuring household food alternatives. Analysis of the data shows that the majority of households said their primary source of food was crop production on their own fields. In FEZ 27 (Gorongosa, Maringue, Gondola and Nhamatanda) more than 90% of the food consumed came from own production.

Meanwhile, FEZ 37 (Matutuíne) provides a completely different scene, with just over 20% of the food consumed originating from own production, and almost the same finding from FEZ 30 and 38 (Moamba and Boane) and 39 (Magude, Moamba and Namaacha). The contribution from the market accounted for values ranging from 10% to 60%, and the most outstanding were in FEZ 37 (60%) and 39 (65%).

These two scenarios themselves demonstrate that households are suffering two phenomena simultaneously that make the food situation worse. Besides having a poor diet, households are heavily dependent on their own production and they have very low purchasing power. This means that when the crops fail, as happened this year, the effects tend to be even more devastating.

Figure 8: Sources of food consumed, by quality of the diet



⁸ World Food Summit, 2002. FAOSTAT data show that carbohydrates usually supply an estimated 80% of energy needs. Current Vulnerability Analysis of some districts in critical provinces

Households may rely on different forms of food aid as an alternative to their own production. Even so it may be noted that food aid does not have the expected significance, despite the fact that it has a certain importance in some areas. [this does not really match what is said in the exec sum] This is the case with FEZ 35 (Chicualacuala, Massingir and Mabalane) where almost a quarter of the diet was supplied by food aid, and in zone 30, where just over 20% was from food aid. Figure 7 shows these and other sources, highlighting the upper and lower limits for the classes of diet: very poor, poor and acceptable.

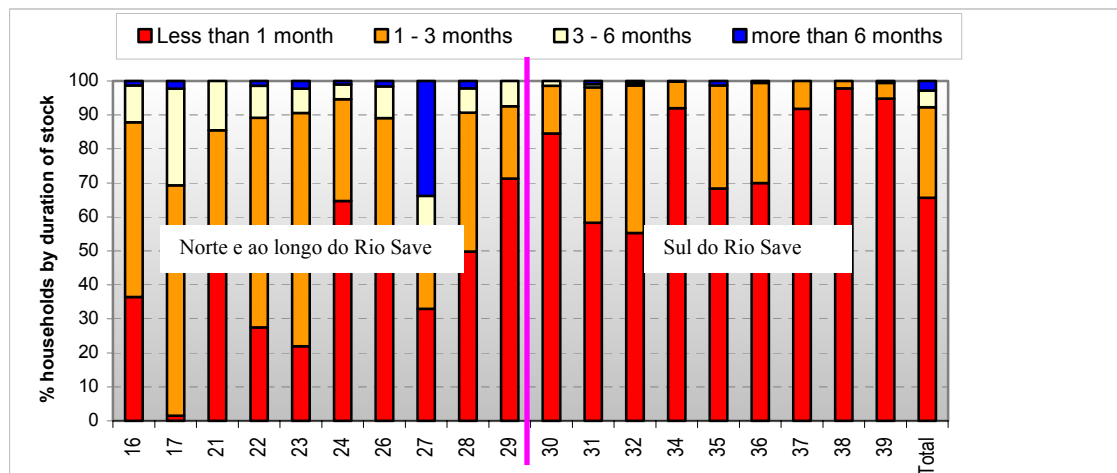
5.2.2 Reserves

In order to calculate the total supply, it was decided to add current reserves (food currently stored in household granaries) and the expected harvest from crops currently in the fields. For purposes of analysis, months of consumption were classified in such a way as to capture the differences between groups of households. Thus four categories were established: less than one month; from one to three months; from three to six months; and over six months.

Current reserves

Poor harvests meant that the reserves in household granaries were relatively low. Figure 8 shows that about 65% of households had food stocks for less than one month, 27% had enough for between one and three months, 5% for three to six months and 3% had enough for more than six months. In the zones to the south of the Save River, about half of the households had reserves of harvested food crops for less than one month. The zones north of the Save River showed a mixed situation, but with the majority of households having enough reserves for up to three months. It was also noted that some households in these zones had enough reserves to last from three to six months. FEZ 27 (Maringue, Gorongosa and Gondola) is the only one where over 30% of households were holding reserves of harvested crops to last more than six months as a result of normal harvests.

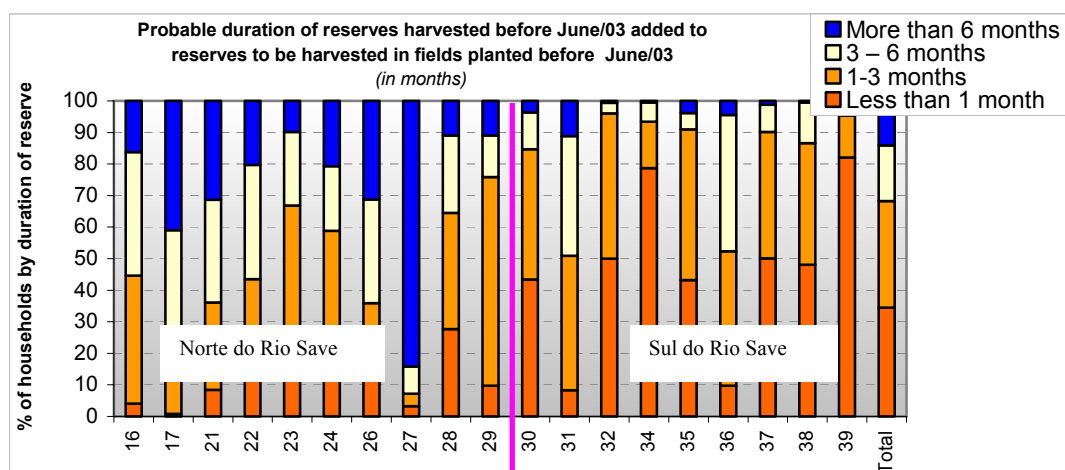
Figure 9: Duration foreseen of harvested crops



Over 80% of households in zones 30, 34, 35, 37, 38 and 39 (districts in the southeast of the country in Maputo Gaza and Inhambane provinces) had less than one month of food reserves, reflecting the already confirmed fall in crop production because of poor rainfall in these areas. Very few households in these zones have enough food reserves for more than three months. However, care should be taken in interpreting these trends, mainly because agriculture is not necessarily the principal source of food in some of these zones, particularly zones 37, 38 and 39, for example (See figure 7 for a comparison).

Potential supply from reserves and future harvests

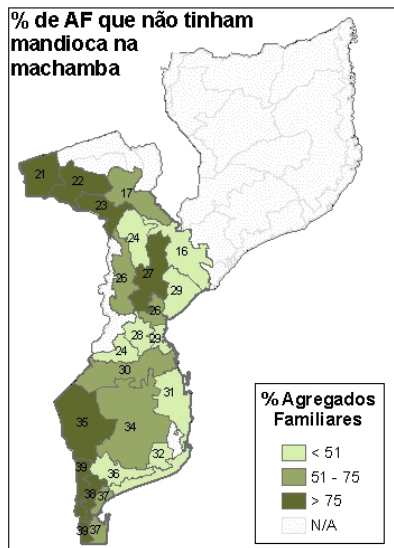
Figure 10: Potential supply from reserves



Adding the reserves held by farming households to the crops that may potentially be harvested from their fields gives a picture of a slightly better total food supply, which indicates the anticipation that the coming harvest may in part fill the deficit.

Thus, 70% of households have more than one month's food reserve, and 45% of those have reserves for up to six months. However, it still means that the majority of households remain without actual or potential reserves to meet their needs. There was a shift in the balance between households with less than a month's reserves and those with enough for three to six months in the food economy zones north of the Save River and in the centre, with the proportion having higher reserves increasing. Some households have potential food supplies sufficient for more than six months. However, some zones in this region show an alarming situation, namely zones 22 (Magoé, Maravia), 28 (Chibabava) and 29 (Muanza, Dondo and Cheringoma) where about 90% of households have potential reserves for less than three months. Moreover, zones 30 (Massangena) and 28, together with zone 24, have more households with less than one month's supply. The only FEZ to present a very positive picture was 27, where 85% of households possessed potential supplies for more than six months.

The situation in the region south of the Save River clearly exhibits the effects of the drop in production, with only two FEZ, 36 (Guijá, Mandlakazi, Bilene and Magude) and 31 (Inhassoro and Massinga) having 90% of households with reserves for up to six months. Production along river banks and in swampy areas may be the reason why more households have food supplies. The situation is normal for the zone (secondary data sources show that households normally eat their own production for six months). FEZ 34, 32 (Panda and Homoine) and 39 show a more extreme situation with 90% of households potentially having supplies for less than three months. The situation in FEZ 30 is much worse with about 82% of households having reserves for less than three months.



Map 2: Cassava production

Analysis of the food supply situation shifts its perspective when the role of cassava in household coping strategies is integrated into the equation. In fact, cassava plays many roles, but most prominently as a regulator of the food crisis. In parts of the country, it is rare for households not to have some cassava growing in their fields, since it is characteristically drought resistant, and it allows the harvest to be staggered, two factors that create conditions for households to balance consumption plans and adjust to market price fluctuations, as well as functioning as savings and a source of income in times of crisis.

Nevertheless, cassava production figures are extremely difficult to estimate, and this was one of the gaps noticed in this round of inquiry.

Even so, some qualitative information was obtained regarding the existence or not of cassava in the fields of the peasant farmers interviewed. The findings are shown on Map 2 and indicate that over half of the households in all FEZ were growing cassava in their fields. Those households were generally living near the coast and in the southern parts of Manica and Sofala provinces. The pattern changes, however, in most of the areas bordering South Africa, Swaziland and Zimbabwe, where 75% of households did not grow cassava.

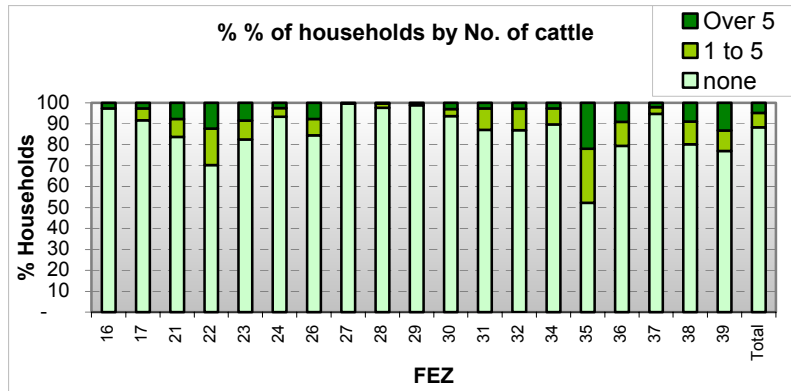
5.2.3 LIVESTOCK

This section will simply try to illustrate some aspects regarding the role of livestock in the household diet; the distribution trends of livestock and changes in livestock numbers over the last two years.

A. Trends in the ownership of livestock

In overall terms, it was noted that the majority of households interviewed displayed a certain weakness in relation to the ownership of livestock, except for poultry, however, which presented a reasonably acceptable pattern.

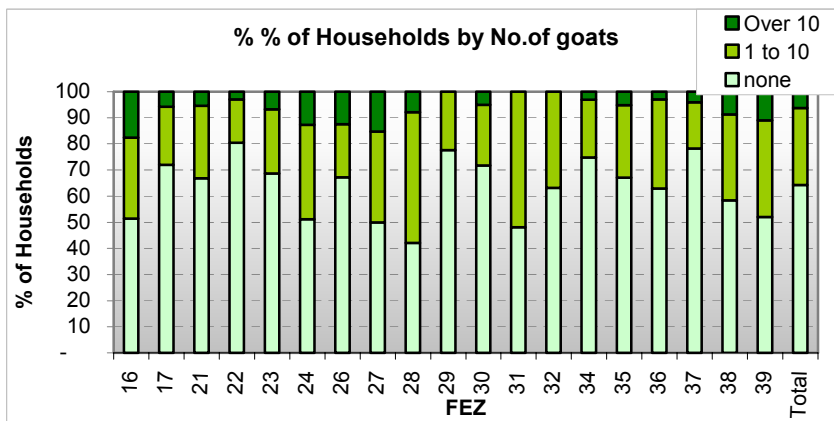
Figure 11: Livestock ownership: cattle



In any case, it was noted that upwards of 80% of households in most of the FEZ did not own cattle. FEZ 35 (Chicualacuala) was the only one where about 30% of households were found to own one to five head of cattle and 20% had more

than five head of cattle. The food economy in that zone depends on cattle, but it is restricted to a semi-arid area that has little potential for arable farming. The other food economy zones that displayed significant proportions of households owning cattle were numbers 22, 26, 36 and 39, see figure 11.

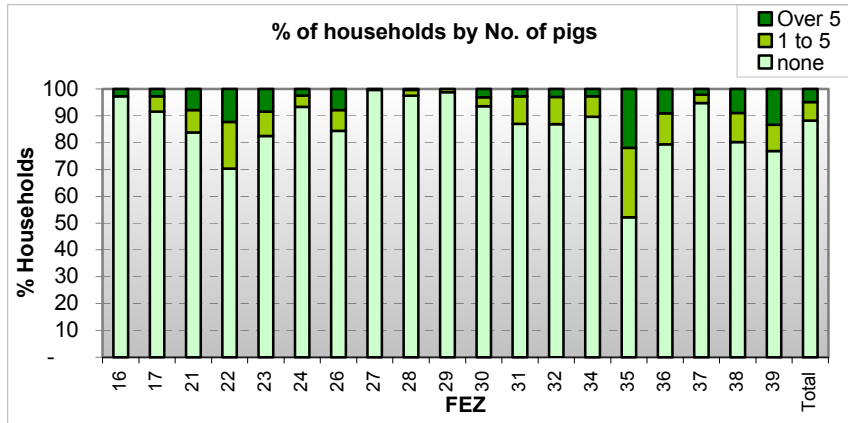
Figure 12: Ownership of livestock: goats/sheep



In most of the food economy zones, more than half of the households did not own goats; although in FEZ 28 (Chibabava) the figure was only 40%. Among the households owning goats, most had from one to 10 goats. While the

highest percentages of households in that category were found in FEZ 30, 31 and 33 (Morrumbene), FEZ 16 (Mutarara) and 27 had the highest percentages of households owning more than 10 goats. However, it may be said that access to goats is more generalised among households in all the food economy zones, see figure 12.

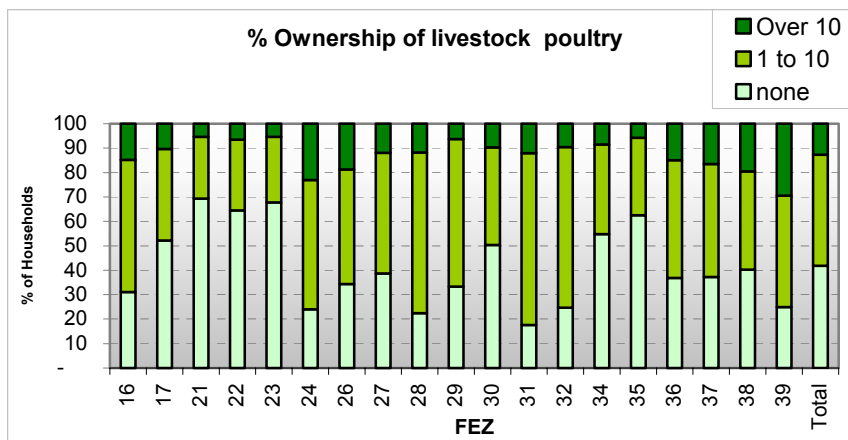
Figure 13: Ownership of livestock: pigs



The percentage of households owning pigs follows the national pattern of pig ownership, with greater emphasis on zones 31 and 32. While there are no pigs in many food economy zones, care in the

interpretation of this observation, since it may not necessarily reflect problems of food security, if we bear in mind household food habits and cultural and religious practices relating to the breeding and management of pigs, see figure 13.

Figure 14: Ownership of livestock: poultry



As might be expected, the percentage of households owning poultry is greater than for any other type of livestock.

However, there are food economy zones where about 70%

of households have no poultry, such as 21 (Zumbo), 22, and 23. In most of the food economy zones, between 80% and 90% of households own up to 10 birds. What is notable is that in most food economy zones, the households owning poultry outnumbered the households with no poultry. It is important to bear this trend in mind since this is the most commonly consumed kind of meat; poultry represents the principal source of immediate income for households; and it is one the few resources managed directly by women and provides funds for social purposes, such as education, traditional medicine and other services from traditional healers, see figure 14.

B. Contribution of livestock to the diet

The consumption of meat and meat products was amongst the lowest of all food commodities consumed by households in the previous 24 hours. The findings indicate that only 20% of households had included meat on their diet. However,

the situation becomes even worse when the differences among the food economy zones are analysed. In reality the most dramatic situations were found in zones 31, 34, 36 and 38, where over 80% of households had not eaten meat or meat products on the day of the interview. In contrast, the best situation was found in zone 29 where 45% of households had eaten meat.

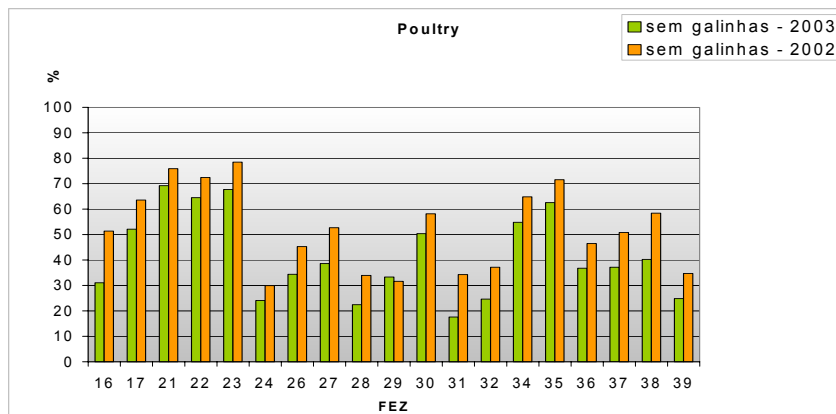
Changing numbers of livestock

The fluctuation in the numbers of livestock is an important indicator for measuring the magnitude of the effects of natural disasters and the degree of vulnerability of households to risk. However, this indicator is only valid if it is used in an analysis that is confined to a geographical area and measures the impact among different groups of households based on the numbers and types of animals that these households retain within this geographical area.

The most logical way of disaggregating in such analysis is to separate the households with no livestock from those with livestock, which are further divided into those with small numbers and those with many, and then analyse the changes over time by types of livestock. This process was used in the comparative analysis of 2002 and 2003.

Poultry

Figure 15: Percentage of households without poultry by FEZ



It may be said that in general terms poultry ownership improved among households from 2002 to 2003. As Figure 15 shows, the percentage of households without any poultry dropped in all the food economy

zones, particularly zones 36, 37, 38 and 39. However, many households still remain without poultry, in some cases reaching 80%, as in zones 23 and 21. Zones 24 (Guro, Tambara and Macossa), 28, 29, 31, 32 and 39 have the lowest percentages of households without any poultry (about 30%).

Figure 16: Percentage of households with fewer than 10 birds

As regards the number of birds, it was found that the percentage of households with fewer than 10 birds increased substantially. In fact, this was found to be the case in all the food economy zones, with the greatest changes in zones 29, 31, 32, 36, 37, 38 and 39. However, it should be noted that over half of the households in zones 16, 24, 27, 36 and 39 own fewer than 10 birds, while this is the case with 60% of the households in zones 28, 31 and 32 (See Figure 16).

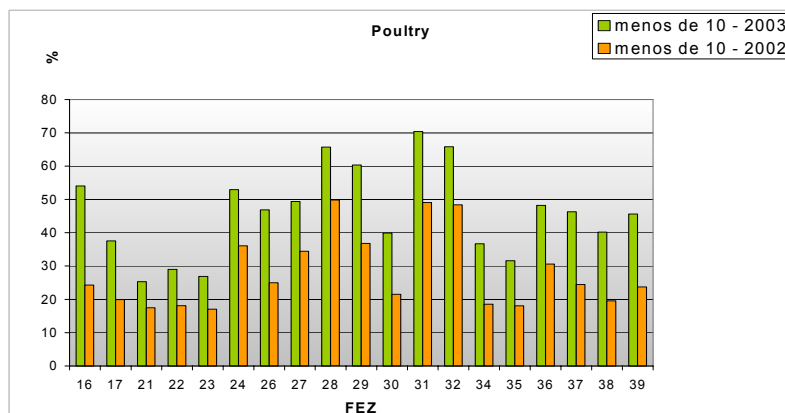
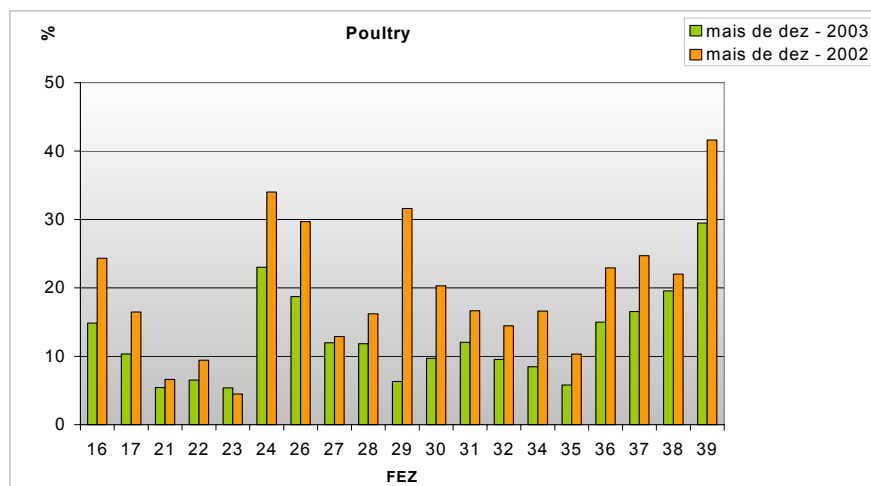


Figure 17: Percentage of households with more than 10 birds by FEZ



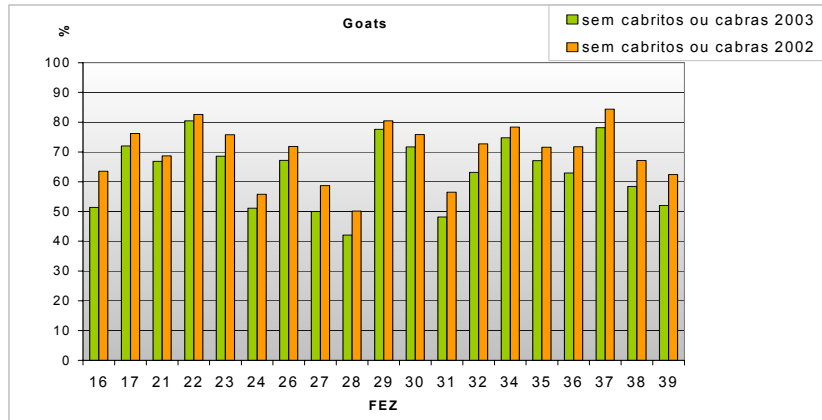
A different trend is seen among the households owning more than 10 birds. In fact the percentage of households owning more than 10 birds fell in all the food economy zones. However, it should be

stressed that this decline was not caused by disease, because if it had been, no improvement would have been seen among the households that had owned no poultry in 2002, or the substantial changes among the households who joined the ranks of poultry owners with fewer than 10 birds. For that reason, the evidence points to a decline in the percentage of households owning more than 10 birds because of sales or consumption (See Figure 17).

Goats

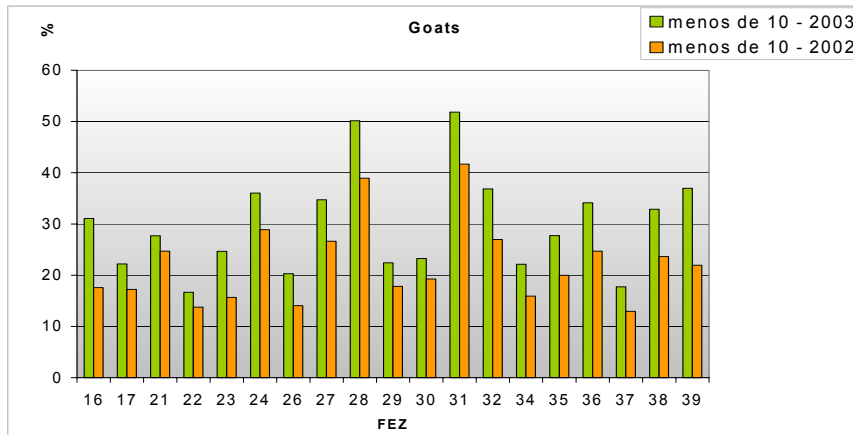
Figure 18: Percentage of households without goats by FEZ

As with poultry, an improvement in goat ownership from 2002 to 2003 was noted. Figure 18 shows that the percentage of households without goats fell, which implies that households had better access to this type of live stock, a



trend found in all the food economy zones. Although some households have no goats, the majority (80%) own this type of livestock. In this context, the best situations are found in zones 24, 27, 29 and 31 where the percentages are about 50%.

Figure 19: Percentage of households with fewer than 10 goats by FEZ

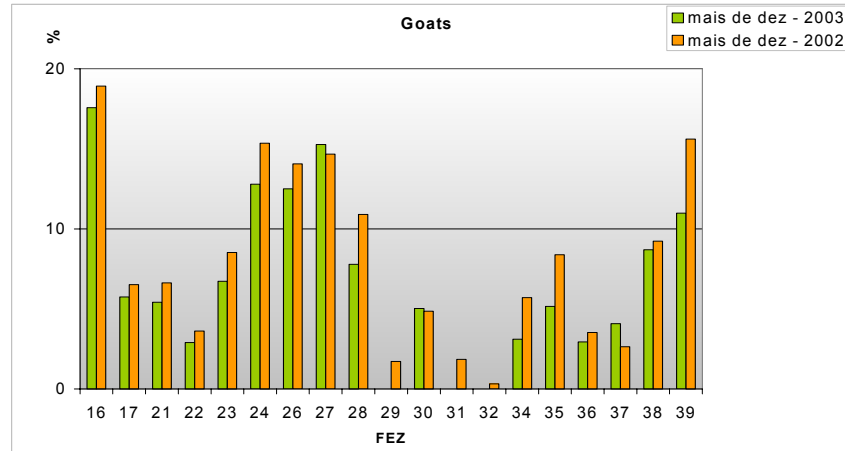


The pattern observed among households owning fewer than 10 goats is interesting. A significant increase in goat ownership was noted in all food economy zones from 2002 to 2003. The fact that 50%

of the households in food economy zones 28 and 31 have goats is noteworthy. The food economy zones with the largest percentage increase were: 16, 28, 31, 37 and 39, (See Figure 19).

Figure 20: Percentage of households with more than 10 goats by FEZ

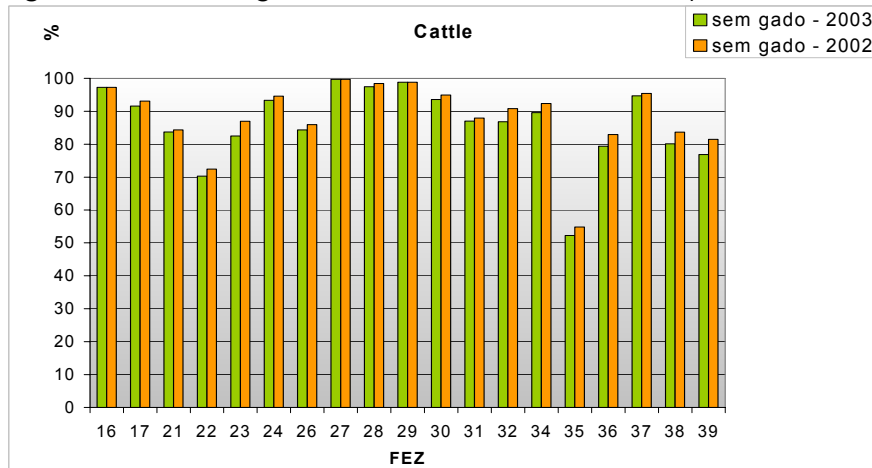
As regards the households owning larger numbers of livestock (more than 10), it may be noted that in general there was a percentage decrease of households owning more than 10 goats, with the



exception of food economy zones 27 and 37. However, food economy zones 16, 24, 26 and 27 have greater percentages of households with more than 10 goats of 15 to 18% (See Figure 20).

Cattle

Figure 21: Percentage of households without cattle by FEZ



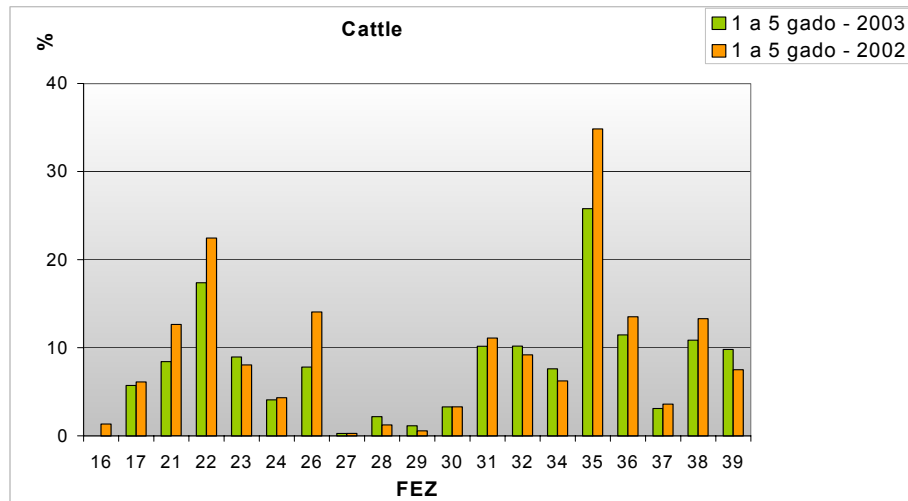
A high percentage of households in the sample owned no cattle, for example practically all the households in zones 16, 27, 28 and 29 had no cattle.

There was a slight overall

improvement in the percentage of households without cattle, seen essentially in the fall in the percentage in 2003 (See Figure 21).

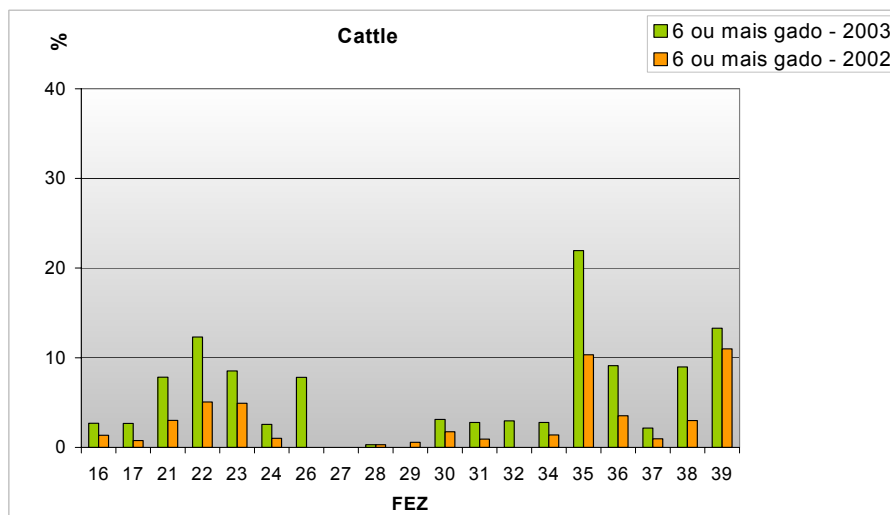
Figure 22: Percentage of households with fewer than five head of cattle

In relation to households with one to five head of cattle, a pattern of decline over the last two years may be seen in all the food economy zones, except for zones 23, 34 and 39. However, this



trend should not be interpreted as negative without taking account of the previous figure (Figure 21) and the next one (Figure 23).

Figure 23: Percentage of households with more than six head of cattle by FEZ



It may be noted that in fact the percentage of households without any cattle remained stable or increased slightly. Meanwhile, as Figure 23 shows, there was a percentage increase of

households owning more than six head of cattle. This could lead us to infer that this increase derives from households moving up from the class of owning one to five head of cattle. The most outstanding change was in food economy zone 35, which had the largest increase in the ownership of cattle from 8% to 21%.

It may be noted in general that a very small percentage of households have access to livestock. Contrary to what was expected, the percentage of livestock-owning households increased from 2002 to 2003, with the following being noteworthy.

- The percentage of households without any livestock fell in relation to all

types of livestock, most notably to poultry. This means that more households have access to livestock.

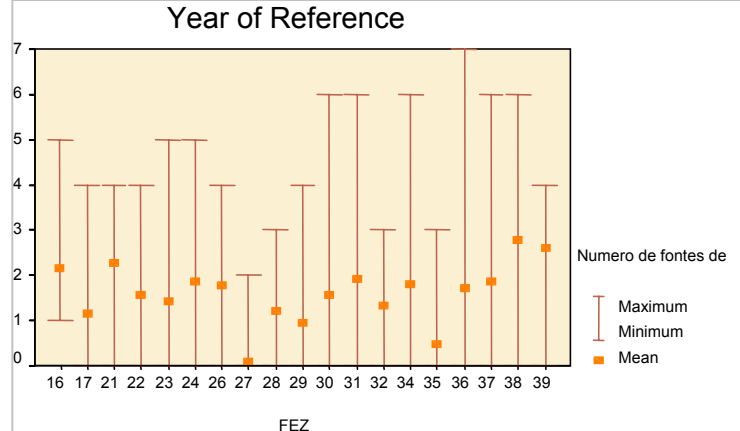
- The median percentage group of households with livestock is also tending to increase, except in relation to cattle, where it declined. However, the percentage increase of households with more than six head of cattle should be taken into consideration in the latter case.
- The percentage of households with much livestock increased in all cases except for poultry, which was widely sold as an immediate resource for rapid access to cash.

5.2.4. Sources of income

The lack of enough direct production among households does not necessarily mean that they are unable to feed themselves. On the contrary, there are cases where households depend more on other sources of income to meet their basic needs. It was therefore relevant to evaluate what these sources are and their

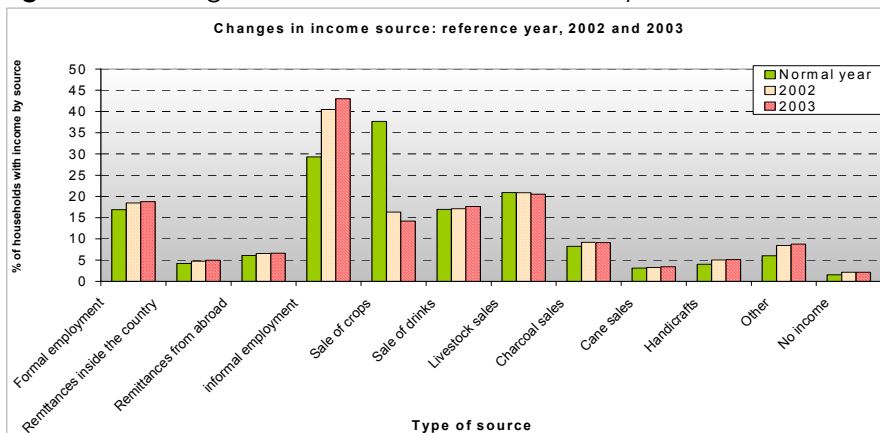
importance in relation to household survival. Figure 24 shows the minimum and maximum number of sources of income for the households in the different zones. Oddly, it may be noted that most households indicated having only a single source of income. This occurred in 11 zones, while in seven other zones the most frequent response was two sources of income.

Figure 24: Number of sources of income



The households with only one source of income could be more vulnerable to stress, for example drought, if the single source of income were restricted or if it could not be broadened in times of crisis. For example, if the single source of household income is the sale of charcoal, and the market for this product becomes oversupplied or restrictions are imposed on production, the household may not have other options for earning income to which it can turn. However, a household with a diversified range of potential income sources may be able to change sources or maximise sources and thus have greater leeway in dealing with stress and crises. The zones in Maputo province display this characteristic, with two main sources of income. The fact that these households are close to the city of Maputo and to the neighbouring countries gives them a bigger chance to have access to a broad range of alternatives, compared to households in the remote interior of Gaza and Inhambane provinces, for example.

Figure 25: Change of income source, reference year, 2002-03



Evidence has already been presented that agricultural output in general has been lower than normal and that a good proportion of households

depend on their own production to meet their own food needs. In the light of this fact, sources of income increase in importance and households are forced to intensify and/or diversify alternative income sources in order to cover the food deficit. Figure 25 compares changes in income sources between a normal year and 2002 and 2003 in the provinces covered by the survey. In the first place, it may be noted that a small percentage of households had no source of income and that this increased slightly in the last two years in comparison to a normal year. In the second place, income from sales of farm produce was the source that suffered the greatest change from the reference year (38%), falling to 16% in 2002 and 14% in 2003.

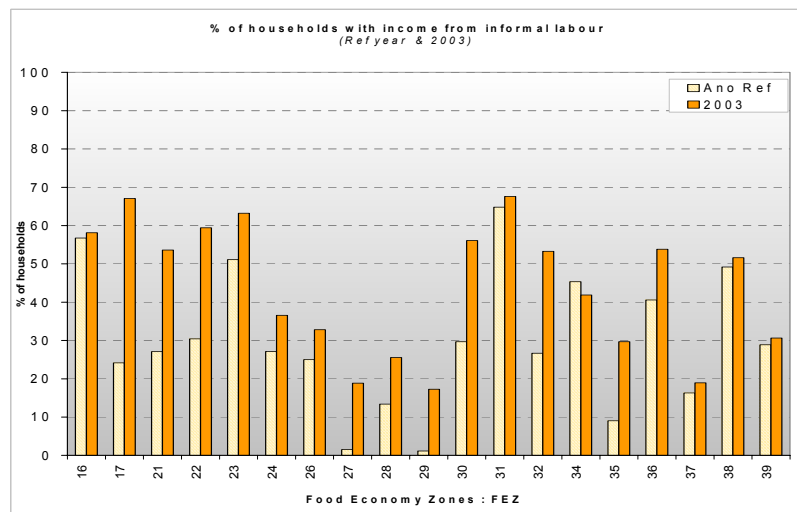
Meanwhile, there was a change in the opposite direction; that is the percentage of households turning to informal paid labour increased. Whereas about 29% of households tend to have informal paid labour as a source of income in a normal year, the percentage rose to 40% in 2002 and 43% in 2003. Other sources, such as formal employment, remittances from migrants and the sale of drinks showed some increase, but not in any significant measure, and other sources showed no change.

The situation observed at provincial level could reveal great variation when disaggregated to the level of districts and food economy zones for analysis. For this reason, the most important sources of income were selected for the following discussion.

Informal labour

It is confirmed that informal labour is becoming one of the main sources of household income. Food economy zones 17 and 31 display the highest percentages of households having recourse to this source of income, around 70%. However, the food economy zones lying north of the Save River clearly have a higher incidence; these are zones 16, 17, 21, 22 and 23. In the case of the food economy zones in the south, the most notable are zones 31, 36 and 38. At the same time, a substantial change is found in comparing 2003 to the normal reference year; in zone 17 the normal 25% of households using informal labour as a source of income rose to 67% in 2003. Such increases were also recorded in zones 21, 22, 23, 30 and 35. It was odd to note that no substantial changes were

Figure 26: Percentage of households with informal labour as a source of income



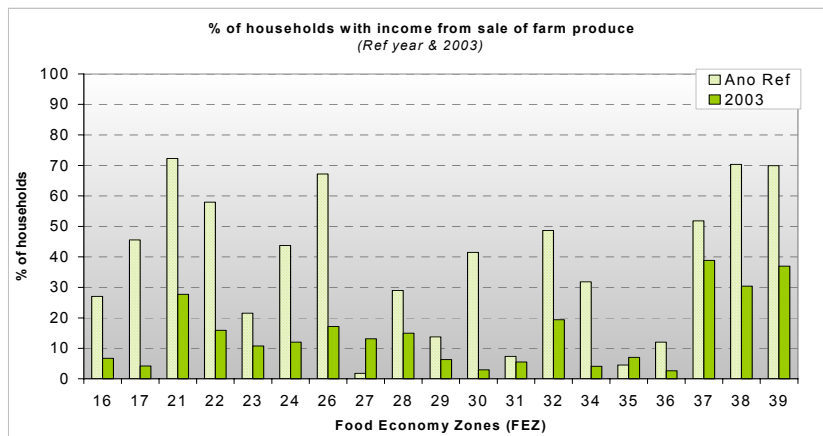
It was odd to note that no substantial changes were

recorded in the zones to the south of the Save River, which, given the crisis reigning in the region, suggests that households may have exhausted the possibilities for informal labour (See Figure 26).

It should further be noted that food economy zones 27, 28, 29, 35 and 37 demonstrate less use of informal labour in normal years, but are among those displaying the greatest percentage increases this year. Special attention should be given to what happened in food economy zones 27 and 29 where there is practically no recourse to informal labour in a normal year (1% of households) but which involved 18–20% of households in those zones this year.

Sale of farm produce

Figure 27: Percentage of households with sales of farm produce as a source of income



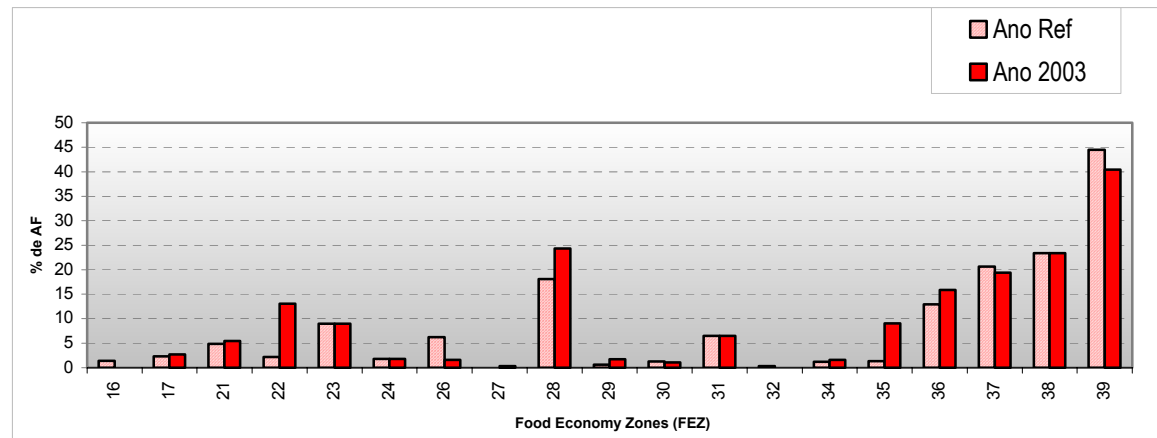
Unlike in a normal year, the importance of sales of farm produce as a source of income was minimal, involving only 15% of the households. This represents a significant decrease from 38% in a normal year. In addition, only 6–8%

of households identified sales of farm produce as the main source of income. The food economy zones with the largest decreases are precisely those where a higher percentage of households are involved in this type of activity in a normal year. This is the case with food economy zones 17, 21, 22, 26, 38 and 39. The cases of food economy zones 29, 27 and 35 deserve special attention because they show a very low percentage of households involved in informal labour and the sale of farm produce (See Figure 27).

Sale of charcoal

Figure 28: Percentage of households with charcoal sales as a source of income

The sale of charcoal has been identified as a threat to the sustainability of the environment, whilst at the same time being one of the main



alternatives for survival used by households during a food crisis. Despite that, it was noted with surprise that less than 10% of households were involved in this activity. However, it becomes relevant to note that the sale of charcoal is the main source of income for almost 7% of the households in the sample.

The frequency of household involvement in the sale of charcoal varied considerably when analysed after disaggregating. Only zones 28, 36, 37, 38 and 39 had more than 10% of households involved in this activity. Food economy zone 39 displayed the highest proportion of households with values above 40%. While the levels of charcoal sales may be regarded as high in these zones, no significant changes were recorded compared to the reference year. The zones with the lower sales rates, such as 22 and 35, were the ones that displayed the largest increases.

The high levels of household involvement in this activity in food economy zones 37, 38 and 39 are associated with their proximity to Maputo and the strong attraction of the market.

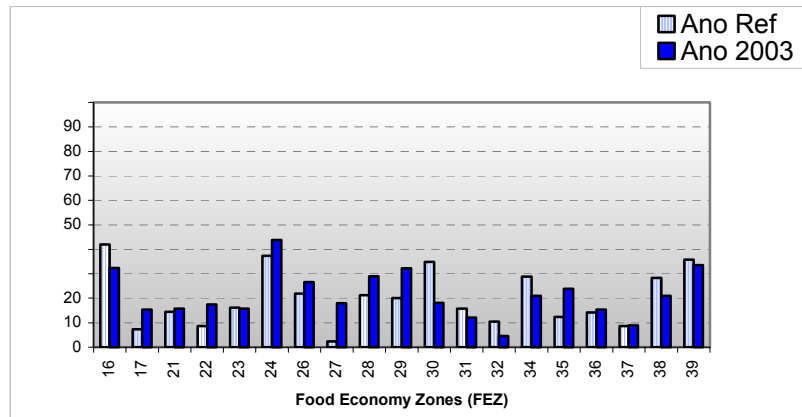
Remittances

Contrary to expectations, remittances, both inside the country and from abroad, did not assume great importance among the households interviewed. Even so, a small increase was recorded in the number of households receiving remittances from within the country, principally in zones 22, 23, 31 and 36. A similar phenomenon was also observed in relation to remittances from abroad to households in zones 26, 30 and 35.

Sale of livestock

The general picture of the situation in the provinces studied gives the impression that there are no great differences in the numbers of households selling livestock, comparing 2003 to the normal reference year.

Figure 29: Percentage of households with sales of livestock as a source of income



However, the real situation is otherwise when the analysis is done by food economy zone, as Figure 29 illustrates. In fact there was an increase from 8% to 10% of the households selling livestock in food economy zones 17, 22, 28, 29 and 35. However, some food economy zones showed a decline of between 8% and 15%, most notable of which are zones 16, 30, 34 and 38.

Coping mechanisms

Figure 30: Percentage of households using extreme coping mechanisms

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Coping mechanisms are the ways in which households adapt the ways in which they obtain and manage resources (including financial, human and production) in the face of constraints placed on access to such resources. The dynamics of the mechanisms tend to vary in time and in space, and may be expanded and diversified to respond in times of crisis. Knowing the scale of the mechanisms in critical periods, such as this one currently facing households, particularly consecutive years of drastic reductions in production, allow the degree of vulnerability to be evaluated better. In this context, part of the survey sought to identify groups of households that at some time had been unable to feed their members and had had to resort to extreme mechanisms and adaptations in the last year, and where this was the case, to document the frequency and types of such mechanisms.

Among the whole sample, 38% said they had resorted to extreme coping mechanisms. However, as Figure 30 shows, there were great differences among the food economy zones. Zone 29 showed the highest percentage, about 70%.

Other food economy zones with less extreme situations were zone 38, with 60%, zone 28, with 58%, and zones 21 and 16, each with about 55%. In general terms, 11 of the 19 food economy zones studied had a higher than average (38%) proportion of households resorting to extreme mechanisms to cope with the lack of food.

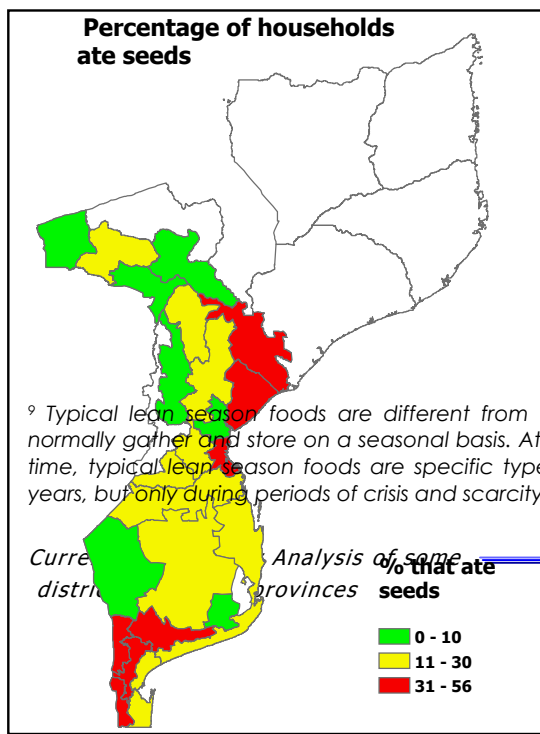
However, it should be mentioned that some food economy zones, such as 32, 34 and 37, had very low percentages of households involved in such types of adaptation.

Rather than just identify the households that used extreme mechanisms, it was possible to identify what these mechanisms were, and as Chart 1 shows, they were diverse and employed with different frequencies. The most common of these mechanisms was to go the whole day without food (26%), followed by eating the seed stocks (21%).

This last mechanism has further implications, particularly in relation to long term prospects; in other words on the next harvests, and it could be the reason why the vulnerability of this group of households to food insecurity is perpetuated.

Chart 1: Frequency of coping mechanism

Coping mechanism	Percentage of households using it
Go one day without food	26%
Eat all the household seed reserve	21%
Eat typical lean season foods ⁹	19%
Request from others	13%
Higher than normal livestock sales	6%



Map 3: Percentage of households that consumed all seed stocks

The relatively high percentage of households that said they had eaten their seed reserves is a cause for concern in relation to the period and possibility of recovery.



Map 3 displays the distribution of the high percentage of households that reported this fact, by food economy zone.

The food economy zones in Maputo province and the southern part of Gaza province had the highest percentages of households. However, the possibility should be considered that this behaviour may be associated with the proximity of the market and the ease of replacing seeds through purchases when necessary.

The majority of coping mechanisms that might be regarded as extremely negative for future recovery, such as the sale of productive livestock, the sale of farm tools and the migration of the household, were reported by a small percentage of households. Nevertheless, 57 households said they had migrated, which is cause for some concern. More rigorous monitoring of extreme survival behaviour is crucial over the next 6–9 months.

5.2.7 Mitigation programmes

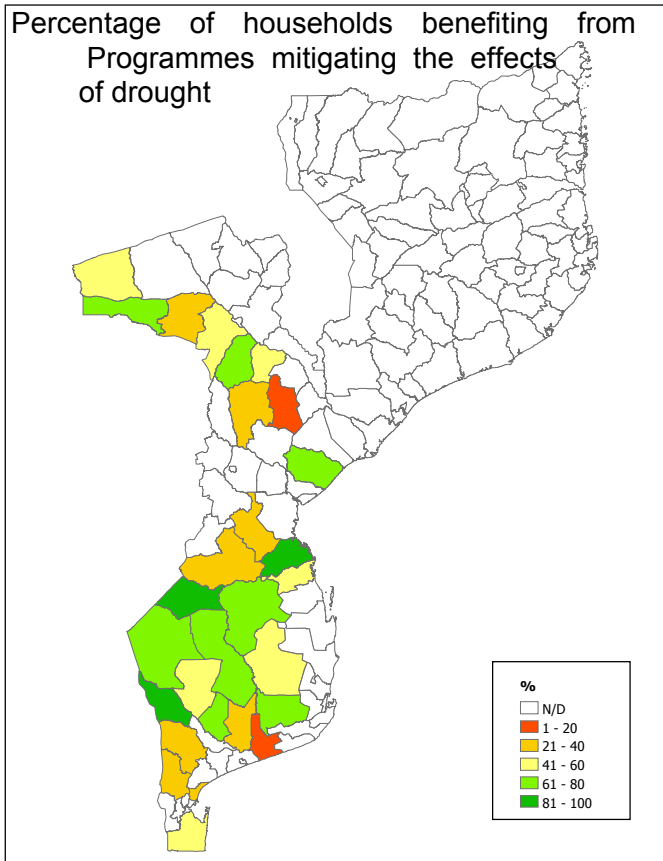
Each household was asked if there had been any intervention to help mitigate the effects of the drought. Although 63% of the households live in areas where there was such intervention, less than half (44%) of the respondents said they had benefited. The majority mentioned food-for-work programmes as the main intervention, with smaller percentages mentioning other types, as the table below shows. An insignificant percentage (4%) said they had benefited from more than one intervention.

In the food-for-work category, the questionnaire made no distinction between the various types of programmes, set up in the context of the current emergency or as one of the development initiatives of the government, WFP or NGOs.

Table 14: Evaluation of access to mitigation programmes

% of households not benefiting	No benefit	56.5
% of households benefiting	Food-for-work	38.9
	Seeds	2.4
	Tools	0.3
	Livestock	0.3
	Cash	0.3
	Irrigation	0.3
	Other	1.0

Map 4: % of households benefiting from programmes mitigating the effects of drought



From the 29 districts included in the sample, the provinces where mitigation programmes were most often mentioned were, in descending order: Inhambane, Manica, Gaza and Tete. However, there was a considerable margin in districts such as Massangena and Massingir, in which almost all of the respondents said they had been beneficiaries, while in Mandlakazi only 15% said they had benefited, compared to 73% in Magoe.

A detailed analysis may provide information on where this aid was directed and whether the vulnerable households identified by this survey were the ones who received assistance through drought mitigation activities.

4.3 LINKS BETWEEN ASPECTS OF NUTRITION AND OF FOOD SECURITY

Comments on nutrition

The nutritional data were cross-tabulated with some of the food security indicators. This analysis was done at the level of the food economy zones. There were no significant correlations, which implies the need for more detailed analysis for these aspects.

There may be several explanations for these initial findings:

- Due to the low frequency of some indicators in the sample, the confidence intervals for these are high. This makes it difficult to draw statistically valid conclusions;
- The grouping of indicators to define the category of household with food insecurity was not exhaustive and so does not reflect the complete reality of the situation at HH level;
- The nutritional status (global acute malnutrition) of children reflects their living conditions in the month before the survey, whilst the food security data collected focuses primarily on the future outlook of the HHs. In this regard, the nutrition results are not a reflection of the food security data collected at the moment of the survey. Furthermore, it is important to note that nutritional status does not only reflect the diet consumed by the child, but also the hygiene and care conditions within the HH

In the light of the above, the need for more specialised analysis becomes clear, and this will be included in the topical publications to be developed shortly by VAC.

4.4 PROSPECTS FOR FOOD SECURITY & NUTRITION JUNE 2003-MARCH 2004

The findings from the analysis using many indicators of food security and nutrition revealed that major differences exist between the households interviewed within each food economy zone and by food economy zone. Patterns of food reserves and potential sales of livestock, combined with food consumption patterns, provided strong evidence to explain the deterioration in food security. At the same time, the number of households resorting to extreme coping mechanisms presents a worrying picture, in terms of their frequency and type. It was clear that drought mitigation programmes, especially those leading to recovery such as seeds, tools, irrigation and livestock, have not been inclusive enough, leaving out a substantial number of households.

In the light of that reality, a challenge of extreme importance arises: Which households need assistance? How many and where are they? And how should these groups be classified so as to permit a differentiated response?

Different scenarios, using various combinations of indicators, were evaluated to assess levels of food insecurity. The first step was to design a scenario that would identify households that were in the worst situation within the groups interviewed. In order to identify this most critical group, labelled the "EXTREMELY FOOD INSECURE POPULATION," all the households were included who had:

1. **less than three months potential reserves for consumption, including first season crops, expected production from the second season, and potential income from the sale of excess livestock;**
2. **no cassava;**
3. **no income from formal employment or remittances;**
4. **two or fewer different sources of income, and**
5. **using at least one extreme coping strategy.**

4.4.1. EXTREMELY FOOD INSECURE POPULATION

Table 17 illustrates the situation by province, in regard to numbers and percentages of extremely food insecure households within each of the provinces. Gaza province is the most affected in terms of the number of people, with 237,000 people, corresponding to 22% of the population. Tete province is second terms of the estimated population affected (165,000), but is first in terms of the proportion of the population in the affected districts (29%).

Table 18 shows the numbers of food insecure people identified by the VAC and the findings of the Food Crop and Supply Assessment Mission, carried out earlier. It may be noted that there were no great differences in most cases, except for

the situation of affected districts in Gaza province, some of which have proportions above 60% of the population. In other cases, the VAC figures were higher than those found by the FAO/WFP assessment mission, because of methodological differences and the use of more consistent indicators in the vulnerability assessment, which included the effects of HIV/AIDS (this is NOT true – the indicators we used to define this group do not include HIV/AIDS). In other cases, the figures presented by the FAO/WFP assessment mission were more conservative, not including scenarios with improvements in production because of the contribution of second season crops.

Table 15: Population in need of immediate food assistance, by province

Province	Total Population 2003*	Population in drought-affected districts 2003**	Extremely Food Insecure Population	Percentage of Population of Affected Districts	Percentage of total Provincial Population
Gaza	1,079,369	1,079,369	237,000	22%	22%
Inhambane	1,363,596	441,385	99,000	22%	7%
Manica	1,243,638	174,989	30,000	17%	2%
Maputo	1,039,321	414,012	58,000	14%	6%
Sofala	1,548,748	102,550	16,000	16%	1%
Tete	1,424,263	567,295	165,000	29%	12%
Zambezia	3,559,923	247,074	54,000	22%	2%
Total	11,258,858	3,026,674	659,000	22%	6%

* Projected population from 1997 census

**Drought-affected districts included in the table of affected districts. Urban population not included

*** Total population of the province includes urban and unaffected areas

**** Total population of the province, including unaffected areas, but not including urban areas

Table 16: Population in need of immediate assistance by district

Administrative information			VAC June 2003		FAO/WFP Assessment Mission	
Province	District	Total District Pop. 2003 (c)	Extremely food insecure population	Extremely food insecure as percentage of population	Affected Population 2003	% of total affected population (e)
Gaza	Massingir	25,097	17,182	68%	16,000	64%
Gaza	Chicualacuala	38,829	26,583	68%	28,000	72%
Gaza	Massangena	14,051	8,920	63%	10,000	71%
Gaza	Mabalane	29,087	17,552	60%	18,000	62%
Gaza	Chigubo	14,945	7,156	48%	8,000	54%
Gaza	Chokwe	168,294	42,807	25%	48,000	20%
Gaza	Chibuto	163,685	35,867	22%	33,000	20%
Gaza	Gujja	65,729	14,294	22%	14,000	21%
Gaza	Mandlakazi	177,873	28,272	16%	36,000	20%
Gaza	Bilene	165,932	24,036	14%	34,000	20%
Gaza	Xai-xai	215,847	14,330	7%	11,000	5%
Total Gaza		1,079,369	237,000	22%	256,000	24%
Inhambane	Mabote	38,523	18,145	47%	16,000	42%
Inhambane	Funhalouro	33,789	14,298	42%	21,000	62%
Inhambane	Govuro	30,655	10,185	33%	16,000	52%
Inhambane	Inhassoro	50,179	11,000	22%	11,000	22%
Inhambane	Panda	49,676	9,372	19%	15,000	30%
Inhambane	Homoine	105,812	16,000	15%	16,000	15%
Inhambane	Vilankulo	132,751	20,000	15%	20,000	15%
Total Inhambane		441,385	99,000	22%	115,000	26%
Manica	Machaze	81,689	16,439	20%	25,000	31%
Manica	Macossa	15,814	2,749	17%	2,000	13%
Manica	Guro	43,375	6,680	15%	22,000	51%
Manica	Tambara	34,111	4,132	12%	17,000	50%
Total Manica		174,989	30,000	17%	66,000	38%
Maputo	Moamba	39,529	7,031	18%	20,000	51%
Maputo	Magude	32,264	5,672	18%	17,000	53%
Maputo	Matutuine	37,444	5,864	16%	19,000	51%
Maputo	Boane	74,806	10,624	14%	8,000	11%
Maputo	Manhiça	139,139	19,010	14%	14,000	10%
Maputo	Marracuene	48,299	6,549	14%	5,000	10%
Maputo	Namaacha	42,531	3,251	8%	5,000	12%
Total Maputo		414,012	58,000	14%	88,000	21%
Sofala	Machanga	44,363	10,883	25%	18,000	41%
Sofala	Chemba	44,740	4,030	9%	7,000	16%
Sofala	Muanza	13,447	1,087	8%	7,000	52%
Total Sofala		102,550	16,000	16%	32,000	31%
Tete	Changara	140,298	62,400	44%	85,000	61%
Tete	Cahora Bassa	71,530	31,206	44%	29,000	41%
Tete	Magoe	51,341	19,908	39%	31,000	60%
Tete	Zumbo	44,015	14,649	33%	5,000	11%
Tete	Mutarara	138,292	24,288	18%	14,000	10%
Tete	Moatize	121,819	12,550	10%	13,000	11%
Total Tete		567,295	165,000	29%	177,000	31%
Zambezia	Chinde*	140,841	43,000	31%	43,000	31%
Zambezia	Inhassunge*	106,233	11,000	10%	11,000	10%
Total Zambezia		247,074	54,000	22%	54,000	22%
Grand Total		3,026,674	659,000	22%	788,000	26%

(p) projected population by administrative post 1997-2003 that is included in the FEZ studied in this survey

(c) projected population for 2003 by district - 1997 census

(e) percentage of total population of the district

** Districts included in the FEZ studied in the VAC survey in 2003, but not included in the sample nor the FAO/WFP Assessment Mission – Not included in the final figures

* Districts included by the FAO/WFP Assessment Mission but not included in the FEZ studied by VAC July 2003 – FAO/WFP figures included

As mentioned earlier, the figures presented in **Table 18** refer only to the people regarded as being in very difficult circumstances, based on the findings of the survey. Even counting on the contribution of second season crops, this group could be in a critical situation in terms of vulnerability and food insecurity, which make them eligible for immediate assistance. This should include food aid principally, but should not exclude other forms of assistance aimed at restoring and strengthening the household coping mechanisms, among which more careful preparation of the phase before the next growing season. Consequently, this is the target group for immediate intervention, continuing until the next harvest, which begins in January in the south and mid-February to March in the centre of the country.

The VAC encourages close monitoring of the situation in the months before the harvest (October to December), since these are the lean months when food is in short supply for many poor households in the rural areas, even in good years. This year, after two poor harvests, food insecurity may increase rapidly and significantly during the normal period of scarcity. Thus extra vigilance is necessary.

5.4.2. Population at risk of food insecurity who need monitoring

Identifying the extreme groups in the population to receive assistance is no guarantee of the complete coverage of all needy households. There are groups surrounded by uncertainty, depending largely on the combined effects of several factors, among which the following are prominent: the strengthening or weakening of informal paid labour; access to food-for-work programmes; the outcome of farming until December, etc. Taking that perspective, the VAC sketched some intermediate scenarios to extend the number of households that could become extremely vulnerable to food insecurity. Three categories of criteria were established for this purpose, combining the key indicators that could make the difference in the survival of the household, and factors determining food insecurity, particularly from October to the harvest.

The VAC defined households “at-risk of food insecurity” if they fell into any one of the three categories below:

Group 1: Households with:

- Four months of reserves from production and livestock sales combined,
- No formal employment or remittances
- No cassava
- Two or less sources of income.

Group 2: Households with:

- Five months of reserves from production and livestock sales combined,
- No formal employment or remittances
- No cassava
- Two or less sources of income

Group 3: Households with:

- One month or less of reserves from production and livestock sales combined,
- No formal employment or remittances
- With cassava
- One or no source of income.

Table 19 shows the weight of each group by province, and the total population distributed among these three categories could be as many as 254,779. Tete has the largest number of people in the first and second categories, followed by Gaza. Inhambane province stands out in the third category, mainly due to the inclusion of households who have cassava and little else. In all other scenarios, the presence of cassava excludes the household from being considered as food insecure.

In any case, continuous monitoring of any of the groups is an urgent necessity. The VAC team must undertake effective commitment to coordinating this intervention.

Table 17: Requirements by province

Administrative data			Group 1		Group 2		Group 3		Population to monitor in all groups	Percentage of the Population to monitor in all groups
Province	Total Population 2003*	Population of drought-affected districts 2003**	Affected Population	% of the Population in the Affected Districts	Population to monitor	% of the Population of Affected Districts	Population to monitor	% of the Population of the Affected Districts		
Gaza	1,079,369	1,011,627	30,349	3%	10,116	1%	30,349	3%	70,814	7%
Inhambane	1,363,596	441,385	0	0%	0	0%	83,863	19%	83,863	19%
Manica	1,243,638	174,989	3,500	2%	1,750	1%	8,749	5%	13,999	8%
Maputo	1,039,321	414,012	4,140	1%	0	0%	8,280	2%	12,420	3%
Sofala	1,548,748	102,550	2,051	2%	2,051	2%	7,179	7%	11,281	11%

Tete	1,424,263	567,295	39,711	7%	22,692	4%	0	0%	62,402	11%
Zambezia	3,559,923	247,074	?	?	?	?	?	?	?	?
Total	11,258,858	2,958,932	79,750	3%	36,609	1%	138,420	5%	254,779	9%

5 CONCLUSIONS

Analysis of vulnerability carried out since May 2003 has led to the conclusion that Mozambique still faces serious problems in nutrition and food security, despite the programmes to mitigate the situation of drought and vulnerability, and there are districts in a situation of extreme vulnerability in the provinces of Maputo, Gaza, Inhambane, Sofala, Manica and Tete.

The small size of the samples did not permit us to draw definite conclusions about the specific situation of children and households regarded as particularly vulnerable – such as maternal orphans, child-headed households, elderly-headed households and households with chronically ill adult members. However, the demographic data show that a significant number of children are living in these groups.

The high levels of global acute malnutrition in the areas studied show that the situation in some provinces is not improving, contrary to expectations for this time of year (during or immediately after the harvest). Children generally run greater risks of malnutrition from 6-23 months of age, when they are in the weaning phase and need frequent feeding. However, in the areas covered by the study, only 30.5% of the children in the 6-23 month age group have three meals or snacks a day and only 3.3% are fed the recommended four or more times a day. The high level of malnourished women (in Tete province) highlight the fact that the nutritional situation of adults is also cause for much concern, especially given that the majority of households have a poor to very poor quality diet.

The consistently high rates of chronic malnutrition and of morbidity, including endemic malaria, in the areas surveyed, represent a real threat to the well-being of these communities, in particular taking into account the estimates of high prevalence of HIV in these areas and the food deficits that have been documented. In the light of such threats, the great importance of access to and use of preventive health services is vital. Meanwhile, the survey revealed relatively low numbers of children with health cards.

The nutrition data show that the districts with the highest rates of malnutrition are in Maputo and Tete provinces. However, the data from Maputo should be interpreted with caution, since 10% of the global acute malnutrition is due to oedema, which indicates the possibility of mistaken diagnosis of oedema by the field team. Meanwhile, districts in Maputo, Gaza and Sofala provinces show the highest prevalence of chronic malnutrition, compared to the VAC data of November/December.

Some 659,000 people in 29 districts were identified as being in a situation of extreme food insecurity and in need of assistance, particularly food aid from July 2003 to the next harvest. A diagnosis of the situation in October will present a more coherent picture of the situation, spelling out the possibilities of an increase in the number of people who may need assistance. For that reason, the VAC

team put forward three scenarios of groups “at risk of food insecurity” to help specify the particular locations requiring careful monitoring.

The affected districts in Tete province show the highest percentage of extreme food insecurity, at 29% of the population, followed by Gaza, Inhambane and Zambezia provinces, with 22%, Manica with 17%, Sofala with 16% and Maputo with 14%. It should be made clear that these percentages are calculated based only on the population of the drought affected districts. In Zambezia Province, for example, 22% of the population of the two districts included (Chinde and Inhassunge) are extremely vulnerable, but this is only 2% of the total population of Zambezia Province. In the specific case of the affected districts in Maputo province, the comparative advantage of alternative coping mechanisms was taken into account, such as access to the market and to informal sources of income, which could contribute alleviating the situation of food insecurity in that province. **Table 18** contains more details, mainly relating to the population in the affected districts and the percentage of the population that is food insecure.

The estimated affected population made in this assessment is slightly lower than the estimates of the FAO/WFP food crop and supply assessment. However, there are differences at district level, which makes monitoring of the situation vital. It should be mentioned that the difference between the findings of the VAC and the FAO/WFP mission is the result of methodological differences, the weight given to indicators and differences in estimation of farm output after the first season. Compared to assessments made in 2002, the number of affected people increased somewhat, although improvements were observed in some districts while the situation deteriorated in others.

Some external factors influenced the change in the overall situation, particularly at district level.

- Climate change, particularly in relation to rainfall, caused changes in farming practices. It may be noted that farmers plant seeds whenever it rains, and it is no longer possible to distinguish between the first and the second growing seasons. At the same time, the poor rains in the first season caused major falls in yields and even crop failure. With the rainfall that has been recorded since last March, crops may be observed in the fields at different stages of growth, and expectations are high for a good crop that could be higher than 10% of what is normally harvested in the first season.
- Prices have tended to vary little from those in recent years. Prices increased in the south by about 50%, but fell in the centre and the north. The forecast drop in sales of cereals to neighbouring countries has not materialised, but prices have fallen because of greater supply of cereals. This situation harms the producers greatly, and the possible withholding of stocks by sellers until prices improve could affect purchasing patterns of consumers.

As regards food security data, these were grouped in such a way as to allow analysis of the consumption, sources and reserves of food, livestock, sources of income and extreme coping mechanisms.

Analysis by food economy zone allowed greater accuracy in the evaluation of variations by place and among households, as well permitting the identification of possible causes of food insecurity and the coping mechanisms used. However, this methodology could gain in consistency if findings were extrapolated at district level, thus providing greater capacity to make decisions on interventions.

A comparison of the current situation with a year considered normal and with 2002 reveals that the decline in people's living standards was extremely acute in some areas, where extreme or negative coping mechanisms were used often.

- The food consumption history (24 hour recall) showed that a high percentage of households had a diet classed as between poor and very poor (over 98%), with a hefty percentage of households that did not even eat staple foods, such as cereals, root crops, tubers, bread or cake (for example 50% in districts in zone 34, and 30% in the district in zone 30).
- The situation is made even worse by the fact that the main source of food (90%) has been agriculture, which in general terms achieved much lower than normal output. In fact, the very existence of a potential food reserve (reserve at home and the probable crop to be harvested) is precarious, with a high percentage of households having food reserves for less than three months.
- Food aid in its many forms has truly been an escape valve to cover the food deficit for households, but not enough in terms of geographical coverage or of the number of households assisted.
- The downward trend also applies to livestock, as may be seen in the high number of households that own no livestock. However a slight improvement may be observed in 2003, in relation to 2002, because the percentage of households with no livestock fell; the percentage of households with an intermediate number of animals increased, particularly in relation to goats, and the increase in cattle ownership among households that had more livestock. The greatest change was observed in relation to poultry, with a notably large proportion of households having access to this type of livestock; a substantial increase in the percentage of households in the intermediate class owing poultry, and a reduction in the proportion of households with large flocks of birds, although the reduction was caused by sales and consumption rather than disease.
- Some changes were recorded in the sources of income that are more clearly visible when the analysis is done of the data disaggregated to

food economy zone level. Without doubt, the greatest changes were those in relation to informal paid labour and agriculture. As regards informal paid labour, this showed a tendency to increase, when compared to the normal reference year and to last year. In some food economy zones (17, 21, 22 and 27) the change was in the order of 100% and informal paid labour reached 60% of the sources of income. In contrast, the importance of agriculture as a source of income declined substantially in relation to the normal reference year, falling from 37% to 14% this year. The decline is even more obvious when the analysis is done by food economy zone, with substantial slumps, as in the case of zones 21 and 26, where it fell from 70% to 15%.

- o Other sources of income, including sale of charcoal, remittances from migrants and sales of livestock, showed change, but not as much as expected, although the role of charcoal sales may be highlighted in the food economy zones that include Maputo province, which is strongly influenced by market forces.

While the efforts made to assist the worst-affected households may be visible in some cases, they have not yet achieved the expected results. This is the case with livestock production and cassava and sweet potato reproduction, to complement food aid.

Various programmes to mitigate the effects of natural disasters have helped to slow the rate of decline in people's living standards and the degradation of natural resources, and in some cases have assisted communities in the gradual recovery from the losses caused by floods, cyclones and drought. These include programmes to foster livestock farming and the production and distribution of seeds for conventional crops and new crops (cassava, sweet potato, and pineapple) and the reconstruction or construction of social and economic infrastructure. FAO, in coordination with various government structures, has been one of the main supporters of this work within communities, in the search for alternatives and ways of adapting to the multiple effects of natural disasters.

Food aid has played an important role, both through free distribution and through other mechanisms that aim at integrating emergency programmes into development efforts. Countless examples of success have been observed, and WFP's coordination with other institutions, mainly the National Institute for Disaster Management (INGC), has produced very satisfactory results.

Despite these interventions, the VAC documented a high percentage of households (38%) using extreme coping mechanisms, with 11 of the 19 food economy zones showing higher percentages (50% and above). The most common of the extreme coping mechanisms was to go a whole day without food (26%), followed by eating the seed reserve (21%) and eating foodstuffs considered "famine foods" (19%).

This scenario as a whole demonstrates that monitoring the evolution of the food

insecure groups becomes crucial, particularly in the period before the next harvest, to verify the impact of the second season crops and monitor crop growth and development. The VAC has already presented an estimate of the households that should be given immediate assistance, not necessarily or exclusively food aid, and proposes other scenarios that may help better evaluation of these vulnerable groups.

6 RECOMMENDATIONS

The diagnosis of the situation regarding food and nutrition demonstrated a pattern among households that is cause for concern, resulting from many factors and differing from district to district and within the same district. This means that any sort of intervention to relieve the situation must involve many sectors and be tailored to meet the specific needs of the different districts. Aspects of institutional coordination are therefore of vital importance if this work is to avoid the risk of significant deviations in the design and implementation of plans of action. From that point of view, the promotion of a consistent and coherent intervention is recommended.

The harvests of second season crops could be crucial in turning round the situation of the food insecure groups. A coherent evaluation of the harvest is therefore recommended, with this information being used to strengthen the preparation of the 2003/04 crop year.

In the light of what is presented above, the VAC proposes four levels of recommendations.

1. INSTITUTIONAL

1. Clarification is needed of the relationship between the regional VAC and the national VAC. This is an extremely important aspect, particularly with regard to the definition of priorities, commitments, mode of operation and the availability of resources.
2. A workshop should be organised to design a strategy for making the institutionalisation of the national VAC operational in the following respects:
 - a. Definition of the terms of reference of the VAC
 - b. Agenda and scheduling of activities
 - c. Leadership
 - d. Partners
 - e. Promotion of strengthening political will.
3. The harmonisation of the national VAC with other partners should be strengthened, with the aim of ensuring greater coordination of activities relating to vulnerability and food security, by taking the following steps:
 - a. Making an inventory of partners in the country who are not members of the VAC and their needs in terms of the monitoring and evaluation of vulnerability;

- b. Evaluating the capacity of the VAC to respond to the demands of its partners and/or cooperate in the implementation of its activities;
 - c. Promoting and encouraging the use by the national VAC of recognised methodologies as a way of facilitating the production of findings in a standardised format.
4. Since this report did not allow the presentation of a more thorough analysis, the members of the VAC are urged to conduct further analysis and publish articles on specific topics with the aim of providing a more detailed diagnosis and more coherent avenues for intervention.

B. INTERVENTIONS

1. Target group: **Extremely food insecure** as identified by the VAC

Types of intervention

Immediate intervention is required for the group identified as extremely food insecure, along the following lines:

- a. Immediate free food or food for work until the next harvest. The choice of distribution mechanism should depend on the profile of the particular household and the stage in the crop cycle. Food for work may not be appropriate when land preparation and planting gets underway.
- b. Reinforce community capacities to care for children through education programmes on good hygiene and nutrition, and through supplementary feeding programmes targeting children under five years and mothers, particularly in the most critical districts. This should be combined with other vulnerability reduction activities such as Vitamin A supplementation and deworming.
- c. Immediate attention should be given to all mechanisms that will help drought affected households prepare for the next planting season.
- d. Reinforce access to basic health care (preventative and curative), in particular treatment for severe malnutrition, and prevention and treatment of communicable (measles) and diarrhoeal diseases.

- e. Support for people living with HIV/AIDS in order to ensure that they are included in food aid programmes, receiving home-based care and nutrition counselling, as well as social support for their families.
 - f. Given the high level of vulnerability of the people in this group, HIV/AIDS prevention activities should be expanded in the areas of high food insecurity.
 - g.
2. **Group At risk of food insecurity**, as recommended by the VAC in table 17

Type of intervention

- a. Closely monitor the food security of the group until the beginning of the first season harvest in early 2004.
- b. Monitor the trends in nutritional status and mortality rates.
- c. Provide assistance to support and maximise the first season planting.

3. **All groups**

Type of general intervention: applied to any group

- a. Design interventions based on the lessons learned about the different coping strategies adopted by families at the community level.
- b. Reinforce the food-for-work programmes, defining activities that increase family income and improve services.
- c. Promote activities that lead to the diversification of income sources.
- d. Introduce and disseminate drought-resistant crops and fashort-cycle crop varieties.
- e. Increase the distribution of sweet potato and cassava planting materials.
- f. Promote the planting of small vegetable gardens in the household yards.
- g. Whenever possible, encourage the establishment of small irrigation systems.
- h. Promote small stock raising, with systems of community sharing.

C. PROMOTION OF PARTNERSHIPS

1. NGO involvement
 - a. Wide dissemination of the VAC findings among NGOs
 - b. Evaluation of NGO work plans
 - c. Adjustment of these plans to the priorities proposed by the VAC
 - d. Design of a broader strategy of cooperation and support from the VAC to the implementation, monitoring and evaluation of NGO activities
 - e. The VAC facilitates dialogue between NGOs and donors for funds to implement activities to lessen vulnerability and food insecurity.
2. Community involvement
 - a. Promotion of mechanisms that directly gather opinions from communities for the design and implementation of activities
 - b. Involvement of communities in the management and implementation of activities
 - c. Adoption of participative methodologies at all stages of programme implementation

D. More coherent approach to HIV/AIDS and food security

Despite the numerous programmes dealing with HIV/AIDS, a gap remains in linking food insecurity and HIV/AIDS. For that reason, the time is ripe to design a better strategy to analyse the scale of the vicious circle involving HIV/AIDS, production and food insecurity. The leadership in this process must be clearly identified, since it is a question of case and subject studies that require specialised technical assistance and effective coordination to ensure that the findings are rapidly integrated into policy at central and provincial levels and accepted by international partner agencies, NGOs and civil society.

E. MONITORING & EVALUATION

1. The changes taking place on the ground require the adoption of a strategy of continuous monitoring of food security and nutrition (mainly in Tete, Gaza and Maputo).
2. A mechanism must be designed that allows monitoring of the different stages of intervention and the impact on the population:

- Criteria for the selection and coverage of target groups;
 - Beneficiary involvement in the process;
 - Beneficiary perception of programme implementation;
 - Evaluation of the social and economic impact on the beneficiaries and the population in general in the areas covered;
 - Documentation of lessons learned and design of a mechanism to incorporate these lessons into future programmes.
3. The monitoring of prices must continue and the points for data collection on the behaviour of the market should be reviewed or increased.
 4. Monitoring interventions:
 - a. Design of programmes
 - b. Identification of target groups
 - c. Geographical intervention
 - d. Impact.

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LIST OF ABBREVIATIONS

DHS	Demographic and Health Survey
DINA	National Directorate of Agriculture
DINAP	National Directorate of Livestock
FAO	Food and Agriculture Organisation
FEZ	Food Economy Zones
GTZ	German technical cooperation
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
INE	Instituto Nacional de Estadística (National Statistics Institute)
INFPRI	International Food Policy Research Institute
INGC	National Institute for Disaster Management
MADER	Ministry of Agriculture and Rural Development
MOH	Ministry of Health
MPF	Ministry of Planning and Finance
NGO	Non-governmental organisation
OCHA	Office for the Coordination of Humanitarian Affairs (UN)
QWI	Questionnaire on Welfare Indicators
RVAC	Regional Vulnerability Analysis Committee
SADC	Southern Africa Development Community
SCF	Save the Children Fund
SETSAN	Technical Secretariat of Food Security and Nutrition
UEM	Eduardo Mondlane University
UN	United Nations
UNICEF	United Nations Children's Fund
VAC	Vulnerability Analysis Group
WFP	World Food Programme
WHO	World Health Organisation